IMPROVING PRENATAL OUTCOMES FOR AMERICAN INDIAN WOMEN THROUGH GROUP PRENATAL CARE

by

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in

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DEDICATION

This work is dedicated to the women of the Chippewa Cree Tribe. Your stories, courage, and dedication to preserving and passing down sacred motherhood traditions inspire this work and future generations.

To the mothers, grandmothers, and aunties who carry and share the traditional knowledge of bringing life into this world - your wisdom lights the path forward. To the young women who will carry these traditions into the future, may this work honor your journey and support your sacred role as life-givers.

To all Indigenous women who have faced barriers in maternal healthcare with dignity and determination, your experiences matter, your voices matter, and your lives matter. This work is a testament to your resilience and a step toward healthcare that honors your cultural heritage and dreams for future generations.

Thank you.

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I would like to acknowledge my project committee member, Dr. Benjamen Miller, for their insightful comments and constructive feedback that substantially improved this work. Their diverse perspectives and expertise helped shape this quality improvement initiative in meaningful ways.

I sincerely appreciate Rocky Boy Health Center's support throughout the implementation process. This project would not have been possible without their commitment to improving maternal healthcare outcomes.

Finally, I am profoundly thankful to my family for their endless patience, understanding, and encouragement throughout this academic journey. Their unconditional support gave me the strength to persevere and complete this work.

AMERICAN INDIAN HERITAGE

I want to express my deepest respect for the resilience and strength of Indigenous peoples and their ongoing stewardship of the land.

It is crucial to recognize that the forced relocation, violence, and trauma inflicted upon Indigenous peoples have had intergenerational impacts, including on the health and well-being of Indigenous communities. This historical trauma continues to affect the experiences of Indigenous peoples in the healthcare system, particularly in the context of prenatal care.

I recognize the importance of providing prenatal care that respects Indigenous cultural beliefs and values, incorporates traditional healing practices, and addresses the social determinants of health. and works toward improving health outcomes for Indigenous families.

I am dedicated to building partnerships with Indigenous communities based on mutual respect, trust, and a shared commitment to health equity.

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GLOSSARY or NOMENCLATURE

AI American Indian

AGREE II Appraisal of Guidelines for Research & Evaluation Instruments

CBPR Community-Based Participatory Research

GPC Group Prenatal Care

PDSA Plan Do Study Act

ICRT Indigenous Cultural Responsiveness Theory

ABSTRACT

American Indian (AI) women face significant maternal health disparities, characterized by higher rates of adverse pregnancy outcomes, limited healthcare access, and complex systemic barriers. Traditional individual prenatal care models have demonstrated persistent limitations in addressing these multifaceted challenges, highlighting the need for culturally responsive interventions that acknowledge historical trauma and Indigenous healing practices.

This quality improvement project examines the implementation of culturally adapted group prenatal care (GPC) as an innovative intervention to address these disparities. Using a multi-theoretical framework that integrates the Social Ecological Model with Indigenous Cultural Responsiveness Theory, the study reimagines prenatal care as a holistic, community-centered process. The project employs the AGREE II instrument to develop a comprehensive cultural adaptation toolkit for the Centering Pregnancy GPC model, creating a flexible framework customizable across diverse Tribal communities. Implementation at a Northern Plains Reservation Tribal Health Center utilizes a mixed-methods, community-based participatory design. The intervention brings together 8−12 women with similar due dates for 90- to 120-minute sessions that combine clinical care with facilitated group discussions and cultural practices.

The project's anticipated outcomes span both short-term (6−12 months) and medium-term (1−3 years) timeframes. Initial projections suggest significant improvements in clinical metrics, including increased early prenatal care engagement, reduced preterm birth rates, and enhanced maternal health literacy. Psychosocial outcomes indicate strengthened social support networks, improved mental health resilience, and enhanced cultural connectivity. The AGREE II-guided toolkit development demonstrates promising potential for systematic cultural adaptation across diverse Tribal settings.

This comprehensive assessment of culturally adapted GPC offers an innovative blueprint for addressing maternal health disparities in AI communities. By positioning healthcare delivery as a mechanism for both clinical care and cultural preservation, the project provides a transformative approach that honors Indigenous knowledge systems while meeting contemporary clinical standards. The resulting toolkit offers a replicable framework for culturally responsive maternal healthcare that extends beyond traditional medical interventions to support broader community healing and empowerment.

CHAPTER ONE

REVIEW OF THE LITERATURE

Current Background and Significance

The United States in contrast to its status in medicine, has the highest maternal mortality rate among eleven developed countries (The Commonwealth Fund, 2020). This crisis disproportionately affects American Indian (AI) women, who are two to five times more likely to die from pregnancy-related complications than their White counterpart (The Center for Disease Control and Prevention, 2024). Furthermore, infants born to AI mothers who receive inadequate prenatal care are at increased risk of sudden infant death syndrome, are nearly twice as likely to die before the age of one. (Heck et al., 2021; Raglan et al., 2016; Thorsen et al., 2022).

AI women living in rural settings are at an even greater risk than those living in urban settings (Johnson, 2020). Early (initiated within the first trimester) and regular prenatal care are essential to the health and outcomes of women and infants. Adequate prenatal care is defined as 80% of the fourteen to fifteen recommended prenatal visits; the ability to access care in the first trimester significantly impacts the ability to receive adequate prenatal care. Notably, the rate of AI women receiving early prenatal care is 64.9% (Sebens et al., 2022), though the percentage has risen through efforts of programs focused on improving health equity for AI mothers such as Hear Her and Healthy Moms Healthy Babies Native American Initiatives, it continues to be less than other populations; for example, 82.8% of White women receive prenatal care starting in their first trimester. Alongside increased mortality rates, AI have higher rates of poor birth outcomes, including low birth weight and twice the likelihood of preterm delivery (Raglan et al.,

2016; Bohn, 2002; Burns et al., 2023; Crockett et al., 2022; Heck et al., 2021; Kozhimannil et al., 2020; Thorsen et al., 2022, 2023; Center for Disease Control and Prevention, 2024; National Partnership for Women & Families, 2019).

Historical Background

Historical trauma has a profound impact on access to prenatal care for AI women. The historical trauma experienced by AI communities has a profound impact on access to prenatal care (Burns et al., 2023; Curry, 1998). For instance, the forced assimilation policies of the past, including the forced removal of children from their families and communities, have left a lasting legacy of mistrust and fear of the healthcare system (The Center for Disease Control and Prevention, 2024). Many AI people first encountered Western medicine at boarding schools. The trauma from the abduction of youth has created lasting fear that now influences access to prenatal care. Historical trauma can lead to chronic stress, depression, anxiety, and substance abuse, which can further complicate pregnancy and childbirth.

All of these factors contribute to a reluctance to seek prenatal care and a lack of engagement with the healthcare system. Addressing the historical trauma experienced by AI communities is essential for improving access to prenatal care and reducing disparities in maternal and infant health outcomes (Curry, 1998; Maxwell et al., 2022).

Healthcare providers play a crucial role in addressing health inequities in AI communities. By increasing the diversity of the healthcare workforce and practicing with cultural sensitivity and respect, health care providers can help bridge the gap in disparities experienced by AI women during the childbearing process. Culturally tailored GPC, which combines health education and peer support, has shown improved outcomes for diverse populations (Novick et

al., 2013). Ultimately, a multifaceted approach that addresses the social determinants of health increases access to care and promotes culturally sensitive practice is needed to reduce disparities in prenatal care and outcomes for AI women. By working together, providers, policymakers, and communities can improve the health and well-being of AI mothers and babies. Actively involving AI individuals in the design of prenatal care services ensures that the care provided is responsive to community needs and preferences, further empowering the healthcare providers in their role. Addressing the historical trauma experienced by AI communities is crucial for building trust and improving access to prenatal care.

Clinical Problem

AI women have an alarmingly high rate of maternal mortality and morbidity compared to other racial and ethnic groups in the United States (The Centers for Disease Control and Prevention, 2024). This disparity is fueled by significant barriers to accessing early and adequate prenatal care, including geographical isolation, lack of transportation, historical trauma, and socioeconomic factors. Specifically, only 64.9% of AI women initiate prenatal care within the first trimester, and many receive fewer than 80% of the recommended prenatal visits (Heck et al., 2021; Raglan et al., 2016; Thorsen et al., 2022). These gaps in care contribute to an increased risk of pregnancy-related complications and mortality. Addressing this clinical problem necessitates a concerted focus on improving access to culturally appropriate prenatal care, addressing the social determinants of health, and implementing innovative care models that account for the unique experiences and challenges faced by AI women.

Scope of Problem

Disparities in prenatal care and outcomes result from numerous barriers AI women face in accessing prenatal care, contributing to disparities in maternal and infant health outcomes. Factors of depression, substance abuse, family disruptions, and adverse childhood events have negatively affected outcomes for maternal and newborn care (Johnson, 2020). The lasting impact of historical trauma is compounded by ongoing socioeconomic and structural conditions that create further barriers to accessing services (Thorsen et al., 2022). These challenges contribute to elevated rates of maternal and infant mortality among AI women. In AI women, the top contributing factors to pregnancy-related deaths include hypertension, cardiomyopathies, and hemorrhage, while substance use disorders and suicide impact prenatal-associated deaths (Heck, 2021).

According to the Centers for Disease Control and Prevention, 80% of maternal deaths are preventable with the help of state maternal mortality review boards. This statistic underscores the critical need to address disparities in prenatal care access and outcomes. By doing so, we can significantly improve the health and well-being of AI women and their infants, making a substantial impact on maternal and infant mortality rates.

Cultural Differences

Cultural factors significantly influence disparities in prenatal care. Historical trauma has contributed to the distrust of government and healthcare, creating barriers related to communication, institutional policies, and interpersonal problems. Discordant communication styles and inconsistent access to care exacerbate these challenges, leading to fragmented care and potential gaps in monitoring and intervention. Moreover, cultural differences between patients

and providers can create barriers to care. For instance, AI cultures often emphasize community and family, which can conflict with Western medicine. Cultural differences and historical trauma create complex barriers to care; understanding and respecting these cultural differences is crucial in providing effective and equitable healthcare (Maxwell et al., 2022; Kozhimannil, 2020; Burns et al., 2023; Leemis et al., 2022; Schmidt et al., 2024; National Partnership for Women & Families, 2019; Curry, 1998; Johnson, 2020).

Geographical Isolation

Geographical factors further complicate access to care. In Montana 50 percent of counties are defined as maternity care deserts. Of the seven Montana reservations, only one has a hospital that provides OB services (Thorsen et al., 2023). Rural AI women are at elevated risk of maternal morbidity and mortality (Kozhimannil et al., 2020; Kozhimannil, 2020; Thorsen et al., 2022). The rural location of many AI communities creates challenges in accessing care, with some individuals having to travel over 100 miles to reach healthcare facilities; Montana's AI women travel an average of 24.2 miles farther than White women (Kozhimannil et al., 2020; Corbin, 2010; Thorsen et al., 2022). Of the births among Montana AI women, 90% occur outside Tribal or Indian Health Service (IHS) facilities. The remote, isolative nature of reservations in Montana further limits AI women’s access to complex obstetric care (Thorsen et al., 2023).

Limited transportation options and the need to take time off work for appointments further complicate access to care (Sebens et al., 2022). For AI women, transportation barriers to healthcare are a significant issue, often stemming from the remote locations of reservations, limited public transportation options within Tribal lands, poor road conditions, and a lack of personal vehicles. Along with transportation barriers, work schedules, adverse weather and road

conditions, and lack of adequate childcare coupled with long travel distances further complicate access to prenatal care (Hanson, 2014; Thorsen et al., 2023). Fear of child removal impeded by historical trauma and child removal to boarding schools remains today. Lack of reliable childcare and/or late arrival home from long-distance appointments deters women from attending prenatal appointments if they are not able to get home before older children's school day has ended as a direct result of fear associated with reports to child protective services, resulting in the potential and fear of child removal.

Along with long distance and transportation difficulties, the lack of obstetric services in rural areas presents a challenge to access and adequate prenatal care. In Montana, there are only three facilities capable of providing care for complex maternal and fetal conditions and obstetric complications, and AI women must travel significantly further than White women to access the same level of care (Thorsen et al., 2021). AI women with high-risk pregnancies are less likely than White women to give birth at level two or three hospitals. The geographical isolation of AI communities presents significant challenges to accessing prenatal care, underscoring the need for innovative solutions to reach rural and remote Northern Plans reservations.

Social Determinants of Health

Socioeconomic factors significantly impact access to care. Maternal and child health research emphasizes that factors like maternal age, marital status, employment status, and socioeconomic status place AI women at higher risk for preterm birth (Johnson et al., 2020; Reglan et al., 2016). Systemic barriers to care, including higher rates of poverty and longer distances to quality health care, play impactful roles in maternal and infant health outcomes of AI women. AI people are also more likely to have underlying chronic health conditions and

interpersonal challenges or difficulties such as depression, substance use, sexual or interpersonal violence, and the common experience of discrimination or racism override the focus on prenatal care (Hanson, 2014). AI women are more likely to experience adverse childhood experiences (ACEs) and interpersonal violence. In the United States, 48% of women will experience sexual or physical violence by an intimate partner in their lifetime; for AI women, this rate is even higher at 58% (Leemis et al., 2022; Schmitt et al., 2023). Intimate partner violence further increases the barriers to accessing and delaying prenatal care often due to the partners power and control in the relationship (Bohn, 2022; Schmitt et al., 2022) and 26% of AI women who received inadequate prenatal care experienced physical or sexual abuse from their partner (Bohn, 2022).

AI women are less likely to have health insurance other than IHS or Medicaid. Research reveals that Medicaid expansions aimed at improving healthcare access for low-income women did not impact first trimester prenatal care, usage, or birthweight among women residing in areas with high AI population percentages (Struly, 2024). The lack of first trimester care suggests that Medicaid alone is not enough to overcome the socioeconomic barriers these women face.

AI women who received inadequate prenatal care often shared a similar socioeconomic background, suggesting that poverty and related factors contribute to poor care access. AI women are more likely to experience poverty, live in hazardous conditions, experience food insecurity, and lack health insurance (Lia-Hoagberg et al., 1990; National Partnership for Women & Families, 2019). Socioeconomic factors and social determinants of health play a critical role in shaping access to prenatal care and health outcomes for AI women.

Description of the Community

Traditionally located in the grasslands or the northern Great Plains region of North America, the Northern Plains Tribes' territories once spanned across vast parts of what is now modern-day Canada and the northern United States (National Park Service, 2020). However, with the onset of westward expansion by European settlers, the U.S. government began designating reservations, often in remote and inhospitable areas, with the aim of separating and isolating tribes from the growing White populations. These reservations, characterized by a combination of low population size and high geographic remoteness, were essentially frontier lands that held little appeal for non-Native settlers.

Methods

This literature review aimed to stress the scope of disparities in prenatal care for AI women and synthesize evidence on the effectiveness of group prenatal care in improving early and adequate prenatal care as an intervention to reduce these disparities. Two research questions guided this search: (1) What are the health disparities in access to prenatal care for American Indian women? and (2) How do group prenatal care models address disparities and improve maternal and neonatal outcomes?

A comprehensive literature search was conducted in the following databases: PubMed, CINAHL, ClinicalTrials.gov, Goggle Scholar, and Web of Science. Search terms included "prenatal care disparities," "American Indian women," "group prenatal care," and "maternal health outcomes" using the Boolean operator, and a time frame of articles published within the past five years was applied.

Eligibility

Studies included focus on prenatal care for AI women and/or examine the impact of group prenatal care models on maternal and neonatal outcomes. Both qualitative and quantitative study designs will be included. Studies will be excluded if they do not focus specifically on AI women or do not examine group prenatal care models. In total, twenty-four studies were included in the literature review. It was found that there is significant lack of research specifically focused on prenatal care for AI women and a gap in understanding the unique challenges and barriers they face in accessing and receiving adequate prenatal care. Because of this lack in available research some outliers outside of this time frame were included for their incite and specific findings to AI women.

Studies were excluded if they were not published in English, as the focus was on conducting a review for application in English-speaking contexts. Peer-reviewed articles were included to ensure the highest standard of research quality.

Results

The initial search returned 100 articles. After removing duplicates, 56 unique articles remained. Upon further review, 32 of these met the predefined inclusion criteria. The selected peer-reviewed articles, which employed mixed-methods, qualitative, and quantitative research designs, collectively support the implementation of GPC as a strategy to improve outcomes through the use of AI-powered tools for women.

GPC has emerged as a promising model for improving access to prenatal care and health outcomes for underserved populations (Cunningham et al., 2019; Ruiz-Mirazo, Lopez-Yarto, & McDonald, 2012; Ickovics et al., 2007). GPC has elements that may address unconscious or

implicit bias in healthcare settings; group sizing optimizes interaction, provides a setting and environment that aids in improved patient-provider communication, fosters shared decision-making, and, more significantly, provides an opportunity to address the social determinants of health, all of which are barriers impacting the experience and outcomes of AI women and children. Additionally, while studies show mixed reviews, there is some evidence that also supports that GPC can reduce the incidence of preterm labor (Crockett et al., 2022; Cunningham et al., 2019).

Substance use disorder and mental health are key contributing factors in pregnancy-associated mortality and morbidity of AI women (Heck et al., 2021); GPC has been shown to have positive psychological health effects and be beneficial for women facing these challenges (Buultjens et al., 2021; Liu et al., 2021). Social support is a crucial, significant protective factor for postpartum depression; the group-based supportive environment created through GPC promotes communication, belonging, and peer support (Liu et al., 2021). Along with creating a network of support with providers and peers, GPC that is culturally congruent can facilitate participants to learn stress reduction techniques and skills and reduce depressive symptoms (Liu et al., 2021).

GPC aims to improve the health outcomes of mother and baby through a combination of physical assessment, education, and peer support; this multifaceted approach can improve a broad range of mother and baby outcomes (Buultjens et al., 2021; Ickovics et al., 2007). Similarly, a randomized controlled trial found that GPC resulted in equal or improved perinatal outcomes at no added cost (Ickovics et al., 2007). These findings suggest that GPC can lead to

better health outcomes for mothers and babies improving health equity and reducing known or identified disparities in maternal and infant health of Northern Plains childbearing AI women living on rural reservations.

Discussion

The culturally sensitive design of GPC models is critical when implementing this care approach for AI communities. Through included family and peer support, GPC has the unique ability to include traditional healers, extended family, grandmothers, and elders of the Tribe, improving response to care (Curry et al., 1998). Involving traditional healers and practices ensures that the care model is responsive to the community's unique needs and cultural practices. The culturally sensitive delivery of GPC helps to meet the needs of minoritized patients, leading to improved health outcomes and care experience (Tucker et al., 2021).

For AI women, navigating the healthcare system and accessing prenatal care can be challenging due to both cultural and systemic barriers. A qualitative study found that AI women often must navigate between their cultural practices and the Western model of prenatal care, highlighting the potential for GPC models to address these challenges (Curry et al., 1998). GPC provides a space for women to share their experiences and receive support from others who understand their unique cultural context (Shahid et al., 2023). Another article emphasized the need for culturally appropriate prenatal care for AI women and suggested that group care models could potentially improve care (Johnson, 2020). By providing care that respects AI cultural practices and beliefs, GPC can help increase participation in care and improve health outcomes for this vulnerable AI population.

Overall, the evidence suggests that GPC has the potential to improve access to and continuity of prenatal care, health outcomes, and culturally sensitive care for AI women. Implementing GPC programs that have been created to be culturally sensitive and takes into consideration traditional beliefs and practices and involves the community in the design process could help address the unique challenges AI women face in accessing prenatal care (Madeira et al., 2019). Providers and policymakers should consider the adaptability of GPC to meet the needs of diverse communities. With careful implementation and evaluation, GPC could be a powerful tool for reducing disparities in prenatal care and outcomes for AI women.

Conclusion

It is imperative that providers, policymakers, and communities work together to implement multifaceted solutions. To improve access to early prenatal care for AI women, interventions must explore strategies such as culturally appropriate care delivery, community-based outreach, increased access to healthcare providers with cultural competency, addressing social determinants of health, and incorporating traditional healing practices aimed at early engagement in prenatal care and reducing disparities in maternal health outcomes. With its ability to be culturally tailored, GPC provides care in a way that respects and addresses the cultural needs of patients, GPC can help build trust and improve engagement in care. By increasing access to culturally sensitive care models like group prenatal care, addressing the socioeconomic disparities, and actively involving AI communities in healthcare design, we can reduce the inequities AI women face and improve the health and well-being of AI mothers and babies.

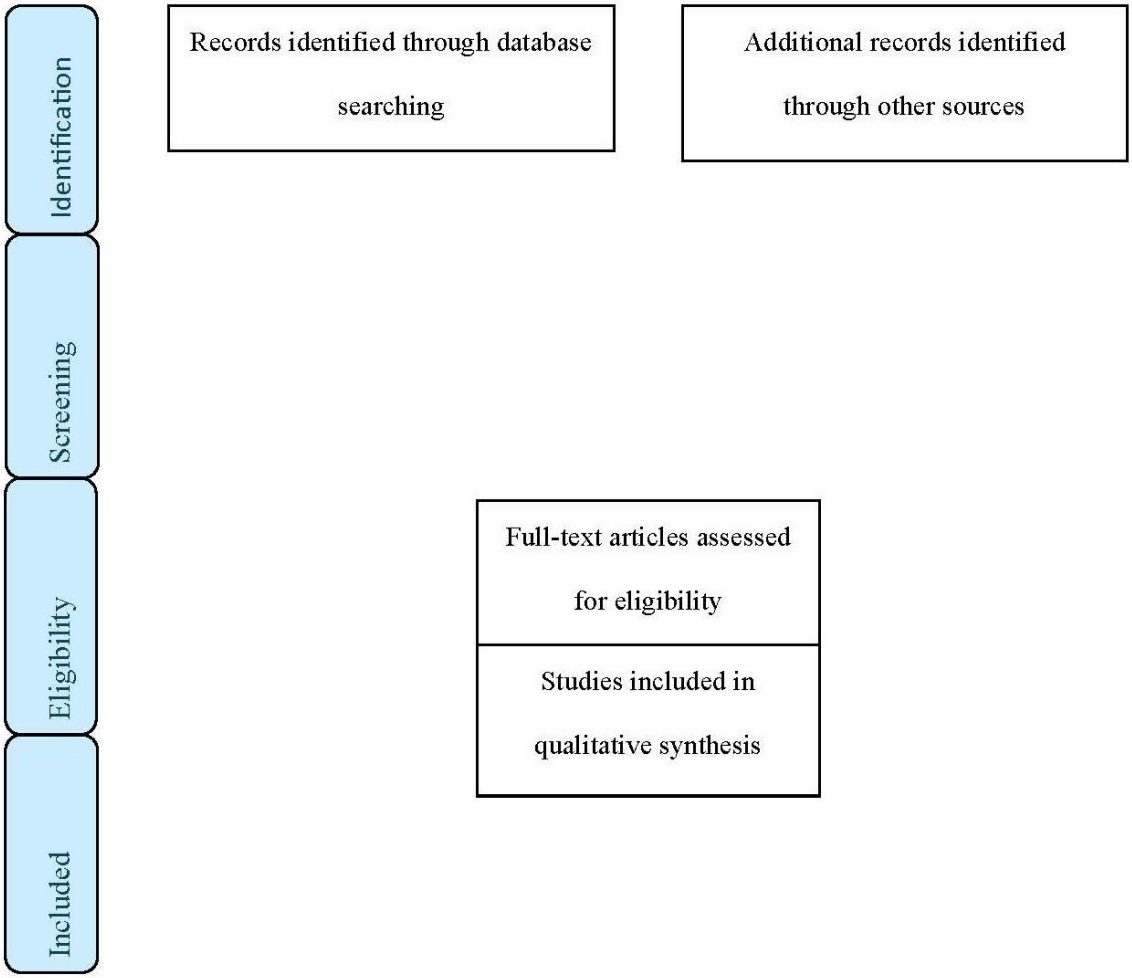

Figure 1. Prisma Flow Diagram: Literature Selection Map

CHAPTER TWO

QUALITY IMPROVEMENT PROPOSAL

Introduction

Traditional prenatal care models, while well-intentioned, often fall short in providing truly patient-centered, equitable care. With disparities in maternal and infant health outcomes for AI women and the numerous barriers in accessing services in AI communities, healthcare providers need to reexamine and redefine the current approach to care. GPC models have been proven to improve health outcomes, enhance patient satisfaction, and address systemic inequities. GPC's flexibility and focus on community support make it an ideal framework for culturally adapting prenatal care to the unique needs and strengths of AI women. By integrating traditional practices, promoting intergenerational knowledge sharing, and addressing the social determinants of health within a supportive group setting, we can create a care model that truly honors and empowers this population.

Centering Pregnancy is an evidence-based model of group prenatal care that aligns with national standards and has been proven to improve health outcomes for mothers and babies. This approach brings together women for care and education in a supportive group setting. Research has consistently demonstrated that Centering Pregnancy can lead to lower rates of preterm birth and low birth weight, as well as increased patient satisfaction and better disease management (Ickovics et al., 2016; Novick et al., 2013). By fostering community, promoting active participation in care, and addressing the social determinants of health, Centering Pregnancy offers a holistic and empowering approach to prenatal care that exceeds traditional standards.

The American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Family Physicians (AAFP) both endorse group prenatal care models like Centering Pregnancy as a viable alternative to individual care, recognizing their potential to enhance outcomes and patient experience (ACOG, 2021; AAFP, 2015). For AI women, this model can be particularly beneficial when adapted to incorporate cultural practices and traditional knowledge, helping to address the unique health disparities faced by this community (Tucker et al., 2021).

Problem Statement & Aim

AI women face significant barriers in accessing early and adequate prenatal care, including geographical isolation, lack of transportation, historical trauma, and socioeconomic factors. These barriers contribute to a lower rate of early prenatal care initiation (64.9%) compared to other populations (e.g., 82.8% for White women), leading to disparities in maternal and infant health outcomes (Heck et al., 2021; Raglan et al., 2016; Thorsen et al., 2022). AI women are two to five times more likely to die from pregnancy-related complications than their White counterparts, and their infants are at increased risk of sudden infant death syndrome and mortality before age one (Heck et al., 2021). Furthermore, AI women living in rural settings are at even greater risk than those living in urban settings (Johnson, 2020). Factors such as depression, substance abuse, family disruptions, and adverse childhood events negatively impact maternal and newborn care. The lasting impact of historical trauma is compounded by ongoing socioeconomic and structural conditions that create further barriers to accessing services (Figure 2). These challenges contribute to elevated rates of maternal and infant mortality among AI women.

ROOT CAUSE ANALYSIS

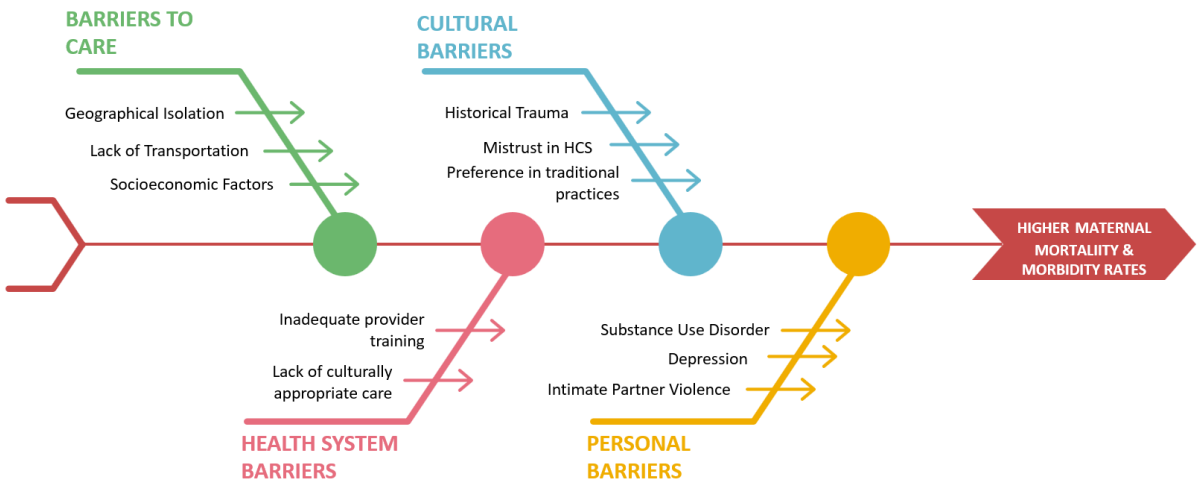

Figure 2. Fishbone Diagram: Clinical problem breakdown

The aim of this quality improvement project is to improve access to culturally appropriate prenatal care for AI women, with a focus on early initiation (within the first trimester) and continuity of care throughout pregnancy. Through early initiated prenatal care there will be an increase the percentage of AI women receiving adequate prenatal care (defined as 80% of recommended visits) to rates comparable to or exceeding those of other racial and ethnic groups. By addressing the social determinants of health and implementing culturally sensitive care models like group prenatal care, we can reduce the inequities AI women face and improve the health and well-being of AI mothers and babies.

The short-term goal is to increase the percentage of patients initiating prenatal care in the first trimester, improve patient satisfaction scores, and reduce the average wait time for the first prenatal appointment through the implementation of group prenatal care. To determine whether goals have been met, we will compare data from a baseline assessment to a post-assessment after

initiating GPC. Success will be measured by increasing the percentage of patients initiating care in the first trimester by 15% within the next six weeks, improving patient satisfaction scores by 10% as measured by our standard patient surveys within the next eight weeks, and reducing the average wait time for the first prenatal appointment by 20% within the eight weeks. To achieve this, we will establish group prenatal care sessions, which will provide education on the importance of early prenatal care, allow for additional support and community building among patients, and more efficiently utilize provider time. We will also provide additional training to staff on facilitating group visits and remove barriers such as multiple appointments and referral to access prenatal care. These goals are all relevant to providing the best possible care for our patients. Initiating care early is crucial for the health of both the mother and baby. High patient satisfaction scores indicate that we are meeting our patients' needs. Minimizing wait times shows respect for our patients' time and improves their overall experience. All goals will be achieved within the next eight weeks. We will track progress monthly and make adjustments as necessary to stay on track.

The long-term goal is to further increase the percentage of patients receiving early and adequate prenatal care, and decrease rates of low birth weight and preterm delivery through the continued implementation and refinement of group prenatal care. This will be measured by increasing the percentage of patients receiving early and adequate prenatal care by an additional 20% within the next two years, decreasing the rate of low birth weight deliveries by 15% within the next two years, and decreasing the rate of preterm deliveries by 12% within the next two years. To achieve this, we will continue to offer group prenatal care sessions and monitor their effectiveness, refine the group prenatal care model based on feedback and outcomes, ensure

ongoing staff training on facilitating group visits, and continue to streamline scheduling to minimize wait times. These long-term goals are a natural progression of our short-term goals and continue to focus on providing the best possible care for our patients. Early and adequate prenatal care is key to healthy outcomes. Reducing rates of low birth weight and preterm deliveries will improve the health and well-being of our patients and their babies. All goals will be achieved within the next two years. We will track progress quarterly and make adjustments as necessary to stay on track.

Organizational Microsystem Assessment

The practice site is a 638 compacted Tribal health center that serves a Contract Health Service Delivery Area (CHSDA) encompassing two counties and providing essential care to approximately 5000 AI people. As a self-governed site, the health center possesses the authority to control and operate IHS programs and services, such as comprehensive primary health care, leveraging IHS resources, grants, and other funding sources. This autonomy enables the center to provide a greater number of services, including obstetric care, tailored to the unique needs of the community it proudly serves.

Obstetric care is provided by a contracted provider, who comes to the facility once a month. Once pregnant persons progress to needing bi-weekly and weekly visits, extensive travel is required. There are no in-house providers who provide prenatal care. Obstetric care is paid for by the facility through purchased referred care (PRC) funds. To access PRC-funded care, a health center primary provider must make a referral, and the patient must meet eligibility requirements: being AI Tribal affiliated, residing within your CHSDA area, or the father of the child must be an enrolled member of the Tribe. To receive a referral PRC-funded prenatal care, a patient must

have a confirmation appointment with a health center primary provider who then makes a referral to an obstetric provider. This process often creates delay and difficulty in receiving prenatal care within the first trimester.

At any given time, there is approximately thirty-five women in the community who are pregnant. Each month there is approximately twenty prenatal visits to the facility with the obstetric provider. Additionally, there is another fifteen who receive care from providers outside of the service unit. The average weight time from positive pregnancy test to first prenatal visit is six weeks. Data collection through chart audits of pregnant women who have or are receiving prenatal care within the facility January 2024 to October 2024 revealed that approximately 29% had their first prenatal visit with the obstetric provider within the first trimester, this number is below the national average for AI women receiving early prenatal care, which is 64.9% (Sebens et al., 2022).

Quality Improvement Model

The plan, do, study, act (PDSA) model of change from the Institute for Healthcare Improvement (IHI) Framework for Improving Health Equity will guide the quality improvement approach. A PDSA cycle is a quality control procedure used to continuously improve a process and its results. The purpose of the PDSA cycle is to test a change in the process by planning it, implementing it on a small scale, studying the results, and determining whether to adopt, modify, or abandon the change based on what was learned. The PDSA model was selected as it is proven to ensure that improvements result in closing equity gaps and is best suited for the focus population and practicing facility (Institute for Healthcare Improvement, n.d.). This framework

emphasizes understanding the community context, addressing social determinants of health, and implementing patient-centered, culturally responsive care.

The *Plan* phase of the project will focus on establishing the objectives and processes necessary to deliver results in accordance with the expected outcome. Time will be dedicated to building strong partnerships with community elders and providing training for team members. The health center has secured funding and selected Centering Pregnancy as the group model of care for its proven success and flexibility to include traditional teachings and practices. Two teams of a healthcare provider and an AI birth worker will receive training on group prenatal care and facilitation. By establishing outcomes or goals the completeness and accuracy of the data to be collected can be ensured. In the *Do* phase, the plan is implemented. The team will be executing the process, starting to offer group prenatal visits and collect data to determine whether the expected results are being achieved. GPC visits will be offered every other week, facilitated by a healthcare provider, AI birth worker, and Tribal elder. Visits will be documented in the patient's electronic health record. The team lead will track data such as gestational age at first visit, total number of visits, gestational age at time of delivery, birth weight, and overall patient satisfaction with GPC. Next in the *Study* phase of the cycle, the team lead and committee chair will analyze data to determine whether the expectations described in the plan are being met and what was learned. What went well? What did not go as planned? Finaly in the *Act* phase, the process is refined based on the study phase and an updated plan is created for the next cycle (see Figure 3).

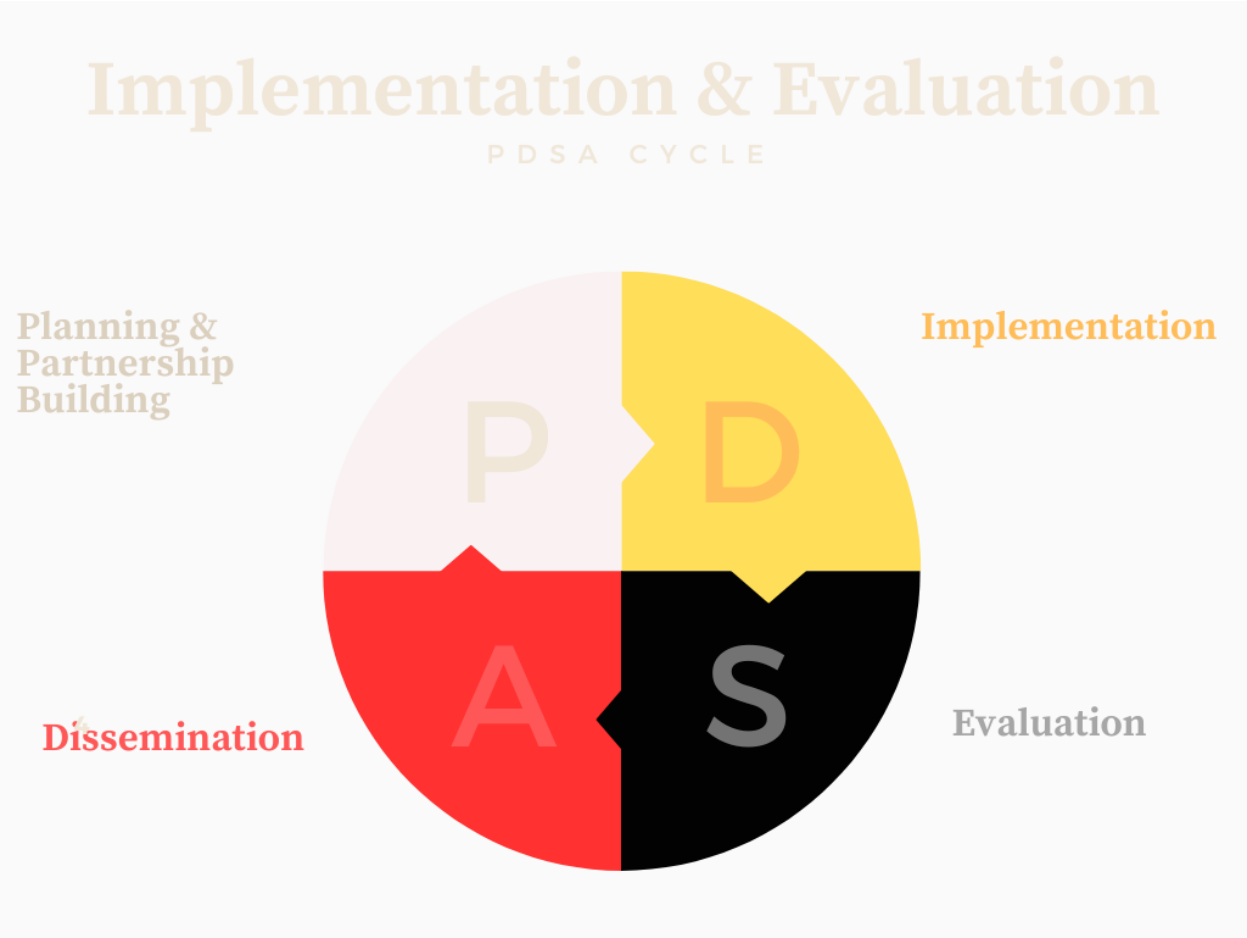

Figure 3. Project PDSA cycle: Planning & Partnership, Implementation, Evaluation, and Dissemination

Methods

Implementation Summary

The project will be implemented in partnership with a Tribal health center serving a rural AI community in Montana. This setting is unique due to the geographical barriers and limited access to obstetric services. Located in a frontier county, it is designated as a high level of need for healthcare professionals and serves a population with an inequity to healthcare services. The health center currently provides individual prenatal care but lacks a group care model tailored to

the specific needs and cultural practices of the AI community. While the health center is able to provide prenatal care, it is not a labor and delivery facility. The closest delivery facility is 29 miles from the area and is a level I hospital. The nearest level III hospital with a neonatal intensive care unit is 102 miles away.

By implementing a culturally tailored GPC model, this project aims to address the disparities in prenatal care for AI women and improve maternal and infant health outcomes. The partnership with the community health center and AI community will ensure services are responsive to the unique needs and cultural practices of the community.

The Centering Pregnancy model of care is an innovative approach to prenatal care that has been shown to improve outcomes for both mothers and babies (AAFP, 2105; ACOG 2021). To implement this model, we will start offering GPC visits in addition to traditional one-on-one prenatal appointments. Women will meet as a group with their healthcare providers. Each woman will take an active role in her own care, tracking her own vitals and performing self-examinations. The provider will conduct brief private physical exams, but much of the appointment time will be spent on education, discussion, and building community.

Group visits will be scheduled every two weeks. Each visit will cover two content areas: education and skill-building. Topics might include nutrition, stress management, labor and delivery, breastfeeding, and postpartum care. Skill-building could involve learning about fetal development, practicing Kegel exercises, or discussing strategies for newborn care. Private individual health assessments will be completed at each visit, monitoring vital signs, fetal heart tones, and fundal height, along with completing the recommended screenings and vaccinations based on the women’s gestational age of pregnancy.

A facilitator will lead the group, encouraging participation and ensuring all women have a chance to ask questions and share experiences. The facilitator will create a safe, supportive environment. Providers will attend the entire group visit, participating in education and discussion. They will build relationships with the women and among the group members. Private exams will be conducted in a private area.

While the model includes a standard schedule and content outline, there will be flexibility to address the unique needs and concerns of each group. Staff training will be crucial. Providers and facilitators receive education on the centering model, group facilitation skills, and how to create a supportive and inclusive environment.

GPC will be offered to all women, those who are categorized as having a high-risk pregnancy will be encouraged to participate in both group and traditional one-on-one visits. The barriers to access prenatal care will be removed, no pregnancy confirmation or referral will be required to attend the first group. We will regularly assess the program's success, tracking clinical outcomes, patient satisfaction, and staff feedback. We will use this data to make improvements.

We will connect with the Centering Healthcare Institute for resources, training, and support. They will provide guidance and materials to help with implementation. The key to successful implementation will be a commitment to the model's principles: patient empowerment, education, and community building. With careful planning and training, we can create a centering program that improves outcomes and enhances the prenatal care experience.

Intervention and Implementation

The first month will be dedicated to laying a strong foundation for the GPC program. To establish crucial partnerships, listening circles and focus groups will be held to get feedback and input from the community health center and respected Tribal elders on the Centering Pregnancy curriculum and how cultural teachings will accompany the established education, helping to create trust and buy-in. Simultaneously, the clinic will train a team of dedicated project staff. A key aspect of our planning will be consulting with Tribal elders to guarantee the care we provide is culturally sensitive and tailored to the community's unique needs and traditions.

With our partnerships in place and staff trained, we'll launch the GPC program and begin recruiting patients. Ongoing training and support for staff will be prioritized to ensure they can effectively deliver this innovative model of care. Importantly, we'll start tracking key data from the outset: both short-term process measures such as attendance, patient satisfaction and gestational age at initiation of care, and long-term outcome measures such as the adequacy of prenatal care and birth outcomes. This data will be our compass, guiding us as we continually refine the program.

Short-term goals will be measured after the first eight weeks; this data will be utilized to evaluate participation and make adjustments for patient recruitment and retention. After a year of implementation, we'll deeply analyze the wealth of data we've collected to identify areas of success and opportunities for improvement. The project will use run charts and control charts to visualize data and determine if improvements are statistically significant.

Leveraging these insights, we will implement targeted, data-driven adjustments to the GPC model, always with the objective of enhancing patient and community outcomes.

Concurrently, we will maintain our commitment to continuous data collection and evaluation, fostering a cycle of iterative learning and quality improvement.

In the final month, we'll share the knowledge and best practices we've gained with the broader healthcare community. We'll present our findings at conferences and work with our partner organizations to spread the impact of our work. Perhaps most importantly, we'll develop a toolkit to empower other Tribal health centers to implement similar GPC programs, multiplying the benefits for AI communities nationwide.

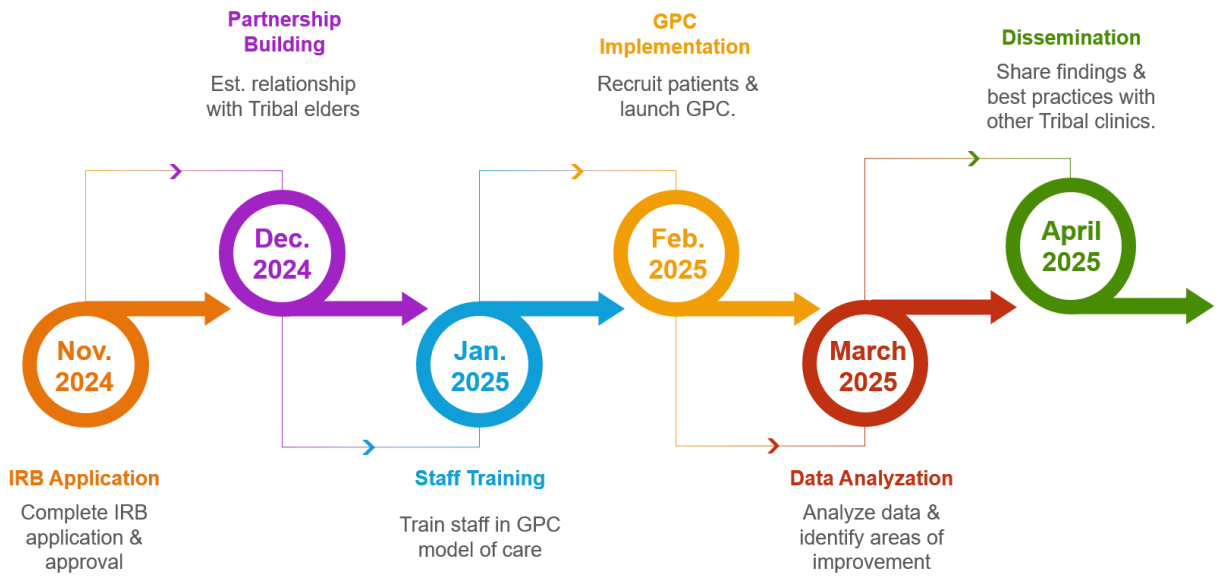

Figure 4. Timeline: Six-month Project Action Schedule

Key Stakeholders and Roles

The project will engage several key stakeholders to ensure its success. The Project Lead will oversee overall project management, staff training, data collection, and evaluation. certified medical assistants and registered nurses will co-facilitate GPC sessions, provide cultural

guidance, and support patient navigation. Obstetric providers will participate in GPC sessions, lend their medical expertise, and refer patients to the program. AI elders and community members will advise on cultural tailoring, promote the program within their communities, and ensure services align with community needs. The quality improvement team will offer guidance on the IHI Framework, data analysis, and quality measurement.

Evaluation and Analysis

On average, the community has thirty-five (n=35) pregnant women at a given time with 57% (n=20) receiving obstetric care from the contracted provider monthly at the Tribal clinic and an additional 37% (n=13) receiving care off the reservation. Approximately 5% (n=2) participate in no prenatal care. An estimated ten (n=10) women will consent to participate in group prenatal visits in addition to their traditional individual appointments. We will collect data through patient surveys assessing satisfaction, knowledge, and engagement, as well as medical record reviews examining prenatal care adequacy and birth outcomes.

Table 1. Outcome Metrics

Patient #	**EDD**	**GA @1st appt**	**Total # of visits**	**GA @ delivery**	**Birth weight**

Additionally, we will conduct focus groups with patients and providers to gather qualitative feedback. These diverse data sources will provide a comprehensive understanding of the program's impact. Data will be analyzed using descriptive statistics to quantify trends and outcomes, and thematic analysis to identify patterns and insights from the qualitative feedback.

Table 2. SMARTIE goals and methods for the projects short-term goals.

SPECIFIC SMARTIE GOAL 1: The percentage of patients initiating care in the first trimester by 15%	**SPECIFIC** SMARTIE GOAL 2: Patient satisfaction scores will increase by 10%	**SPECIFIC** SMARTIE GOAL 3: Reduce the average wait time for the first prenatal appointment by 20%
MEASURABLE	**MEASUREABLE**	**MEASUREABLE**
Data to be collected Numerator: Number of women attending first GPC visit in 1st trimester Denominator: Total number of women participating in GPC Method of collection: The team lead will track and review all prenatal data for women in GPC, including GA at first visit Planned Data Analysis: Data will track gestational age for all pregnant women at their first GPC visit and compare to baseline	Data to be collected Likert-type scale patient satisfaction surveys Method of collection: Likert-type scale patient satisfaction survey will be administered by the team and evaluated and comparted by team lead Planned Data Analysis: Compare Patient satisfaction scores of GPC vs. traditional PNC. GPC will have 10% higher satisfaction scores.	Data to be collected Numerator: Average wait time for first GPC visit Denominator: Average baseline wait time for first appointment pre-GPC initiation Method of Collection: Included on patient surveys will be a question asking how long they waited for appointment Planned Data Analysis: Compare Patient satisfaction scores of GPC vs. traditional PNC.
ATTAINABLE GPC focuses on education and empowerment stressing the importance of early and regular PNC.	**ATTAINABLE** GPC establishes trusting provider patient relationships and peer support, improving satisfaction	**ATTAINABLE** Removing barriers such as multiple appointments and referral improves to access prenatal care.
RELEVANT Initiating care early is crucial for the health of both the mother and baby	**RELEVANT** High patient satisfaction scores indicate that we are meeting our patients' needs	**RELEVANT** Minimizing wait times shows respect for our patients' time and improves their early access
TIMELY Data will be evaluated weekly for 8 weeks	**TIMELY** Data will be evaluated weekly for 8 weeks	**TIMELY** Data will be evaluated weekly for 8 weeks

Table 2 Continued

INCLUSIVE Participants will be AI	**INCLUSIVE** Participants will be AI	**INCLUSIVE** Participants will be AI
EQUITABLE By partnering with community organizations and Tribal elders, will ensure our GPC program is culturally tailored	**EQUITABLE** By partnering with community organizations and Tribal elders, will ensure our GPC program is culturally tailored	**EQUITABLE** By partnering with community organizations and Tribal elders, will ensure our GPC program is culturally tailored

Confidentiality and Safety

To ensure data safety and confidentiality, we will use de-identified data in all analysis and reporting, removing any identifiable patient information. This includes, but is not limited to, names, dates of birth, addresses, and any other unique identifiers that could potentially link the data back to individual patients. Data will be stored on a secure, password-protected server with access restricted to authorized personnel. The project will obtain IRB approval and adhere strictly to HIPAA guidelines. All staff will receive training on data privacy and confidentiality protocols.

Conclusion

The evidence overwhelmingly supports the implementation of GPC as a promising approach to improve maternal and infant health outcomes in AI communities. This model of care has been successfully adapted and implemented in various settings, demonstrating its flexibility and potential for widespread impact. GPC addresses many of the barriers to care that AI women face, including geographical isolation and mistrust of the healthcare system. In AI culture, pregnancy is widely celebrated as a natural and sacred event, often marked by community ceremonies and the Tribe provided support and guidance throughout the pregnancy. By providing

a supportive community of peers, GPC can help mitigate the effects of historical trauma and promote culturally sensitive care. The shared medical appointments and education sessions in GPC facilitate early initiation and adherence to prenatal care, leading to better health outcomes. Importantly, GPC has been shown to decrease preterm births, low birth weight, and perinatal mortality—key areas where AI women currently experience disparities. These improvements are likely due to the combined effects of timely medical care, patient education, and social support inherent in the GPC model. Furthermore, GPC promotes empowerment through active participation in care and fosters connections between women and community resources. Given the unique challenges and strengths of AI communities, adapting GPC models to incorporate traditional practices and collaborate with Tribal elders is crucial. This culturally tailored approach can enhance engagement and ensure the care provided is respectful and relevant.

With careful implementation and evaluation, GPC holds great potential to reduce disparities and improve the health and well-being of AI mothers and babies. It is predicted that offering group prenatal care that eliminates the delays and barriers to accessing obstetric care will result in women initiating and receiving earlier (within the first trimester) care than with the current process. Receiving early prenatal care by attending group prenatal care along with individual traditional obstetric appointments will increase the access to prenatal care and more women will receive adequate care.

CHAPTER THREE

QUALITY IMPROVEMENT MANUSCRIPT

Contribution of Authors and Co-Authors

Manuscript in Chapter 3

Author: Jacy Kate Crowley

Manuscript Information

Jacy Kate Crowley

Status of Manuscript:
☒ Prepared for submission to a peer-reviewed journal
☐ Officially submitted to a peer-reviewed journal
☐ Accepted by a peer-reviewed journal
☐ Published in a peer-reviewed journal

Clinical Problem

For AI women living on Montana's rural reservations, the journey to motherhood is often marked by obstacles that most Americans never have to face. In a state where 33% of the population lives in rural or frontier areas, AI women bear a disproportionate burden of healthcare barriers that directly impact their pregnancy outcomes (Montana Department of Public Health and Human Services [MDPHHS], 2024).

Montana's vast landscape presents a fundamental challenge for maternal healthcare access. Recent studies show that some AI women must travel upwards of 100 miles to reach birthing facilities, which becomes increasingly treacherous during Montana's harsh winters (Thorsen et al., 2023). The transportation crisis on Montana's reservations is more than just a matter of distance. Many families lack reliable vehicles, and public transportation is virtually non-exclusive in these remote areas. Winter weather often makes roads impassable, and the fuel cost for long-distance travel creates an additional financial burden for families already struggling with limited resources (Thorsen et al., 2022).

The statistics paint a stark picture. AI women in Montana face preterm birth rates 1.3 times higher than other populations. At the same time, their infants experience significantly higher rates of low birth weight (8.1% compared to 7.1% for white infants) (March of Dimes, 2024). These disparities are not just numbers; they represent real barriers to accessing essential care.

When a routine prenatal checkup requires a full day's journey, many women are forced to miss appointments, leading to gaps in care that can have serious consequences for both mother and child. The situation becomes even more critical during labor when the nearest obstetric

facility might be hours away; in the state of Montana, one of the seven reservations has a delivering hospital, resulting in 90% of AI women delivering miles away from their homes (Thorsen et al., 2023).

Montana has emerged as what healthcare professionals call a "maternal care desert," which is an area with limited or no access to maternity care services. This designation is particularly apparent on reservations, where the shortage of healthcare providers compounds geographic isolation (MDPHHS, 2024). The consequences of these access barriers are reflected in prenatal care statistics. Research reveals that reservation-dwelling AI women are significantly less likely to receive adequate prenatal care compared to their white counterparts (Thorsen & Palacios, 2024).

The integration of traditional practices with modern prenatal care models can produce promising solutions. GPC programs, when adapted to incorporate Indigenous cultural values and traditional teachings, have promise in improving maternal health outcomes. These programs honor the collective community responsibility central to Indigenous cultures while providing essential medical care (Stiffarm et al., 2024).

Recognizing that lasting change requires systemic solutions that address both infrastructure and healthcare delivery, this project developed a cultural adaptation toolkit. The toolkit serves as a guide and framework for creating GPC programs that intentionally integrate traditional Indigenous knowledge and practices. Specifically, it supports the inclusion of traditional birth knowledge, Tribal elders and Indigenous birth workers, traditional medicines, and cultural ceremonies into evidence-based prenatal care (Thorsen & Palacios, 2024). This

integration fosters a harmonious and holistic model of care, ensuring AI women receive quality prenatal care that simultaneously promotes cultural preservation.

Review of Literature

AI women continue to experience significant maternal health disparities, characterized by higher rates of adverse pregnancy outcomes, limited healthcare access, and complex systemic barriers (Bohn, 2002; Burns et al., 2023; Center for Disease Control and Prevention, 2024; Heck et al., 2021; Johnson, 2020; Kozhimannil et al., 2020; Raglan et al., 2016; Sebens & Williams, 2022; Strully et al., 2024; Thorsen et al., 2022, 2023). Traditional individual prenatal care models have demonstrated limited effectiveness in addressing the multifaceted challenges this population faces.

The Centering Pregnancy model of care, a GPC approach, offers a transformative alternative to conventional healthcare delivery. Unlike traditional Western medical approaches, Centering Pregnancy creates a participatory environment where women actively engage in their healthcare journey.

In this model, 8−12 women with similar due dates meet for approximately 10 sessions, each lasting 90−120 minutes. These sessions transcend traditional medical consultations, integrating comprehensive health assessments with facilitated group discussions, peer support, and interactive health education. Participants not only receive individualized medical care but also participate in collective learning, sharing experiences, and building supportive community networks (Ickovics et al., 2007, 2011; Novick et al., 2013; Ruiz-Mirazo et al., 2012; Buultjens et al., 2021; Curry, 1998).

The GPC model, mainly through the Centering Pregnancy framework, represents a promising intervention that transcends conventional healthcare delivery. With its unique ability to be culturally adapted, Centering Pregnancy GPC creates collaborative, culturally responsive spaces. It offers a holistic approach to maternal health that acknowledges the intricate social, cultural, and historical contexts shaping AI women's healthcare experiences.

This approach is particularly significant for AI communities, where historical medical trauma, systemic racism, and cultural disconnection have profoundly impacted healthcare interactions. The Centering Pregnancy model, viewed through the quality improvement lens, provides a potential pathway to rebuild trust and create healthcare experiences that honor Indigenous knowledge and community-centered healing practices.

The quality improvement team anticipates significant individual and community developments in initial outcomes and progressive milestones. Participants' experiences attending GPC are enhanced access to prenatal care, resulting in more mothers receiving care in the critical first trimester. GPC can also improve health literacy, with a marked increase in understanding personal health management strategies resulting in enhanced self-efficacy in healthcare navigation, empowering women to take more active roles in their medical experiences (Ickovics et al., 2007, 2011; Novick et al., 2013; Johnson, 2020; Strully et al., 2024; Lia-Hoagberg et al., 1990). A notable reduction in individual stress related to pregnancy, as participants benefit from a supportive, collaborative care environment is also projected (Buultjens et al., 2021; Ickovics et al., 2011; Cunningham et al., 2019; Ruiz-Mirazo et al., 2012).

Participant engagement metrics reveal promising initial outcomes. The GPC model is expected to foster increased peer support networks, creating a robust social infrastructure that

extends beyond traditional healthcare interactions. Participants will likely experience enhanced cultural knowledge sharing, with preliminary evidence suggesting the emergence of community-based learning mechanisms. Improved communication skills will become apparent, reflecting the model's emphasis on collaborative and dialogic healthcare approaches.

Clinical indicators during this initial phase point to meaningful preliminary transformations. Participants may experience reduced reported pregnancy anxiety, accompanied by initial improvements in health behavior modifications (Ickovics et al., 2007, 2011; Buultjens et al., 2021; Cunningham et al., 2019; Novick et al., 2013). Enhanced nutritional awareness emerges as a critical early outcome, suggesting the intervention's holistic approach to maternal health.

The literature demonstrates that GPC can comprehensively transform maternal healthcare outcomes for Al women. Research and quantitative analyses of GPC reveal significant improvements across multiple health domains, including prenatal care engagement, reduced preterm birth rates, and enhanced infant outcomes (Carter et al., 2016; Cunningham et al., 2019; Malouf et al., 2017). These clinical indicators suggest a substantive shift in maternal health trajectories.

Social support mechanisms evolve from structured interventions to complex, resilient networks characterized by traditional knowledge sharing and cultural reinforcement. Mental health resilience emerges as a significant outcome, with participants developing adaptive strategies for navigating complex healthcare systems and personal challenges (Ickovics et al., 2007, 2011; Buultjens et al., 2021; Maxwell et al., 2022; Schmidt et al., 2024; Kozhimannil, 2020).

The observed transformations surpass traditional clinical metrics and represent a comprehensive reimagining of maternal healthcare delivery. By integrating culturally sensitive teachings with evidence-based clinical interventions, the toolkit illuminates potential pathways for addressing systemic healthcare disparities experienced by women residing in AI communities. These findings suggest that culturally centered, community-driven healthcare models can effectively interrupt historical patterns of medical marginalization while simultaneously affirming Indigenous knowledge systems and healing practices.

These projected outcomes represent more than statistical possibilities. They embody a comprehensive vision of maternal healthcare that centers AI women's experiences, knowledge, and cultural contexts, offering a transformative pathway toward holistic community health. The text does not contain any sentences using passive voice or hanging modifiers.

Conceptional Framework

Two interconnected theoretical perspectives guide this quality improvement project. Prenatal health is recognized as a product of complex interactions between individual, interpersonal, community, and systemic factors. This model illuminates how healthcare interventions must address multiple levels of influence simultaneously. The Indigenous Cultural Responsiveness Theory (ICRT) emphasizes decolonizing healthcare approaches, centering Indigenous knowledge, traditional practices, and community-driven methodologies. The theory demands healthcare interventions that respect cultural integrity and self-determination.

The Social Ecological Model provides a comprehensive framework for the toolkit's approach to improving maternal health outcomes in tribal communities. At the individual level, the toolkit addresses personal health beliefs, traditional knowledge, and individual choice in

birthing practices. This includes resources that honor each woman's cultural identity and personal journey through pregnancy and childbirth (Stiffarm et al., 2024).

Indigenous Cultural Responsiveness Theory (ICRT) is a vital framework that seeks to decolonize healthcare and prioritize Indigenous knowledge, traditions, and community-driven methodologies. This approach emphasizes the importance of cultural integrity and self-determination in healthcare interventions, ensuring they are respectful and meaningful to Indigenous communities (Stiffarm, 2024). By centering Indigenous perspectives, this theory helps to foster an environment where traditional practices are integrated with modern healthcare, empowering communities to define their healthcare needs and approaches while honoring their cultural identity and practices. Guidance of ICR sets the stage for a holistic and inclusive strategy that enhances maternal health outcomes in Indigenous populations.

At the interpersonal level, the toolkit emphasizes the role of family systems and traditional support networks, incorporating guidance for involving extended family members, traditional healers, and community elders in group prenatal care sessions. These relationships are fundamental to Indigenous approaches to health and healing (Healthy Mothers, Healthy Babies Montana, 2024).

The community level focuses on strengthening tribal-specific cultural practices and collective support systems. The toolkit provides frameworks for adapting group prenatal care to reflect each tribe's unique traditions, ceremonies, and healing practices. This includes guidance for integrating traditional medicines, birthing ceremonies, and community-based support networks into the care model (Child Trends, 2024).

The toolkit addresses broader institutional and policy considerations at the systemic level, providing strategies for healthcare organizations to create culturally safe environments and implement structural changes that support traditional practices alongside modern medical care. This includes recommendations for policy development, provider training, and institutional protocols that respect tribal sovereignty and traditional healing systems.

Indigenous Cultural Responsiveness principles are woven throughout the toolkit's framework in several ways:

1. Knowledge Sovereignty: The toolkit recognizes and validates Indigenous ways of knowing, ensuring that traditional knowledge about pregnancy, birth, and motherhood is given equal standing with Western medical approaches.
2. Cultural Protocol Integration: Guidelines for incorporating appropriate cultural protocols and ceremonies are included, emphasizing seeking guidance from tribal elders and knowledge keepers.
3. Language and Communication: Resources are designed to respect Indigenous languages and communication styles, including traditional terms for pregnancy and birth-related concepts.
4. Relationship-Based Care: The toolkit emphasizes building trusting, long-term relationships between healthcare providers and tribal communities, recognizing that relationships are central to Indigenous healthcare traditions.
5. Community Self-Determination: Each toolkit section is designed to help tribal communities adapt to their priorities and cultural practices, supporting tribal sovereignty in healthcare delivery.

This comprehensive approach ensures that the toolkit serves not just as a clinical resource but as a bridge between traditional Indigenous maternal care practices and contemporary healthcare systems while respecting the autonomy and wisdom of tribal communities in determining their healthcare needs and approaches.

While theories provide the foundation for intervention strategies, practical frameworks ensure effective planning and implementation. To ensure rigorous development and implementation quality, this project utilized the AGREE II (Appraisal of Guidelines for Research & Evaluation Instruments) framework to guide the creation of a culturally adaptive GPC toolkit.

The AGREE II instrument provided a comprehensive, systematic approach, focusing on six core domains: scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, and editorial independence (Brouwers et al., 2010). This framework ensured the toolkit's design incorporated comprehensive stakeholder perspectives, methodological precision, and cultural responsiveness. Detailed consultation with Tribal elders helped create flexible implementation protocols that meet the standards of quality and cultural specificity.

By systematically addressing each AGREE II domain, the project team developed a toolkit that goes beyond surface-level adaptations to create a fundamentally transformative healthcare approach.

Table 3 illustrates the key features of the cultural adaptation toolkit as they relate to the AGREE II framework. Each domain is described in terms of how it was addressed during the toolkit's development. It highlights the project team's commitment to creating an evidence-based, culturally responsive, practical resource for diverse Tribal communities.

Table 3. Toolkit application of AGREE II Domains

AGREE II Domain	Description
Scope and Purpose:	The implementation team defined the toolkit's objectives to extend beyond clinical outcomes and address broader community healing and cultural preservation. This domain demanded a clear intervention purpose, recognizing pregnancy care as a holistic, culturally embedded experience. The toolkit defines the GPC model as a culturally safe intervention to improve prenatal outcomes.
Stakeholder Involvement:	The toolkit development was a collaborative ceremony of knowledge sharing, mandating comprehensive community engagement. The stakeholder involvement domain required systematic approaches to involving AI women, tribal elders, traditional healers, and community leaders as partners in design. Creating protocols for meaningful community consultation ensured that the toolkit reflected authentic Indigenous perspectives.

Table 3 Continued

Rigor of Development:	The rigor of the development domain guided the systematic integration of multiple knowledge systems, creating a toolkit that values evidence-based practice and Tribal traditional knowledge. The toolkit includes comprehensive strategies to incorporate cultural teachings and traditional practices into the Centering Pregnancy model of care, creating a holistic approach to maternal healthcare knowledge.
Clarity of Presentation:	Guided by the clarity of the presentation domain, the toolkit incorporates linguistically and culturally appropriate materials, using Indigenous languages, culturally resonant imagery, and communication strategies that reflect traditional approaches. The Centering Pregnancy group model and talking circles, an Indigenous practice, promote learning and community building, providing a safe, nonjudgmental space for traditional storytelling, a cultural practice used to disseminate knowledge passed down through generations, share thoughts, emotions, and experiences, and foster mutual respect and understanding.

Table 3 Continued

Applicability:	The applicability domain ensures the toolkit's practical implementation across diverse Tribal communities by developing flexible frameworks that provide clear guidance while creating deliberate spaces for Tribal adaptation.
Editorial Independence:	The final domain ensures the toolkit's credibility and objectivity by developing transparent documentation of the quality improvement project team composition, funding sources, and potential biases.

Aim

This project aimed to develop a comprehensive and culturally adaptive toolkit for GPC that Tribal communities can utilize to implement effective and sustainable prenatal care programs tailored to the specific needs of AI women. This aim was achieved through community engagement, expert review, and rigorous evaluation using the AGREE II framework, ensuring that the toolkit is both culturally responsive and evidence-based.

Methods

Quality Improvement Design and Theoretical Framework

This project employs a mixed-methods design and strategically integrates Indigenous cultural approaches with evidence-based practice to develop a cultural adaptation toolkit for GPC. The theoretical framework recognizes healthcare as a complex social process deeply

embedded in cultural, historical, and community contexts, prioritizing the integration of Indigenous knowledge and critical health equity perspectives to ensure the toolkit is culturally responsive and relevant.

Setting and Contextual Considerations

The project was conducted with the support and collaboration of a Northern Plains Reservation Tribal Health Center. This setting provided a unique opportunity to understand AI women's specific needs and cultural context, informing the development of a culturally responsive GPC toolkit tailored to address their complex healthcare challenges.

Target Population and Stakeholder Engagement

The project engaged AI women of childbearing age (16–45 years) residing within the reservation community as key stakeholders in the toolkit development process. A purposive sampling approach was employed, utilizing community-based recruitment strategies prioritizing cultural sensitivity and community engagement. In addition to AI, women, tribal elders, traditional healers, and healthcare providers were actively involved in the toolkit's design and refinement.

Toolkit Development Process

The AGREE II instrument guided the development of the cultural adaptation toolkit for the Centering Pregnancy model. The toolkit development process involved the following key steps:

1. Needs Assessment: Conducted focus groups and interviews with AI women, tribal elders, and healthcare providers to identify specific cultural considerations, barriers to accessing prenatal care, and desired features for GPC.
2. Content Creation: Developed toolkit components based on the needs assessment findings, including:
    a) Resource guides for incorporating traditional Indigenous practices into GPC.
    b) Checklists to ensure community engagement and cultural sensitivity.
3. Expert Review: Solicited feedback from tribal elders, maternal health, and quality improvement to ensure the accuracy, cultural appropriateness, and feasibility of the toolkit's content.
4. Usability Testing: Conducted pilot testing of the toolkit with healthcare providers and AI women to assess its usability, accessibility, and effectiveness in promoting culturally responsive GPC.
5. Refinement: Revised the toolkit based on feedback from expert review and usability testing.

Data Collection Methodologies

To evaluate the toolkit development process and its potential impact, a diverse and comprehensive model of data collection techniques was utilized:

1. Qualitative Data Collection: Employed culturally responsive methodologies that honored Indigenous knowledge transmission and community engagement. These approaches included:

a) Participant engagement surveys (Appendix B) assess satisfaction with the toolkit development process.

b) Traditional talking circle methodologies to gather in-depth perspectives on cultural considerations and the toolkit's relevance.

c) Structured feedback sessions (Appendix C) involving participants and community elders to refine the toolkit's content and design.

2. Toolkit Evaluation Metrics: The AGREE II instrument scores assessed the toolkit's adherence to guideline development standards, evaluating the quality and rigor of its guidelines.

Ethical Considerations and Community Sovereignty

Ethical project design centered on Tribal sovereignty and community self-determination. A comprehensive community advisory board, comprised of AI women and Tribal health elders, provided ongoing oversight and guidance throughout the toolkit development process. Informed consent, explaining the project's purpose, methods, and potential benefits, was obtained from all participants (Appendix D). The project adhered to all relevant ethical guidelines and regulations, protecting participants' rights and cultural values.

Results

This project utilized the AGREE II instrument to systematically assess the quality of the developed cultural adaptation toolkit for GPC. The AGREE II framework, a validated tool for evaluating clinical practice guidelines, provided a structured approach to examine the toolkit's

strengths and limitations across six domains. Three independent appraisers with expertise in Indigenous health, maternal health, and quality improvement conducted the evaluation.

To ensure comparability across domains, standardized scores were calculated using the following formula: (Obtained score – minimum possible score) / (Maximum possible score – minimum possible score) × 100. The results of the AGREE II assessment are summarized below:

Domain 1 (Scope and Purpose) achieved a standardized score of 72%, reflecting the clarity of objectives, health questions, and target population specificity.

Domain 2 (Stakeholder Involvement) demonstrated the highest performance at 85%, indicating a robust representation of relevant professional groups and target users in the guideline development process.

Domain 3 (Rigor of Development) received a score of 60%, suggesting moderate methodological quality in evidence selection and recommendation formulation.

Domain 4 (Clarity of Presentation) showed the lowest performance at 41%, indicating potential deficiencies in recommendation specificity and presentation clarity.

Domain 5 (Applicability) scored 78%, reflecting strong consideration of implementation barriers and facilitators, while Domain 6 (Editorial Independence) achieved 72%, suggesting adequate management of competing interests.

The array of domain scores reveals strengths and limitations in the guideline development process. The notably high score in stakeholder involvement (85%) suggests a comprehensive representation of relevant perspectives, contributing to the guideline's credibility and potential acceptability among end users. However, the substantially lower score in clarity of presentation

(41%) raises concerns about the guideline's practical utility and potential implementation challenges.

Domain 3 (Rigor of Development) showed the most significant differences between individual evaluators' scores, highlighting a key challenge in the assessment process. While some evaluators gave high marks for the toolkit's development approach, others assigned lower scores, leading to the domain's overall rating of 46%. This variation likely stems from two main factors. First, evaluators may have interpreted the AGREE II criteria differently, especially when applying conventional research standards to cultural knowledge. Second, the toolkit's documentation of traditional knowledge passed down primarily through oral teachings rather than written records may have appeared incomplete when viewed through the lens of standard academic rigor. This tension between traditional knowledge systems and conventional research methodology emerged as a central theme in the evaluation process.

Domain 3 of the AGREE II instrument, which focuses on the rigor of development, requires significant adaptation when applied to cultural projects centered on oral traditions. The conventional metrics within this domain—systematic literature searches, evidence selection criteria, and explicit links between recommendations and evidence—must be reconceptualized to honor Indigenous ways of knowing while maintaining methodological integrity.

In the context of oral traditions, the systematic methods for evidence-gathering shift from database searches to structured community engagement processes. The strength and quality of evidence are assessed not through citation metrics or study design hierarchies but through indicators such as the consistency of knowledge across multiple elders, the lineage of knowledge transmission, and the demonstrated effectiveness of practices over generations.

To strengthen Domain 3 scores in cultural adaptation projects, evaluators must document the systematic nature of traditional knowledge gathering while respecting that some aspects of cultural knowledge transmission cannot and should not be reduced to conventional academic metrics. This might include a detailed description of community consultation processes, clear articulation of consensus among knowledge keepers, and transparent documentation of how traditional practices were validated within their cultural context.

The assessment reveals specific areas requiring attention in future guideline iterations. Efforts should focus on enhancing the clarity and specificity of recommendations (Domain 4) and strengthening the documentation of methodological rigor (Domain 3). While four domains exceeded the generally accepted threshold of 70%, opportunities exist for comprehensive quality improvement across all domains.

The AGREE II assessment demonstrates variable quality across domains, with stakeholder involvement emerging as a notable strength and presentation clarity as an area requiring significant enhancement. These findings provide valuable direction for guideline refinement and highlight the importance of systematic quality assessment in guideline development.

Discussion

The AGREE II assessment suggests that the cultural adaptation toolkit for GPC holds significant potential to transform maternal healthcare by empowering communities to implement culturally responsive programs. While the initial project aimed to implement GPC directly, the toolkit offers a more sustainable and scalable approach to addressing maternal health disparities in AI communities.

The toolkit reimagines the healthcare encounter by providing a framework for creating collaborative, peer-supportive spaces that honor Indigenous knowledge and practices. Its strength lies in its adherence to guideline development standards (as evidenced by the AGREE II scores) and its transformative capacity to restore individual autonomy, rebuild fractured community connections, and honor complex Indigenous knowledge systems. The toolkit facilitates a process of healing where medical care intersects with cultural preservation and community resilience.

Ultimately, the toolkit offers more than implementation guidelines; it represents a potential mechanism for broader community transformation. By providing resources and guidance for creating spaces that honor AI women's experiences, restore cultural knowledge, and challenge historical medical marginalization, the toolkit opens new pathways for healing, empowerment, community resilience, and improved health outcomes for mothers and babies.

This project demonstrates that a cultural adaptation toolkit offers a promising approach to addressing maternal health disparities in AI communities. By shifting the focus from the direct implementation of GPC to developing a culturally responsive toolkit, this project moves beyond traditional medical interventions toward truly transformative healthcare practices that center AI women's experiences, knowledge, and cultural contexts. Integrating cultural responsiveness with evidence-based strategies, the toolkit reconstructs healthcare delivery as a community empowerment and cultural preservation mechanism.

Limitations and Considerations

Implementing a culturally adaptive GPC model for AI women presents significant implementation challenges and potential transformation. While the project demonstrates

promising theoretical foundations for culturally responsive maternal healthcare, the proposed intervention encounters substantial limitations in data collection and initial outcome assessment.

Applying the AGREE II framework in cultural contexts, particularly when evaluating interventions incorporating traditional knowledge, presents unique challenges that necessitate careful adaptation. The AGREE II instrument, developed primarily within a Western medicine paradigm, carries assumptions about evidence generation, knowledge dissemination, and decision-making that may not align with Indigenous or non-Western cultural perspectives.

One key challenge lies in defining "Rigor of Development," as traditional knowledge is often gathered through oral transmission, talking circles, and community consensus; these methods differ significantly from the framework's emphasis on formal research methodologies.

Ensuring meaningful and equitable stakeholder involvement also requires careful consideration, moving beyond mere representation to actively solicit input, respect diverse perspectives, and address power imbalances. Furthermore, the "Clarity of Presentation" domain must account for linguistic diversity, cultural communication styles, and culturally appropriate language and imagery. Finally, the "Applicability" domain demands a thorough assessment of the unique social, economic, and environmental factors that may affect implementation. To address these challenges, several adaptations are crucial. The definition of "evidence" should be broadened to include traditional knowledge, experiential learning, and community consensus, with culturally appropriate criteria developed for evaluating their validity and reliability.

The AGREE II criteria for "Rigor of Development" should be modified to reflect the methods used to gather and validate traditional knowledge, document community consultation processes, and articulate how consensus was reached among knowledge keepers. Strategies to

ensure meaningful and equitable stakeholder engagement are essential, such as establishing community advisory boards and providing training and support to community members. By acknowledging these challenges and implementing these adaptations, the AGREE II framework can be used to evaluate the quality of interventions that incorporate traditional knowledge in a rigorous and culturally responsive way, promoting effective, sustainable, and community-aligned interventions.

The project can transcend immediate implementation constraints by redirecting future research and implementation efforts toward creating a comprehensive, flexible framework for cultural adaptation. The AGREE II instrument provides a systematic mechanism for developing theoretically sound and practically implementable guidelines across diverse AI communities. This approach shifts the project focus from collecting definitive outcomes to creating a replicable, adaptable model for culturally responsive maternal healthcare interventions.

The proposed toolkit will serve as a framework offering Tribal communities a structured yet flexible approach to adapting the Centering Pregnancy model. The project team developed comprehensive guidelines that explicitly recognize the unique cultural, linguistic, and Tribal contexts of different AI communities. The toolkit will provide clear implementation strategies while simultaneously creating deliberate spaces for Tribal adaptation, community co-creation, and Indigenous knowledge integration.

The AGREE II instrument guides the toolkit's development across its six critical domains, ensuring a comprehensive approach to cultural adaptation. The scope and purpose will be explicitly defined to center AI women's experiences, stakeholder involvement will mandate meaningful community collaboration, and the rigor of development will recognize multiple

knowledge systems. Clarity of presentation will prioritize implementation frameworks adaptable to diverse Tribal contexts.

By developing a toolkit that can be adapted across different Tribes, the project offers a potentially transformative approach to maternal healthcare that honors traditional knowledge, restores community agency, and creates sustainable models of culturally responsive care.

Ultimately, the project's shift from traditional outcome collection to toolkit development acknowledges the importance of community-driven processes that center AI women's experiences, knowledge, and cultural practices.

Recommendations

The systematic application of the AGREE II instrument provided a rigorous framework for developing culturally adaptive healthcare guidelines, demonstrating a nuanced approach to addressing healthcare disparities. The resulting cultural adaptation toolkit offers a strategy that can be potentially replicated across diverse Tribal communities, providing a substantive contribution to AI maternal health. This approach recognizes health as a complex, multidimensional phenomenon shaped by historical, cultural, and social determinants of health. Current research demonstrates the critical importance of developing flexible, adaptive intervention frameworks that respond to the unique cultural variations across different Tribal communities. The toolkit developed through this quality improvement project provides an instrument for healthcare implementation that maintains core principles of cultural responsiveness while allowing for significant Tribal adaptation. This approach supports evidence-based care while respecting the inherent diversity of Indigenous culture.

The cultural adaptation toolkit is a valuable resource for addressing systemic healthcare disparities. By facilitating collaboration of evidence-based practice, genuine cultural recognition, collaborative knowledge production, and community empowerment, the toolkit offers a transformative vision of healthcare as a mechanism for broader social healing and cultural preservation. The toolkit's success hinges on its ability to be adapted and implemented in a genuinely community-driven and culturally relevant way.

Conclusion

The stark reality of maternal health disparities in American Indian (AI) communities demands innovative and culturally responsive solutions. A cultural adaptation toolkit for Group Prenatal Care (GPC) is not merely a helpful resource but a critical necessity for transforming prenatal care and improving maternal and infant outcomes for AI women. This project has demonstrated the profound potential of such a toolkit to bridge the gap between evidence-based practices and the unique cultural contexts of Tribal communities. However, the lessons learned extend far beyond the realm of maternal healthcare. The cultural adaptation toolkit serves as a model for developing interventions that are not only evidence-based but also deeply rooted in community values and traditions. By embracing this approach, we can begin to dismantle the systemic barriers that have historically marginalized Indigenous communities and create a healthcare system that truly honors the inherent dignity and worth of every individual. In a reciprocal partnership with the Tribal Health Center, the Cultural Adaptation Toolkit is now being prepared for broader dissemination.

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CHAPTER FOUR

ADVANCED NURSING ESSENTIALS REFLECTION

The complexity of prenatal care disparities among AI women requires a systematic approach aligned with the Doctor of Nursing Practice (DNP) Essentials. The disparities affecting AI women in maternal healthcare are profound and multidimensional, evidenced by maternal mortality rates two to five times higher than White women and significantly lower rates of early prenatal care initiation and representing a critical healthcare challenge that demands advanced nursing leadership and systematic intervention (Heck et al., 2021; Raglan et al., 2016; Thorsen et al., 2022). The DNP Essentials provide a comprehensive framework through which to address the multifaceted barriers AI women face, including historical trauma, geographical isolation, cultural disconnection, and systemic healthcare inequities. By applying these essentials, DNP-prepared nurses can lead transformative change that bridges the gap between traditional healing practices and modern healthcare delivery while addressing the social determinants of health that perpetuate these disparities. Each essential is a building block for creating sustainable solutions that honor AI traditions while advancing maternal health outcomes in these underserved communities.

Essential I: Scientific Underpinnings for Practice

The scientific foundation for addressing AI prenatal care disparities draws from multiple disciplines, including nursing science, public health, and social sciences. Understanding the impact of historical trauma on healthcare engagement requires the integration of psychological and sociological theories. The documented disparities in maternal mortality rates and prenatal

care access demonstrate the need for evidence-based interventions grounded in scientific research. GPC models represent an application of social support theory and adult learning principles to improve healthcare delivery.

In Evidence-Based Practice, I and II advance critical thinking to make informed decisions based on available research, patient preferences, and clinical expertise to improve patient outcomes. The scientific underpinning provides the foundational knowledge that supports and explains the rationale for practice or intervention, essentially forming the basis for evidence-based practice.

GPC emerges as a promising intervention that aligns with traditional AI values of community support while incorporating evidence-based practices. To effectively implement and evaluate GPC as an intervention for improving prenatal outcomes among AI women, the DNP Essentials provide a comprehensive framework for practice change.

Through Essential I, I developed a deeper understanding of integrating evidence-based practice with cultural wisdom. This was particularly evident when working with Tribal elders to adapt evidence-based GPC models to incorporate traditional healing practices. This synthesis of Western medicine and AI cultural practices demonstrated my growth as a leader capable of bridging different healthcare paradigms.

Essential II: Organizational and Systems Leadership

Addressing systemic barriers to prenatal care requires strong leadership and organizational change. DNP-prepared nurses must lead and advocate for policy changes addressing social determinants of health. This includes developing sustainable solutions for the

50% of Montana counties classified as maternity care deserts (March of Dimes, n.d.). Leadership skills are essential for Implementing culturally sensitive care models, managing resource allocation in rural settings, creating sustainable programs that overcome geographical and cultural barriers, and building trust between healthcare systems and AI communities.

Essential II challenged me to develop and implement systemic solutions. Advanced Leadership and Roles along with Program Planning and Evaluation, Outcomes, and Quality Improvement are two core classes that help prepare nurse practitioners lead through change while also being able to manage that change. This experience enhanced my ability to navigate complex organizational structures while maintaining cultural sensitivity.

Essential III: Clinical Scholarship and Analytical Methods

The evaluation of current prenatal care models and implementation of GPC requires robust analytical skills. DNP practitioners must analyze existing data on maternal mortality rates and prenatal care access, evaluate the effectiveness of interventions like GPC in AI communities, use quality improvement methodologies to enhance care delivery, and translate research findings into culturally appropriate practice changes.

Essential III strengthened my role as a scholarly practitioner. By conducting thorough analyses of GPC outcomes and presenting findings to stakeholders, I developed crucial skills in translating research into practice. This analytical approach helped secure support for expanding GPC programs and demonstrated my capacity to lead evidence-based practice changes.

Essential VI: Interprofessional Collaboration

The complex nature of AI prenatal care requires collaboration across disciplines, partnering with traditional healers and Tribal leaders to seek knowledge and ensure that culture and traditional practices are at the core of care. DNP-prepared nurses must work with social services to address transportation and childcare needs while developing interprofessional teams that include cultural liaisons. These collaborative relationships strengthen the foundation of comprehensive care delivery.

Essential VI proved particularly transformative as I coordinated with traditional healers, Tribal leaders, and healthcare providers. These collaborations taught me the importance of humble leadership—knowing when to step back and learn from others' expertise, particularly regarding cultural practices and community needs.

Essential VII: Clinical Prevention and Population Health

Vulnerability and Health Care in Diverse Communities is a class that has profound impact on DNP students as future practitioners, deepening our understanding of the challenges and barriers in health care among diverse rural populations and how these challenges impact health outcomes. Population health strategies are essential for improving AI maternal health outcomes. Caring for a Montana Tribe for sixteen years, I am passionate about improving health equity and the quality of care for the AI population. This DNP project provided opportunity to implement preventive care programs that respect cultural values by seeking knowledge and feedback from Tribal elders and incorporating cultural teachings into group prenatal care. GPC addresses social determinants of health affecting AI communities, increasing access to care by

removing barriers. Through its combination of education, support, and physical examinations, GPC creates a culturally appropriate health education program.

GPC further creates a community-based prevention initiative, increasing access to prenatal care and improving health outcomes such as low birth weight and preterm deliveries.

Essential VIII: Advanced Nursing Practice

DNP-prepared nurses have a unique ability to lead GPC initiatives in rural communities, providing culturally competent care, adapting evidence-based practices for AI populations, and leading by example mentoring other healthcare providers in cultural sensitivity.

Essential VIII culminated in my ability to serve as a mentor and role model for other healthcare providers, sharing insights about cultural competency and the effectiveness of GPC. This mentorship role represented a significant evolution in my leadership journey, from student to teacher and guide.

This application of DNP Essentials provides a comprehensive framework for addressing the complex challenges facing AI women in accessing prenatal care. By integrating these essentials into practice, DNP-prepared nurses can lead meaningful changes that improve maternal health.

My journey through this DNP project has profoundly shaped my development as a healthcare leader and advocate for AI maternal health. Each DNP Essential has contributed uniquely to my leadership growth and the project's success in addressing prenatal care disparities among AI women.

Essential VIII culminated in my ability to serve as a mentor and role model for other healthcare providers, sharing insights about cultural competency and the effectiveness of GPC.

This mentorship role represented a significant evolution in my leadership journey, from student to teacher and guide.

The education received through Montana State University and these experiences have transformed my understanding of leadership, advocacy, and practice in healthcare. I've learned that effective leadership in addressing health disparities requires more than clinical expertise—it demands cultural humility, systems thinking, and the ability to build bridges between different healthcare traditions. This project has prepared me to continue advocating for and implementing innovative solutions to improve maternal health outcomes in AI communities, guided by both evidence-based practice and cultural wisdom.

The DNP Essentials provide a comprehensive framework that enables the development of culturally responsive, evidence-based interventions that honor AI traditions while advancing maternal health outcomes in these underserved communities.

The integration of DNP Essentials creates a comprehensive approach to addressing prenatal care disparities in AI communities. This framework enables DNP-prepared nurses to bridge traditional healing practices with modern healthcare while addressing social determinants of health. Through systematic application of these essentials, DNP-prepared nurses can effectively address the complex challenges facing AI women in accessing prenatal care, ultimately improving maternal and infant health outcomes in these communities. The success of these initiatives depends on the thoughtful application of each essential, working in concert to create sustainable, culturally responsive solutions that advance maternal health equity.

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APPENDICES

APPENDIX A

LITERATURE MATRIX TABLE

Literature Matrix Table

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
The maternal health of American Indian and Alaska Native people: a scoping review	Burns, A., DeAtley, T., & Short, S. E.	2023	To synthesize existing literature on the maternal health of American Indian and Alaska Native women	Scoping review of 47 studies	Highlighted disparities in maternal health outcomes, barriers to care, and importance of culturally appropriate care	Health disparities in American Indian women, Barriers to prenatal care access, Cultural considerations in care	Important for understanding the broader context of maternal health in this population
The contribution of group prenatal care to maternal psychological health outcomes: A systemic review	Buultjens, M., Farouque, A., Karimi, L., Whitby, L., Milgrom, J., & Erbas, B.	2021	To examine the impact of group prenatal care on maternal psychological health outcomes	Systematic review of 11 studies	Found that group prenatal care may improve maternal psychological well-being, but more research is needed	Benefits of group prenatal care, Outcomes of group prenatal care	Relevant to understanding the potential mental health benefits of group prenatal care
Group vs. traditional prenatal care for improving racial equality in preterm birth and low birth weight	Crockett, A. H., Chen, L., Heberlein, E. C., Britt, J. L., Covington-Kolb, M. S., Witrick, M. B.,…Heo, M.	2022	To compare the effects of group prenatal care versus traditional care on preterm birth and low birthweight in a racially diverse population	Randomized clinical trial (n=22,401)	Group prenatal care was associated with reduced risk of preterm birth and low birthweight	Benefits of group prenatal care, Outcomes of group prenatal care	Strong evidence from a large RCT supporting the benefits of group prenatal care for improving birth outcomes
Living in two	Curry, C. R. L. M. A.	1998	To explore the	Qualitative interviews	Identified cultural	Barriers to prenatal	Although older,

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
worlds: Native American women and prenatal care			experiences and perceptions of Native American women regarding prenatal care	with 20 women	barriers and the importance of culturally sensitive care	care access, Cultural considerations in care	provides valuable insights into the cultural aspects of prenatal care for Native American women
Group prenatal care reduces risk of preterm birth and low birth weight	D., C., B., L., M., S., M., B., A., R., A., G.,…R., I.	2019	To examine the association between group prenatal care and risk of preterm birth and low birthweight	Retrospective matched cohort study (n=5,464)	Group prenatal care was associated with reduced risk of preterm birth and low birthweight	Benefits of group prenatal care, Outcomes of group prenatal care	Supports the findings that group prenatal care can lead to improved birth outcomes
Racial and ethnic disparities in preterm birth among American Indian and Alaska Native women	GB, R., SM, L., KM, J., & J, S.	2016	To examine racial and ethnic disparities in preterm birth among American Indian and Alaska Native women	Analysis of birth certificate data (n=2,576,458)	Found higher rates of preterm birth among American Indian and Alaska Native women compared to other racial/ethnic groups	Health disparities in American Indian women, Outcomes of prenatal care	Highlights the need for interventions to address these disparities in preterm birth
Group vs. traditional prenatal care for	Crockett, A.H., et al.,	2022	To compare the effects of group prenatal care	Randomized clinical trial (n=22,401)	Group prenatal care was associated	Benefits of group prenatal care,	Strong evidence from a large RCT

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
improving racial e			versus traditional care on preterm birth and low birthweight in a racially diverse population, with a focus on racial equity		with reduced racial disparities in preterm birth and low birthweight	Outcomes of group prenatal care	supporting the benefits of group prenatal care for improving racial equity in birth outcomes
Maternal mortality among American Indian/Alaska Native women	Heck, J. L., Jones, E. J., Bohn, D., McCage, S., Parker, J. G., Parker, M.,…Campbell, J.	2021	To synthesize existing literature on maternal mortality among American Indian and Alaska Native women	Scoping review of 25 studies	Highlighted the high rates of maternal mortality and the need for improved access to care	Health disparities in American Indian women, Barriers to prenatal care access	Important for understanding the severity of maternal health disparities in this population
Group prenatal care and perinatal outcomes	Ickovics, J. R., Kershaw, T. S., Westdahl, C., Magriples, U., Massey, Z., Reynolds, H., & Rising, S. S.	2007	To examine the impact of group prenatal care on perinatal outcomes	Randomized controlled trial (n=1,042)	Group prenatal care was associated with improved perinatal outcomes, including reduced preterm birth and low birthweight	Benefits of group prenatal care, Outcomes of group prenatal care	Early RCT providing evidence for the benefits of group prenatal care
Effects of group prenatal care on psychosoci	Ickovics, J. R., Reed, E., Magriples, U., Westdahl,	2011	To examine the impact of group prenatal care on	Randomized controlled trial (n=1,042)	Group prenatal care was associated with	Benefits of group prenatal care, Outcomes	Supports the findings that group prenatal

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
al risk in pregnancy	C., Rising, S. S., & Kershaw, T. S.		psychosocial risk factors during pregnancy		reduced psychosocial risk factors	of group prenatal care	care can lead to improved psychological outcomes
Maternal mortality amon American Indian/Alaska Native women	JL, H., EJ, J., D, B., S, M., JG, P., M, P.,…J, C.	2021	To synthesize existing literature on maternal mortality among American Indian and Alaska Native women	Scoping review of 25 studies	Highlighted the high rates of maternal mortality and the need for improved access to care	Health disparities in American Indian women, Barriers to prenatal care access	Important for understanding the severity of maternal health disparities in this population
Prenatal care for American Indian women	Johnson, M. B.	2020	To discuss the unique considerations and challenges in providing prenatal care to American Indian women	Review article	Emphasized the importance of culturally appropriate care and addressing barriers to access	Barriers to prenatal care access, Cultural considerations in care	Relevant to understanding the specific needs of American Indian women in prenatal care
The importance of geopgraphic data aggregation in assessing disparities in American Indian prenatal care	Johnson, P. J., Call, K. T., & Blewett, L. A.	2011	To examine the impact of geographic data aggregation on the assessment of disparities in prenatal care among American Indian women	Analysis of birth certificate data	Found that geographic data aggregation can mask disparities in prenatal care access	Health disparities in American Indian women, Barriers to prenatal care access	Highlights the importance of considering geographic factors when assessing disparities

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
Indigenous maternal health – A crisis demanding attention	Kozhimannil, K. B.	2020	To highlight the crisis of maternal health among Indigenous women in the United States	Commentary article	Called for urgent action to address the disparities in maternal health among Indigenous women	Health disparities in American Indian women, Barriers to prenatal care access	Important for understanding the broader context of maternal health among Indigenous populations
Severe maternal morbidity and mortality among Indigenous women in the United States	Kozhimannil, K. B., Interrante, J. D., Tofte, A. N., & Admon, L. K.	2020	To examine the rates of severe maternal morbidity and mortality among Indigenous women in the United States	Analysis of hospital discharge data	Found high rates of severe maternal morbidity and mortality among Indigenous women	Health disparities in American Indian women, Outcomes of prenatal care	Highlights the need for interventions to address these severe outcomes
Barriers and motivation to prenatal care among low-income women	Lia-Hoagberg, B., Rode, P., Skovholt, C. J., Oberg, C. N., Berg, C., Mullett, S., & Choi, T.	1990	To explore the barriers and motivators to prenatal care among low-income women	Qualitative interviews with 100 women	Identified various barriers (e.g., lack of transportation, childcare issues) and motivators (e.g., provider support, education) to prenatal care	Barriers to prenatal care access, Cultural considerations in care	Although older, provides valuable insights into the general barriers and motivators to prenatal care among low-income women
American Indian mother-	Maxwell, D., Mauldin, R., Thomas,	2022	To explore the experiences	Qualitative interviews	Found that historical trauma and	Barriers to prenatal care	Relevant to understand

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
hood and historical trauma	J., & Holland, V.		of becoming mothers among Keetoowah women and the impact of historical trauma	with 15 women	cultural factors influenced their experiences with motherhood and prenatal care	access, Cultural considerations in care	ing the specific cultural and historical factors impacting prenatal care for American Indian women
Group prenatal care vs. individual prenatal care	Ruiz-Mirazo, E., Lopez-Yarto, M., & McDonald, S. D.	2012	To compare the outcomes of group prenatal care versus individual prenatal care	Systematic review and meta-analysis of 6 studies	Found that group prenatal care was associated with improved maternal and neonatal outcomes	Benefits of group prenatal care, Outcomes of group prenatal care	Supports the findings that group prenatal care can lead to improved outcomes
Disparities in early prenatal care and barriers to access among American Indian and white women in North Dakota	Sebens, Z., & Williams, A. D.	2022	To examine disparities in early prenatal care and barriers to access among American Indian and white women in North Dakota	Analysis of birth certificate data and surveys	Found disparities in early prenatal care and identified barriers to access among American Indian women	Health disparities in American Indian women, Barriers to prenatal care access	Relevant to understanding the specific disparities and barriers in a particular geographic region
Effects of Medicaid expansion on coverage,	Strully, K. W., Chatterji, P., Liu, H.,	2024	To examine the impact of Medicaid expansions on coverage,	Analysis of Medicaid claims data	Found that Medicaid expansions were associated	Health disparities in American Indian	Relevant to understanding the impact of

Source	Author	Year	Objective/ Purpose	Methods	Key Findings	Themes/ Categories	Notes
prenatal care, and health among American Indian/Alaska Native women	Han, S., & Schell, L.		prenatal care, and health outcomes among American Indian and Alaska Native women		with improved coverage, prenatal care, and health outcomes	women, Barriers to prenatal care access	policy changes on access to care and outcomes
Evaluating disparities in access to obstetric services for American Indian women across Montana	Thorsen, M. L., Harris, S., McGarvey, R., Palacios, J., & Thorsen, A.	2022	To evaluate disparities in access to obstetric services for American Indian women across Montana	Geographic information systems analysis	Identified disparities in access to obstetric services, particularly in rural areas	Health disparities in American Indian women, Barriers to prenatal care access	Relevant to understanding the geographic barriers to access to obstetric care

APPENDIX B

PARTICIPANT ENGAGEMENT SURVEY

Group Prenatal Care

Patient Engagement and Satisfaction Survey

1. How would you rate your overall satisfaction with the group prenatal care you've received?
    - Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied
2. How likely are you to recommend this program to others in your community?
    - Very Likely, Likely, Neutral, Unlikely, Very Unlikely
3. How well did the care providers understand and respect your cultural background and values?
    - Almost Always, Often, Sometimes, Rarely, Almost Never
4. Were the educational materials and discussions relevant to your cultural needs and experiences?
    - Almost Always, Often, Sometimes, Rarely, Almost Never
5. Did the group sessions include other patients from a similar cultural background?
    - Yes, No, Sometimes
6. How comfortable did you feel sharing your experiences and questions in the group setting?
    - Very Comfortable, Comfortable, Neutral, Uncomfortable, Very Uncomfortable
7. Did you feel supported and connected with the other women in the group?
    - Almost Always, Often, Sometimes, Rarely, Almost Never
8. Were you able to learn useful information from the other group participants?
    - Almost Always, Often, Sometimes, Rarely, Almost Never
9. Did you feel that you group prenatal visits allows you to connect and develop a relationship with your provider?
    - Almost Always, Often, Sometimes, Rarely, Almost Never

10. Did the providers listen to your concerns and answer your questions in a way you could understand?
    - Almost Always, Often, Sometimes, Rarely, Almost Never
11. Were the providers respectful and kind in their interactions with you?
    - Almost Always, Often, Sometimes, Rarely, Almost Never
12. Do you have any suggestions on how to improve the cultural adaptation of the group prenatal care?

13. Are there any topics or issues you feel were not adequately addressed in the group sessions?

APPENDIX C

FEEDBACK SESSION GUIDE

GPC Focus Group Guide

Warm-Up Questions

1. What initially drew you to the group prenatal care program?
2. Can you describe a positive experience you've had in the program so far?

Main Discussion Questions

Section 1: Cultural Adaptation

1. How have you seen your cultural background and values reflected in the care you've received?
2. Are there any specific ways the program has felt tailored to your cultural needs?
3. Were there any moments when you felt your culture was not fully understood or respected? How were those situations handled?

Section 2: Group Setting

1. What has been the most beneficial part of being in a group with women from similar cultural backgrounds?
2. Have you formed connections with other group members outside of the sessions? If so, how has that been helpful?
3. Were there any challenges in sharing your experiences in a group setting? How were those challenges addressed?

Section 3: Provider Care

1. How would you describe the providers' understanding of your cultural needs and preferences?
2. Can you share an example of a time when a provider explained something in a culturally sensitive way?
3. Were there any instances when you felt a provider lacked cultural understanding? What happened?

Section 4: Suggestions for Improvement

1. What changes would make the program feel even more culturally adapted and supportive?

2. Are there any cultural practices or traditions you feel should be incorporated into the care?
3. What topics or issues feel important for the program to address that haven't been adequately covered?

Closing Questions

1. Is there anything you wish you had known before starting the program that you'd want others to know?
2. What keeps you coming back to the program, and what might make you consider leaving?
3. Do you feel the program has positively impacted your pregnancy experience and well-being? If so, how?

APPENDIX D

INFORMED CONSENT

Informed Consent for Group Prenatal Care Participation

Purpose

This document outlines the nature, benefits, and requirements of participating in group prenatal care, a model that combines traditional prenatal care with peer support and extended education in a group setting.

Program Structure

- Group sessions will include 8-10 pregnant individuals
- Each session lasts 90 minutes to two hours
- Sessions include both individual health assessments and group discussions

What to Expect

During group prenatal care, you will receive:

1. Brief individual health assessments with your healthcare provider
2. Educational discussions about pregnancy, childbirth, and parenting
3. Opportunity to share experiences with other expecting parents
4. Regular monitoring of your pregnancy progress
5. Standard prenatal care that follows recommended clinical guidelines

Privacy and Confidentiality

- All participants must agree to maintain confidentiality of group discussions
- You will receive private physical examinations in a separate space
- Medical information will be kept confidential in accordance with HIPAA regulations

Program Evaluation and Quality Improvement

As part of our commitment to providing high-quality care, we collect and analyze program data in partnership with **Rocky Boy Health Center** to evaluate and improve services. Data that will be collected include:

- Gestational age at first appointment
- Birth outcomes (such as gestational age at delivery, birth weight, delivery method)
- Patient Experience:
  - Satisfaction surveys
  - Feedback about group sessions
  - Attendance records

Data Protection and Privacy:

- All collected data will be completely anonymous
- No names, dates of birth, addresses, or other identifying information will be included
- There will be no way to link the data back to individual participants

Voluntary Participation

I understand that:

- Participation in group prenatal care is voluntary
- I can switch to individual care only at any time
- I will receive the same standard of clinical care whether I am in group or individual visits

Consent

By signing below, I acknowledge that:

- I have read and understand the information provided
- I have had the opportunity to ask questions
- I voluntarily agree to participate in group prenatal care
- I will respect the privacy of other group members

Name: _____ DOB: _____
Date:
Signature: _

Healthcare Provider Signature: _
Date: _

For questions please contact:

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