# Optimizing Maternal Mental Healthcare: Educating Healthcare Professionals and Enhancing Utilization of the Healthy Beginnings Program for Pregnant and Postpartum Women

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Abstract

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**Background:** Postpartum depression (PPD) is a significant maternal health concern that affects the well-being of mothers, their families, and their ability to cope. Although there are currently established guidelines for screening and management of PPD, there are many gaps in care leaving women with PPD under-recognized and under-treated. **PICO:** Among healthcare professionals who provide care for pregnant and postpartum patients at a small Midwest women's clinic, how does the implementation of a postpartum depression education session impact the knowledge and practices of the healthcare staff on the topic of maternal mental healthcare compared to current practice? **Project Interventions:** The project aimed to create a consistent process to ensure all mothers and healthcare professionals are well-informed about PPD and that patients receive consistent, thorough, and timely care. Educational initiatives were conducted at both the clinic setting, where women received pre and postnatal care, and the delivering hospital setting. The educational initiative included adherence to current ACOG screening guidelines (which recommends screening for PPD at or before three weeks and again at or before 12 weeks postpartum), Cheryl Beck's Theory on PPD to reduce stigma and better understand how to support women throughout this transition, and the Healthy Beginnings program which enhances education and identification of PPD. The initiative included interactive PowerPoint presentations, discussion, and educational handouts, including a care pathway to better integrate these evidence-based strategies. **Outcomes:** Surveys were distributed at the beginning of the educational initiatives to assess changes in healthcare professional knowledge, attitudes, and intended practice changes. The survey results showed increased awareness of PPD screening guidelines (92%), increased commitment to the Healthy Beginnings Program (100%), and increased confidence in identifying and managing PPD through the use of Cheryl Beck's PPD theory. Postpartum follow-up rates were also tracked before and after the educational initiatives, revealing a 13% increase in follow-up within three weeks post-initiative. **Conclusion:** This project was successful as it improved healthcare professional knowledge and commitment to postpartum care. The focus should remain on continuing education and improving patient education to better support mothers in this vulnerable time.

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## Chapter I: Introduction to the DNP Project

Postpartum depression (PPD) poses significant challenges to maternal and family well-being, with long-term repercussions if left untreated. Negative effects include outcomes involving breastfeeding, bonding and early childhood development, and preventable maternal mortality (McNicholas et al., 2023). Despite the recognized severity of PPD, current healthcare practices often fall short in adequately addressing this condition. Literature-based findings reveal persistent gaps in PPD education, screening, and treatment, contributing to undiagnosed cases and suboptimal outcomes for affected women (Liu et al., 2022; Manso-Córdoba et al., 2020; Sidebottom et al., 2021). Furthermore, the postpartum period, defined as the first year following childbirth, lacks consistent attention within the continuum of care. Identifying PPD symptoms is a complex process for both patients and providers, involving multiple steps (McNicholas et al., 2023). While universal screening has enhanced mental health support during pregnancy and postpartum, it is not a cure-all (Prevatt & Desmaris, 2018). To improve healthcare outcomes for pregnant and postpartum women, a systematic approach grounded in evidence-based practices is needed to address these gaps. Therefore, the implementation of this Doctor of Nursing Practice (DNP) project is essential.

Chapter I provides an in-depth exploration of the identified problem statement, delving into its scope, consequences, and knowledge gaps. Subsequently, a Population, Intervention, Comparison, Outcome (PICO) question is formulated based on an organizational needs assessment. This chapter also describes the project setting, stakeholders, and participants

involved in the DNP project. Additionally, it encompasses an analysis using the SWOT (Strengths, Weaknesses, Opportunities, Threats) tool to assess the project's strengths and weaknesses. In Chapter II, the literature review, synthesis, and theoretical framework of the project are presented. This chapter outlines the methodology used for the literature review and provides a visual representation of the reviewed literature through Tables 1 and 2. The final section of Chapter II discusses the theoretical framework guiding the project. Chapter III presents the project's recommendations, emphasizing three key strategies for addressing the identified problem. Furthermore, it includes the selected change theory and details the planning process for project implementation and evaluation. Chapter IV contains the process and findings of the implementation phase. The implementation process is further discussed through the launch of the program, the influencing factors, and process of monitoring. In addition, Chapter IV includes the interpretation of outcomes through evaluation of outcome measures, project findings, and transfer process to key stakeholders. Chapter V explains the dissemination of this project through addressing the results and future direction for this project.

**Problem Statement**

PPD is a condition that affects women within the first year after childbirth. The repercussions of untreated PPD can be profound and enduring for a mother and her family. Despite existing literature highlighting the inadequacy of current education, screening, and treatment measures for PPD, the management of this condition remains largely subpar. Research indicates that approximately 13-20% of mothers experience PPD, yet a substantial portion of cases go undiagnosed due to numerous factors such as healthcare providers failing to identify or intervene, screening gaps, sociodemographic influences, inadequate perinatal education, or confusion with the milder postpartum blues (Manso-Cordoba et al., 2020). A critical analysis of

the literature underscores significant deficiencies in the education, diagnosis, and treatment of PPD. Therefore, it is imperative to establish a consistent process that ensures that all women and health professionals are knowledgeable about PPD and that patients receive consistent, thorough, and timely care.

**Problem Identification**

PPD is prevalent in about 20% of postpartum women, with a prevalence of 17% among healthy mothers overall (Shorey et al., 2018). Despite these statistics indicating a significant number of affected women, PPD often goes unnoticed, particularly in women without any other previous conditions. This highlights a disconnect between the high prevalence of PPD and its recognition in clinical settings The diagnosis of PPD may be mistaken for postpartum blues, which occurs in 70-80% of postpartum women and is transient and self-limited (Manso-Cordoba et al., 2020). Although screening tools like the Edinburgh Postnatal Depression Scale (EPDS) or the Patient Health Questionnaire-9 (PHQ-9) are widely recommended to detect and address PPD, disparities in screening methods and referral practices persist, leading to missed diagnoses and suboptimal treatment outcomes.

While it is generally accepted that the EPDS or PHQ-9 are adequate for identifying PPD, the literature suggests a persistent problem of under diagnosis and undertreatment. Sidebottom et al. (2021) found that approximately 65.1% of pregnant women are screened for depression, with a similar figure of 64.4% screened in the postpartum period. Despite recommendations from the American College of Obstetricians and Gynecologists (n.d.) to screen at least once during the perinatal period and again at the postpartum visit, a concerning 40-60% of women miss this crucial assessment (Arias et al., 2022). This underlines the urgent need for more effective strategies to identify and address PPD in maternal healthcare settings.

Although universal screening is underway, there are still barriers, such as the stigma of PPD or the belief that women may consider themselves bad mothers. It is essential to recognize and acknowledge these barriers to reduce stigma associated with PPD. Furthermore, the provision of comprehensive assessments needs to be guided by a sense of responsibility among providers, rather than relying on scales that emphasize and diagnose symptoms, which places the burden on patients who are reluctant to seek help. There is a lack of knowledge and skill among most providers when it comes to recognizing and managing PPD. PPD can be diagnosed and treated more effectively by providers educated in perinatal psychoeducation and psychotherapy (Sidebottom et al., 2021). Additionally, providers must possess the knowledge and skills to educate their patients during pregnancy so that these women will have the confidence to admit that they are struggling. Finally, their spouse or significant other will be more aware of the signs and symptoms and encourage them to seek medical attention (Manso-Córdoba et al. 2020).

**Problem Background**

In 2016, the United States Preventive Services Task Force (USPSTF) gave its endorsement for routine PPD screening, a departure from previous practices where new mothers were typically screened only during their 6-week postpartum visit, contingent upon attendance (USPSTF, 2021). Furthermore, in 2018, the American College of Obstetricians and Gynecologists (ACOG) revised their stance from the previous guideline advocating for a comprehensive postpartum visit within the initial six weeks following delivery. ACOG (2021) now recommends that postpartum care be regarded as a continual process, rather than a singular appointment, stressing the importance of all women having contact with their obstetrician-gynecologists or other obstetric care providers within the initial three weeks postpartum. The initial evaluation should be supplemented with ongoing support as necessary, concluding with a

comprehensive postpartum visit no later than 12 weeks postpartum. Comprehensive postpartum visits should cover such topics as mood and emotional well-being, infant care and feeding, contraception and family planning, sleep and fatigue, physical recovery from birth, chronic disease management, and health maintenance. Following the final comprehensive postpartum visit, the transition to ongoing well-woman care should occur, with the timing of subsequent visits tailored to the individual needs of the woman (ACOG, 2021). These areas significantly influence the risk and management of PPD. When PPD is identified and mothers feel adequately supported and able to communicate their needs, addressing these topics can play a pivotal role in enhancing maternal mental health outcomes and overall postpartum adjustment.

Furthermore, having previously underscored the importance of pediatricians' sensitivity to postpartum mood and coping, since 2018, the American Academy of Pediatrics (AAP) has advanced its stance to advocate for systematic screening of mothers during well-child visits. This involves the utilization of validated assessment tools such as the EPDS at scheduled well child visits, occurring at the intervals of 1 month, 2 months, 4 months, and 6 months (AAP, 2022). The first few weeks postpartum are pivotal for both a woman and her baby, laying the foundation for their long-term health and overall well-being. During this period, a woman is grappling with various physical, social, and psychological adjustments (McNicholas et al., 2023). Postpartum care appointments offer valuable support to women as they navigate the transitional phase of motherhood.

Current recommendations support the screening of postpartum women for depression. However, there is a lack of consensus among national professional societies regarding the specific patient-reported outcome measure (PROM) to be used for this purpose. PROMs are structured questionnaires that enable patients to communicate their health status. Although

PROMs do not provide a definitive diagnosis of PPD, they are highly regarded as valuable and cost-effective tools (Sultan et al., 2022). Despite their utility in screening, their effectiveness may be compromised if patients struggle to understand them or are hesitant to acknowledge their need for help. According to Sidebottom et al. (2021), members of the multidisciplinary team often overestimate the effectiveness of screening for PPD. This leads to undiagnosed cases and missed opportunities for essential conversations with postpartum women in need. Addressing this gap is crucial at all levels of care to enhance outcomes.

There are significant deficiencies in the current screening and management of PPD, leading to suboptimal outcomes for both women and infants. These deficiencies encompass missed opportunities for diagnosis, shortcomings in screening tools, sociodemographic factors, inadequate perinatal education, misdiagnosis, societal stigma, and barriers to accessing care (Manso-Cordoba et al., 2020). The profound impact of PPD on an infant's social and mental development highlights the urgent need to identify affected mothers, offer support, and facilitate appropriate mental health treatment referrals (Liu et al., 2022).

**Problem Scope**

The United States Census Bureau reported that in 2019, there were approximately 58 births per 1,000 women aged 15-44, totaling 3.7 million births for the year (Morse, 2022). Based on this data, an estimated 13-20% of these women, translating to 480,000 to 740,000 individuals, experienced PPD, while postpartum blues typically affected around 70-80% of the population, equivalent to 2.6 million to 2.9 million individuals (Manso-Cordoba et al., 2020). However, it is important to acknowledge that a significant portion of PPD cases remain undiagnosed.

To understand the breadth of the issue, Moran et al. (2024) emphasized the significance of two key health indicators: morbidity and mortality rates. While there is significant data on

medical conditions like postpartum hemorrhage and hypertension, there is limited research on suicide and maternal mortality. Deaths related to behavioral health were not included as pregnancy-associated deaths until reclassification took place in 2012. Chin et al. (2022) found in a systematic review that 13-36% of maternal deaths postpartum are due to suicide, with the postpartum period being 12 months. These indicators help provide a broad picture of the health status of a population, focusing on those who are vulnerable.

Various factors, such as historical context, political dynamics, policy implementation, and societal attitudes toward the specific population, also shape the problem's scope (Moran et al., 2024). A thoroughly established and objectified evidence-based pathway for screening, treating, and managing PPD has yet to be developed. The responsibility for addressing PPD remains distributed among various care disciplines, including obstetricians/gynecologists (OB-GYNs), pediatricians, primary care providers, perinatal educators, and midwives. Sidebottom et al. (2021) stated that only 64.4% of patients undergo screening for PPD, with OB-GYNs screening approximately 71.2% and other providers screening between 58-60%. Furthermore, the AAP determined that only around half of pediatricians (53.9%) conduct formal screening for PPD (AAP, 2022). Manso-Córdoba et al. (2020) asserted that without screening, only 18% of women experiencing depressive symptoms seek help. This issue's ramifications extend beyond the provider and patient, impacting the infant and the family.

In addressing this issue, reform efforts must recognize the involvement of various healthcare disciplines and prioritize the screening of all postpartum women, irrespective of ethnicity, economic status, or psychiatric and obstetric history. McNicholas et al. (2023) highlighted that all perinatal individuals face an elevated risk of depression due to the physiological and psychosocial changes experienced during pregnancy and the postpartum

period. Robbins et al. (2023) revealed that 57.4% of patients experiencing depressive symptoms at two to six months postpartum did not report those symptoms until nine to ten months postpartum. To fully comprehend the scope of the issue, it is essential to delve into the demographics of the affected population, the timing of their experiences, and the pivotal role of the multidisciplinary team in bridging the gap for early identification and care.

**Problem Consequences**

PPD symptoms usually improve with appropriate treatment; however, some patients, particularly those with untreated or underdiagnosed depression, may develop chronic and recurrent depression (Mughal et al., 2022). Mayberry et al. (2007) emphasized that PPD can last two years postpartum and both mother and infant can suffer severe consequences from unrecognized and untreated PPD. In infants with mothers experiencing PPD, there are observable effects such as reduced social engagement, slower maturation of regulatory behaviors, and elevated cortisol levels (Liu et al., 2022). Moreover, PPD can have significant ramifications on growth, development, and the crucial mother-infant bonding process, potentially influencing their lifelong relationship (Mughal et al., 2022). Depression during the postpartum period can profoundly impact bonding, with women who experience depression being 5.6 times more likely to have bonding impairments at six months postpartum (Faisal-Cury et al., 2020). According to Faisal-Cury et al. (2020), approximately 1 in 10 women experience bonding impairments during the 12-month evaluation period, attributed to both mild and moderate to severe depression.

In children of mothers who suffer from PPD, there may be an onset of depression at an early age, as well as behavioral and cognitive changes. In addition, these children are often obese and have difficulty interacting with others (Mughal et al., 2022). Most importantly, a mother or child can suffer physical harm. In contrast, treatment of maternal depression to remission

positively impacts children's mental health. In general, patients are undereducated about PPD, and the stigma associated with it, resulting in serious consequences for both mother and infant.

**Knowledge Gaps**

Although PPD has been a recognized health issue for many years, it only gained significant attention around half a century ago. In recent decades, numerous research endeavors and reviews in the field of PPD have uncovered several gaps in the existing literature (Yu et al., 2021). Some of the critical gaps in addressing PPD include the under diagnosis of PPD, the necessity to expand sampling sizes in research efforts, the vital importance to improve perinatal education, the standardization of screening protocols, the reduction of societal stigma surrounding mental health, and the evaluation of interventions aimed at enhancing access to care.

There is a significant gap in identifying the barriers to stigma and lack of treatment the postpartum population receives (Manso-Corbodba et al., 2020). A major disconnect begins with health professionals who are not the providers performing the screening, as well as the utilization of various screening tools, such as the PHQ-9 or the EPDS. In addition, there are several different recommendations for scores on the screening tools that would require additional conversation or management; however, these are variable and depend on the provider's preference.

It would be beneficial to involve the interdisciplinary team and further examine the standardization of screening tools, scoring, and referrals to better understand the missed opportunities for care (McNicholas et al., 2023). By standardizing screening tools, implementing scoring that reflects depression definitions, and offering screenings at specific intervals, PPD severity may be better quantified, leading to earlier diagnosis and treatment for women (Robbins et al., 2023). Iturralde et al. (2021) suggested that using a standardized screening protocol may

reduce the likelihood of women avoiding disclosure of their symptoms. The lack of disclosure of symptoms is a major concern for the safety of women and their families and for the accuracy of research.

In addition, Xue et al. (2020) reported that 60% of women who screen positive for PPD do not use the resources available to them, such as psychological and psychiatric care. There is a knowledge gap regarding the reasons behind the insufficient utilization of resources, the obstacles contributing to it, and the strategies needed to enhance this uptake of services, showing that additional education for women and providers is necessary. Additional research is imperative from both clinical and public health perspectives to advance understanding and raise awareness about PPD (Manso-Cordoba et al., 2020). Bridging the gap in awareness regarding PPD among both patients and healthcare providers could foster a deeper understanding of providers' perspectives and the interplay between barriers and the uptake of treatment options (Iturralde et al., 2021; Prevatt & Desmarais, 2018).

Liu et al. (2022) propose that in future endeavors, emphasis should be placed on controllable risk factors such as gestational diabetes, a history of depression, or a history of PPD for screening and managing PPD. However, there is a notable scarcity of literature on the risk factors associated with PPD among women, particularly in low- and middle-income countries where a significant number of women directly experience the challenges of PPD (Xue et al., 2020). A more profound comprehension of the PPD theory can be attained by prioritizing these risk factors.

There is a continued need for strategies aimed at reducing the stigma surrounding PPD (Bodnar-Deren et al., 2017). Prevatt and Desmarais (2018) propose adopting a prospective design encompassing a diverse sample of women from various socioeconomic backgrounds,

incorporating diverse measures during peri- and post-natal periods. Utilizing such a heterogeneous sample could help mitigate recall bias and foster a study with broader applicability to the population. Nonetheless, it is crucial to acknowledge that many healthy women face similar risks, highlighting the necessity for comprehensive and effective screening of all postpartum women. While identifying risk factors can aid in provider screening strategies, it is essential to recognize that all postpartum women are vulnerable and should receive appropriate attention accordingly. Ultimately, there exist numerous gaps in the care provided to postpartum women experiencing depression, highlighting the vulnerability of this population and the imperative need for improvements aimed at enhancing the quality of care they receive.

**Proposed Solution**

Mothers are regarded as the primary caregivers for infants, meaning that any factors impacting a mother's health effectively influence the well-being of the infant and even the broader society. Therefore, ensuring mothers receive personable and quality care during the perinatal and postpartum periods is essential. Currently, there are several shortcomings in the delivery of care for women during this phase; nevertheless, there have also been identified solutions.

Anticipatory guidance during pregnancy can enhance postpartum care by proactively educating and planning for the transition to parenthood and ongoing well-woman care during the postpartum period. In a randomized controlled trial conducted by Howell et al. (2014), it was discovered that offering 15 minutes of anticipatory guidance covering various aspects of motherhood, including PPD, before hospital discharge, coupled with a follow-up phone call at 2 weeks, resulted in decreased symptoms of depression and extended breastfeeding duration for up to 6 months postpartum. Education and guidance for these patients should encompass

discussions on topics such as infant feeding, the experience of "baby blues," postpartum emotional well-being, managing chronic health conditions, community resources, support, and the challenges associated with parenting and recovering from childbirth (ACOG, 2021; McCauley et al., 2022).

Additionally, within this guidance, healthcare providers should discuss the purpose and importance of postpartum clinical care, as well as the various types of services and support available. Further, employing shared decision-making to develop an individualized postpartum care plan in the perinatal period enhances the woman's overall health and satisfaction with her experience (NICE, 2021).

The goal of the American College of Obstetricians and Gynecologists is to minimize missed opportunities in the continuum of care by incorporating education sessions for expectant mothers during perinatal care and increasing providers' rates of in-person or telehealth visits with postpartum women within the first three weeks postpartum. Additionally, arranging a thorough follow-up appointment no later than 12 weeks postpartum (ACOG, 2021; Arias et al., 2022). This proposed approach seeks to improve the overall continuum of care for postpartum women. To effectively enact this proposed solution, it is essential to overcome barriers by offering educational sessions for healthcare providers that concentrate on up-to-date guidelines, psychiatric conditions, enhancing patient communication, and employing personalized screening methods. Furthermore, delivering patient education during the perinatal period is paramount. Further focus on the importance of revisiting and reinforcing this education in the third trimester is essential, with the aim of being ready to initiate therapy, if needed, prior to childbirth (Bašková et al., 2023).

Bašková et al. (2023) specifically highlights the increased risk of PPD among women who were not satisfied with their perinatal education when compared to the group that were satisfied. According to Bašková et al. (2023), perinatal education is most impactful when provided in the later stages of pregnancy, during the hospital stay, or shortly thereafter. This timing is crucial because it coincides with significant psychosocial changes experienced by the woman during the postpartum period. Emphasis on the continuum of care falls in discussion of what postpartum care looks like, resources available like peer counselors, perinatal support staff, postpartum nurses, and discharge planners to encourage postpartum follow-up (ACOG, 2021). The goal is to establish a consistent process that ensures that all women and health professionals are knowledgeable about PPD and that patients receive consistent, thorough, and timely care.

**Objectives**

Clearly defined objectives are crucial to the success of a DNP project, as they strongly shape its methodology. By maintaining clear objectives, unexpected issues can be avoided, assumptions clarified, and project focus strengthened. These objectives delineate specific tasks, measurable components, and deadlines for completion. It is imperative that the project's overarching goals are articulated accurately, with the project objectives serving as guiding principles to achieve these goals and provide direction for recommendations (Moran et al., 2024). The objectives outlined below serve as guiding principles to shape the recommendations of the DNP project concerning PPD:

- Enhance healthcare professional’s knowledge and understanding of maternal mental health, as well as the gaps that exist.
- Improve the identification of postpartum care needs and postpartum depression among healthcare professionals.

- Establish standardized postpartum care pathways to promote consistent and effective patient care delivery.

**PICO question**

The P (population), I (intervention), C (comparison), and O (outcome) (PICO) format is an effective approach to developing a robust clinical question. Forming a strong clinical question helps clarify the topic of interest, explain the issue at hand, clarify previous research, and expand on the current knowledge available (Moran et al., 2024). The integration of all four components of the PICO question in the DNP project is imperative because a well-constructed clinical foreground demands it. The PICO question for this project is as follows: Among healthcare professionals who provide care for pregnant and postpartum patients at a small Midwest women's clinic, how does implementation of a postpartum depression education session impact the knowledge and practices of the healthcare staff on the topic of maternal mental healthcare compared to current practice?

**Project Setting, Champion, Stakeholders, and Participants**

It is imperative that the practice environment acknowledges and values the contributions made through the DNP project. It is, therefore, important to choose a practice setting that is relevant to the student's interests, has strong relationships, and is feasible. A DNP project's setting significantly impacts its success, relevance, and impact on professional practice and patient care. Through careful consideration and evaluation of potential settings, Essentia Health Mid Dakota Women's Center in Bismarck, North Dakota, was chosen as the project setting for this DNP project. Essentia Health Mid Dakota Women's Center is a clinic specializing in caring for women through many phases of life. The Center for Women provides obstetrics and gynecology, reproductive health, and preventative care services. The setting was chosen because

it is relevant to the population, the interests of the staff, the need for improvement, and the existing collaborative relationship. The clinic works with CHI. St. Alexius Hospital for the delivery and postpartum care of women and therefore will also be included in the project to an extent to address the full continuum of care.

A project's stakeholders are those individuals or groups involved in the project or interested in its outcome. As a result of the project's outcome, these individuals could be affected, and they can contribute unique perspectives to the discussion of issues that might otherwise have gone unnoticed. There are many stakeholders, including service users, mentors, colleagues, organizational leaders, and community organizations. Clinical scholars are best positioned to identify areas of clinical concern that require further research or improvement within their work environments (Moran et al., 2024). Project stakeholders include Rachel Lawlor, BSN, RN, NEA-BC, healthcare administrator and the vice president of clinic operations; Jennifer Becker BSN, RN, the operations manager; and Marie Jensen BSN, RN, CLC, TTS, the coordinator of Healthy Beginnings, a program that helps educate and support families throughout the perinatal and postpartum period. Stakeholder influence on a project must be determined. Those with positive influence may champion the project or support it in some way, whereas those with negative influence may restrict it.

Project champions are vital to ensuring that all members of the project team are aligned with the project's shared objective; they also serve as catalysts for the mobilization and collaboration of team members (Moran et al., 2024). The project champion is Dr. Rachel Marohl, an obstetrician and gynecologist at the women's clinic. As the project champion, she plays a crucial role in the education, detection, diagnosis, and treatment of PPD. She is also passionate about improving women's health across all spectrums, including mental health. The other listed

stakeholders are crucial and relevant to assessing and integrating key workflows into the organization. Their involvement ensures the inclusion of diverse perspectives, addressing potential challenges, and developing collaborative solutions. It is crucial for a DNP project to have the organization's support. A letter of support can be found in Appendix A.

Project participants are actively involved in the execution of a project and essential for many reasons. There are several participants including project leaders, a project chair, and a project consultant. Project participants are essential for several reasons. The project leaders are Tori Weinand BSN, RN, DNP-S, Megan Macke BSN, RN, DNP-S, and Shelby Tschakert BSN, RN, DNP-S who are DNP students responsible for managing all aspects of the DNP project from inception to completion. The project chair, Dr. Brittany Kudrna, a family nurse practitioner, and University of Mary graduate nursing faculty member provides guidance and assistance to DNP students during the planning, implementation, and evaluation of their projects. Finally, the project consultant Dr. Deborah Cave DNP, RN, CNE provides her expertise and guidance in the development of the DNP project.

**Organizational Needs Assessment**

To fully understand the organizational setting and stakeholders' needs, a baseline needs assessment is essential. As a result of a meeting with the organization champion, Dr. Rachel Marohl, on February 1, 2024, PPD was discovered to be a topic that needs to be addressed. Several topics were proposed by the project leaders, and questions were prepared to elicit needs identified by the organization champion. Following further discussion and consideration, an additional meeting was scheduled for February 15, 2024, with the project chair, project consultant, project champion, and other key stakeholders to discuss PPD and the gaps within

current care. Understanding the workflow of the organization in greater detail assisted in further identification of the problem.

Essentia Health Mid Dakota Women's Center has an excellent program to support and educate women throughout their pregnancy and after, known as “Healthy Beginnings”. The program works collaboratively with providers and nurses to enhance the care of women throughout their pregnancy; however, it has its limitations. Despite the nurse that coordinates the programs best efforts, she is unable to screen every woman who comes through the clinic, and if she is unable to meet with the woman, a relationship does not develop. Women may not be able to establish a relationship with their provider and feel comfortable talking about their mental health concerns if they have not built a relationship with them in the limited time available for an appointment. Additionally, the current screening process is not personal. The Healthy Beginnings coordinator has the time and care to provide a more personalized approach, yet her care is not well advertised and is only available to women. Furthermore, providers at the women's clinic do not consistently see women in line with ACOG recommendations, causing women who need mental health care throughout their pregnancy or postpartum to go untreated.

The first few weeks postpartum are crucial for a woman and her child as they lay the foundation for their long-term health and overall well-being (McNicholas et al., 2023). ACOG (2021) now recommends that postpartum care be a continual process rather than a singular appointment. According to ACOG, all women should have contact with their obstetric care providers within three weeks of giving birth. In addition to the initial assessment, ongoing care should be provided as needed, concluding with a comprehensive postpartum visit within twelve weeks of delivery. A comprehensive postpartum visit should cover topics such as mood and emotional well-being. The transition to ongoing well-woman care should occur after the final

comprehensive postpartum visit, with subsequent visits tailored to the woman's needs (ACOG, 2021).

Furthermore, as well as improving postpartum care, anticipatory guidance during pregnancy prepares women to transition to parenthood and should continue after childbirth to support their well-being. McCauley et al. (2022) maintain that providing anticipatory guidance reduces symptoms of depression and prolongs breastfeeding duration. Throughout this guidance, healthcare providers should explain the purpose of postpartum clinical care and the various available services and support. In addition, utilizing shared decision-making to develop a customized postpartum care plan prior to that stage improves women's overall health (NICE, 2021). In the end, the aim is to create a consistent process that ensures that all women and health professionals are knowledgeable about PPD and that patients receive consistent, thorough, and timely care.

**SWOT Analysis**

Using the SWOT analysis tool, the DNP project's strengths and weaknesses were analyzed. An assessment aims to determine the strengths and weaknesses of many phenomena, such as the strengths and weaknesses of a community organization's program project or even the strengths and weaknesses of a process (Moran et al., 2024). A SWOT analysis is a tool for assessing strengths, weaknesses, opportunities, and threats; by evaluating both internal and external attributes and threats to a phenomenon. To plan a project effectively, a SWOT analysis is valuable because it helps to capitalize on strengths, address weaknesses, and minimize risks. The objective of this type of analysis is to identify internal attributes, to determine current successes and failures, to evaluate environmental influences, and to identify potential opportunities and obstacles, all of which are essential to understanding how to proceed with the

DNP project in its entirety (Moran et al., 2024). The SWOT analysis for this project was conducted after three conversations and a meeting with key stakeholders, participants, and the project champion to better understand the organization's needs. As a result of further communication with stakeholders to assess current workflows and gaps in care, sufficient information was gathered to conduct the analysis.

**Strengths**

Internal strengths of the organization are factors that influence the program outcome in a positive way (Moran et al., 2024). Essentia Health Mid Dakota Women's Center has many strengths, which can be acknowledged through a SWOT analysis, starting with its service to women of all ages in Bismarck and surrounding areas. Mid Dakota Women’s Center originated 50 years ago as an independent physician-owned practice that merged in 2022 with Essentia Health, based in Duluth, MN. This merger occurred with the commitment to expanding care throughout the state of North Dakota. Joining the network within Essentia Health has aided in the expansion of staff to meet the growing needs of the Bismarck-Mandan area (Kiedrowski, 2022). Mid Dakota Women’s Clinic originates on a strong foundation of community, with highly skilled staff specializing in gynecologic surgery, fertility, gynecology, obstetrics, and midwifery.

Internal opportunities have a massive impact on guiding the DNP project in a specific direction with the collaboration of Marie Jensen BSN, RN, CLC, TTS, the coordinator of Healthy Beginnings. The collaboration with key stakeholders, like Marie, who are willing to provide additional support in an identified area of weakness will contribute to achieving this DNP project's objectives. As previously stated, Healthy Beginnings is a program designed to support and educate women during their pregnancy journey. The program coordinator employs what is referred to as an intake program to maximize the benefits possible to women in this

phase of life. Marie Jensen BSN, RN, CLC, TTS initiates contact with women and performs an intake program prior to the first obstetrician (OB) appointment. In reaching out to these women, she establishes a personal connection with each one at the onset of their journey. This connection serves as a catalyst for screening depression or anxiety through a more focused and personalized evaluation.

Additionally, she uses this interaction to educate the patient about perinatal mood disorders, emphasize the significance of open communication with OB-GYN providers, introduce available support services, and administer the PHQ-2 questionnaire. Additional screenings conducted encompass predictors of mental health outcomes such as intimate partner violence, substance use, tobacco use, financial needs assessment, and evaluation of previous birth trauma, coupled with an assessment of breastfeeding history from previous pregnancies. Healthy Beginnings aids in screening mental health outcomes while integrating the strengths of interdisciplinary teamwork between Marie, BSN, RN, CLC, TTS, and the clinic providers.

Specific educational offerings (which include symptoms of baby blues and postpartum mood disorder) occur at 28 weeks or 36 weeks' gestation, along with perinatal follow-up addressing preparation for labor, hospital stay, and postpartum expectations, enhancing the center's ability to effectively engage with patients. The discussion of the intake program implemented in Healthy Beginnings highlights the crucial link between this foundational program and the advancement of comprehensive assessment among the interdisciplinary team, particularly the providers, at Mid Dakota Women's Clinic. Further follow-up with women enrolled in Healthy Beginnings occurs postpartum within 1-2 weeks of hospital discharge and involves addressing postpartum healing, postpartum mood, infant feeding, and any questions or concerns. Concerns are relayed to the OB provider or on-call provider based on urgency. One

final strength of Healthy Beginnings is the remote visit availability, along with accessibility to educational resources. Offering a remote option for the visit, addresses a key barrier by expanding access for patients.

**Weaknesses**

Internal traits can negatively influence the DNP project outcome, even have catastrophic effects on the project if not identified or addressed (Moran et al., 2024). Internal factors like inconsistent screening protocol times continue to be a challenge, even though ACOG recommends postpartum screening at no later than 3 weeks, and a comprehensive review no later than 12 weeks. Providing consistent screening protocols could foster improved recognition of PPD, with the ultimate goal of earlier recognition and treatment. Another weakness to be considered by the project champion and other stakeholders is the minimal time availability for providers with 15-minute appointments to cover extensive education about the perinatal and postpartum period. During these appointments, Dr. Rachel Marohl noted that Healthy Beginnings is frequently overlooked, highlighting a weakness in the coordination of this program among patients, healthcare providers, and Marie Jensen BSN, RN, CLC, TTS, the program coordinator.

In a conversation with Marie Jensen BSN, RN, CLC, TTS, she expressed difficulty reaching all expectant mothers. This lack of coordination hampers Healthy Beginnings' ability to reach all patients and fully realize its potential benefits for them. Moreover, a Healthy Beginnings visit is not currently scheduled for women in the postpartum phase. The coordinator attempts to contact these women via phone, but they may not respond or return the call if there is no solid existing relationship. Finally, upon reviewing the Essentia Mid Dakota Women's Health website, no link or resource was found to access Healthy Beginnings.

**Opportunities**

Healthy Beginnings, while already proven to be highly effective, suffers from inadequate promotion among patients by providers, nurses, and other staff members. Bridging this gap requires bolstered education about the program and its workflow. Additionally, ensuring easier access to educational resources for patients may result in notable improvements. First and foremost, educating providers about the importance of the Healthy Beginnings program and emphasizing their role in recommending it to patients presents a significant opportunity. While the program itself is robust, a major gap lies in its underutilization and a lack of understanding regarding its comprehensive ability to provide assistance.

Moreover, to address all existing workflow gaps, it is crucial to educate nurses and hospital staff about the benefits of Healthy Beginnings for women and their families during the postpartum period. Additionally, it is essential to ensure that providers and nurses actively engage in meaningful dialogue with patients about the program, rather than simply distributing informational materials. This approach will facilitate better understanding and uptake of the program among postpartum women. Finally, it is crucial to educate hospital staff on establishing a standardized procedure for scheduling a postpartum Healthy Beginnings appointment before hospital discharge. This education is essential to ensure that women receive adequate follow-up and guidance during the postpartum period. By incorporating this step into the discharge process, healthcare providers can better support women's postpartum health and well-being.

Secondly, it is essential to educate providers about the ACOG guidelines regarding postpartum care visits, which recommend visits at or before 3 weeks and before 12 weeks postpartum. Currently, there is no consistent process established, leading to some women not being offered a visit before 3 weeks postpartum, regardless of whether they exhibit red flag

symptoms such as a history of mental health disorders. To ensure that women are not overlooked for necessary resources, diagnoses, or management of PPD, it is imperative to develop a standardized process for scheduling postpartum visits. This process should include the option of telehealth appointments to make them realistic and accessible for women during this challenging period in their lives.

With the intent to improve outcomes in the postpartum population, accessibility will foster a more effective intervention for identifying and screening patients for PPD, while also identifying key factors within the literature that go hand and hand with betterment of postpartum outcomes. These factors include education around the perinatal and postpartum periods, access to information and resources like mental health providers for treatment and support within the community, and success with breastfeeding outcomes with education and a directory of lactation consultants in the area. With providers integrating specific education around PPD, initiation of a provider-patient relationship coincides with the patient relationship with Healthy Beginnings, acting as preventative care while also integrating and preparing the patient for ACOG recommended screening times. There are clear opportunities to enhance comprehensive care by proactively preparing patients for ACOG-recommended postpartum screening intervals using Healthy Beginnings as a resource. This approach enables providers to better align with evidence-based practices and ensure timely and effective postpartum care for patients.

**Threats**

Threats occur through extrinsic factors that either threaten or harm the project or its objectives (Moran et al., 2024). External factors that could be detrimental to this project are the barriers that prevent postpartum women from seeking the care they truly need for PPD. This could revolve around many reasons, ranging from stigma, lack of access, or cultural beliefs.

These barriers affect the workflow of PPD, early recognition and management, and the ability of the Healthy Beginnings tool to work effectively on those patients. Although the merger of Mid Dakota Women's Center with Essentia is considered a strength, there is a threat of corporate level management deeming project interventions non-useful without proper support and literature supporting the change. Another large threat occurs from a political and economic standpoint, access, and availability of funding in the state of North Dakota is very limited specifically around PPD and mental health altogether (Dronamraju & Rudolph, 2023). For example, North Dakota Medicaid only covers maternal depression screening if it meets specific requirements around Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) screening within the pediatric visit, because it is meant to focus on risk assessment of the child, not the mother (Dronamraju & Rudolph, 2023). This lack of funding and mental health services could affect what patients have access to, both in resources and potential management. Provider buy-in to standardized processes is also crucial, as it ensures consistent and effective implementation of interventions.

**Conclusion**

In conclusion, the prevalence and impact of PPD underscore the critical need for comprehensive and effective interventions to address this condition. While the primary aim revolves around enhancing universal screening, it is important to note that screening alone is not a cure-all solution. Despite its significant implications for postpartum women and family well-being, current practices in PPD education, screening, and treatment are inadequate, leading to missed opportunities for diagnosis and intervention. There are several key gaps in care, including insufficient provider training, stigma surrounding mental health, inconsistencies in screening practices, and limited access to resources. To optimize healthcare outcomes for pregnant and postpartum women, it is essential to develop systematic approaches guided by evidence-based

practices. This includes formulating precise PICO questions and problem statements to address the challenges in PPD management.

Additionally, fostering a multidisciplinary approach, particularly within institutions like Essentia Mid Dakota Women's Clinic, can help address existing gaps in care. Organizational assessments play a crucial role in identifying the barriers and facilitators to change initiatives, allowing for the development of targeted interventions tailored to the specific needs of the organization and its stakeholders. By conducting comprehensive SWOT analysis, organizations can better understand their strengths, weaknesses, opportunities, and threats, thereby informing the development of strategies to address gaps in care and enhance the delivery of services. By addressing the systemic challenges and implementing evidence-based interventions, the identification, management, and treatment of PPD can be improved, thereby promoting the well-being of mothers and their families.

## Chapter II: Literature Review, Synthesis, and Theoretical Framework

Most mothers agree that motherhood is one of the most challenging, rewarding, exhausting, amazing, and terrifying experiences of their lives. A mother's transition through pregnancy, the birthing process, and ultimately assuming an entirely new role with a first child, or even fourth, is exceptionally difficult. During this time, a mother undergoes many hormonal, physical, emotional, and psychological changes. Amidst the joy and tears that often accompany a new baby, there exists a spectrum of emotions, including the commonly experienced “baby blues,” which typically dissipate within the initial weeks postpartum. Postpartum depression (PPD) however, is much more serious and does not disappear within the first two weeks after delivery. Although PPD often happens in the first few weeks after childbirth, it can occur at any time within the first 12 months following birth. Despite the recognition of PPD and

recommendations for screening, current guidelines and management strategies often fall short, leaving a significant portion of affected individuals untreated (Mughal et al., 2022). This underscores the critical need to explore, evaluate, and synthesize existing literature to inform future practices. Central to this effort is the formulation of a robust PICO question, which serves as the cornerstone for research.

Theory is also critical to research, serving as the cornerstone of nursing practice by providing frameworks that shape the scope of care. A theory is a set of concepts, definitions, and propositions that specify relations among variables to explain and predict phenomena (Peterson & Bredow, 2020). The integration of theoretical frameworks into practical application is vital, guiding the interpretation of research findings and facilitating informed decision-making in clinical settings (Peterson & Bredow, 2020). For projects focused on maternal mental health, particularly in the postpartum period, the choice of an appropriate theory holds important implications for enhancing healthcare outcomes in women and their families.

**PICO Question**

Among healthcare professionals who provide care for pregnant and postpartum patients at a small Midwest women's clinic, how does implementation of a postpartum depression education session impact the knowledge and practices of the healthcare staff on the topic of maternal mental healthcare compared to current practice?

**Literature Search Process**

There are several research databases and search strategies available for further examination of current research related to the presented PICO question. Library databases including PubMed, Medline, and CINAHL were used to search for quality data to answer the PICO question. PubMed, Medline, and CINAHL were chosen as they are large, reliable, and

highly authoritative resources. Due to a refined PICO question, the initial search method that was used included keywords and Boolean connectors. When combined with particular keywords or phrases, Boolean connectors reduce search results and provide more relative evidence (Melnyk & Fineout-Overholt, 2019). Some examples of the search terms used include postpartum depression, perinatal depression, and postpartum depression screening. Additionally, Boolean connectors were used with the term's barriers, bonding, prevalence, child development, and telehealth. The number of results generated by each database for these keywords is shown in the Literature Search Table [Table 1].

Additional limitations and filters were used to narrow the research and produce more reliable and high-quality results. The limitations included articles published in the last ten years, human studies, the English language, and adults (19 years of age and older). Systematic, efficient, and thorough research can be conducted using appropriate keywords and Boolean connectors. The most relevant articles were identified using the preceding search strategy to provide the best quality evidence for answering the PICO question. A total of 26,598 articles were generated from the library database search engines using keywords and Boolean connectors. Search parameters were applied limiting the search to 6,878 articles. After a process of elimination based on criteria such as currency, relevance, authority, correctness, and intent, 18 of the articles with the strongest evidence were chosen to be included. Further, reviewing the articles and determining the level of evidence and relevance to the PICO question led to the final selection. Articles with minimal evidence strength and topics irrelevant to the project topic were excluded. An overview of the articles selected from the literature search can be found in the Literature Matrix Grid [Table 2].

**Table 1**

*Literature Search Table*

| PubMed | Subject Heading Search | Search Results | Limits | Total | Total articles reviewed | Total articles included excluding duplicates |
|---|---|---|---|---|---|---|
| **1** | Postpartum Depression | 13,306 | English; Human, published last 10 years, All Adults (19+ years) | 3,174 | 11 | 2 |
| **2** | Perinatal Depression | 6,329 | English; Human, published last 10 years, All Adults (19+ years) | 1,609 | 6 | 4 |
| **3** | 1 AND Prevalence | 5,530 | English; Human, published last 10 years, All Adults (19+ years) | 1,667 | 4 | 3 |
| **4** | 1 AND Barriers | 161 | English; Human, published last 10 years, All Adults (19+ years) | 97 | 7 | 1 |
| Medline | Subject Heading Search | Search Results | Limits | Total | Total articles reviewed | Total articles included excluding duplicates |
| **1** | Postpartum Depression | 645 | English; published | 98 | 3 | 1 |

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| | AND child development | | last 10 years, All adults (19+ years) | | | |
| **2** | Postpartum Depression AND bonding | 151 | English; published last 10 years, All adults (19+ years) | 69 | 1 | 1 |
| **3** | Postpartum depression screening | 170 | English; published last 10 years, All adults (19+ years) | 54 | 2 | 1 |
| **4** | Postpartum depression AND telehealth | 54 | English; published last 10 years, All adults (19+ years) | 54 | 2 | 2 |
| CINAHL | Subject Heading Search | Search Results | Limits | Total | Total Articles Reviewed | Total Articles included excluding duplicates |
| **1** | Postpartum Depression AND barriers | 252 | English, published last 10 years, all adults | 56 | 4 | 3 |
| **Totals** | | 26,598 | | 6,878 | 40 | 18 |

**Literature Appraisal**

The Johns Hopkins Evidence-Based Practice Model served as our benchmark for appraising the quality of the evidence when we reviewed the articles from our search results. The

model follows a three-step approach called PET, which stands for practice question, evidence, and translation (Dang et al., 2022). This model is specifically designed for nurses to integrate the latest research findings and best practices into patient care. The Johns Hopkins Evidence-Based Practice Model was chosen because it ensures that new findings are incorporated quickly and appropriately. Using the previously mentioned search strategies, articles were further appraised. Articles with weak evidence and subjects unrelated to the project's focus were eliminated. To further focus the search, three independent authors also used the CRAAP tool to review publications. High levels of currency, relevance, authority, accuracy, and purpose were considered when choosing the articles. In order to have a well-rounded base of evidence, the Literature Matrix Grid [Table 2] includes articles from various evidence levels with a focus on those of the highest overall quality. A summary of the articles that were chosen from the literature search is provided in the Literature Matrix Grid [Table 2].

**Table 2**

*Literature Matrix Table*

| Author/Title/ Journal/Year Published | Purpose/Problem/ Objective/Aims | Study Design | Sample (Setting) | Data Collection/Measures | Analysis/Outcomes | Strengths/Limitations | Study Quality | Level of Evidence |
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| Taiwo, T., Goode, K., Niles, M., Stoll, K., Malhotra, N., & Vedam, S. (2024). Perinatal mood and anxiety disorder and reproductive justice: Examining unmet needs for mental health and social services in a national cohort. *Health Equity*. *8*(1):3-13. doi: 10.1089/heq.2022.0207 | There is a lack of understanding of the gaps between the need and provision of comprehensive health services for childbearing women, especially among racialized populations; this research examines the unmet needs of these groups. | Cohort Study | All people who had experienced a pregnancy in the United States within 5 years of data collection were eligible. The study intentionally included an oversample from minority groups. Overall, 2,915 people from all 50 states were included. | Data was collected through snowball and network sampling, and partners used community-specific social media package tools to facilitate this process. The final survey instrument included 219 items assessing sociodemographic, pregnancy, and birth, 60 items on care experiences, and health and safety concerns during pregnancy. | In the United States, there is a significant unmet need for psychosocial support services, including mental health screening and treatment during the perinatal period, particularly among indigenous and Black women. | The study had a convenience sampling frame, which prevented the authors from generalizing findings to all childbearing people in the United States. In addition, the deliberate community-based participatory sampling strategies resulted in somewhat higher proportions than the U.S. Census data on distribution for Black and indigenous service users. | High | III |

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| Robbins, C. L., Ko, J. Y., D'Angelo, D. V., Salvesen von Essen, B., Bish, C. L., Kroelinger, C. D., Tevendale, H. D., Warner, L., & Barfield, W. (2023). Timing of postpartum depressive symptoms. *Preventing chronic disease*, *20*, E103. https://doi.org/10.5888/pcd20.230107 | The problem of postpartum depression poses a serious public health threat that can adversely affect mother-child interactions; however, few studies have examined depressive symptoms in the later postpartum period (9–10 months); this research examines this period | Prospective Cohort Study | Approximately 1,954 respondents 9 to 10 months postpartum in 7 states were included. | Data from the 2019 Pregnancy Risk Assessment Monitoring System (PRAMS) linked with data from a telephone follow-up survey administered to PRAMS respondents 9 to 10 months postpartum in 7 states (N = 1,954). The sociodemographic characteristics, prior depression, PDS at 2 to 6 months, and other mental health characteristics were also estimated. Unadjusted prevalence ratios were used to examine associations between those | Prevalence of postpartum depressive symptoms at 9 to 10 months was 7.2%. Of those with PDS at 9 to 10 months, 57.4% had not reported depressive symptoms at 2 to 6 months. Prevalence of PDS at 9 to 10 months was associated with having Medicaid insurance postpartum, prior depression, and current postpartum anxiety. | In addition to contributing to the limited literature on depression later in the postpartum period, this study demonstrates the potential for enhancing surveillance systems for chronic conditions. However, it should be noted that there were some limitations. Depressive symptoms were self-reported on the PHQ-2, small sample sizes were included, and social desirability bias may have resulted in underreporting of stigmatized maternal | High | II |

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| | | | | characteristics and PDS at 9 to 10 months. | | behaviors and experiences. | | |
| Liu, X., Wang, S., & Wang, G. P (2022). Prevalence and risk factors of postpartum depression in women: A systematic review and meta-analysis. *Journal of Clinical Nursing. 31*(19-20):2665-2677. doi: 10.1111/jocn.16121. | The current systematic review's aim was to present a pooled estimate of PPD prevalence and risk factors. | Systemic Review and Meta-Analysis | A total of 300 articles were included in the full-text screening. After further evaluation, 267 were excluded, leaving 33 reviews that met the inclusion criteria and were included in the meta-analysis. | A search of the Cochrane Library, PubMed, Embase and Web of Science was conducted to find cohort and case-control studies investigating the prevalence and risk factors of postpartum depression from the time of inception to December 31, 2020. Using a random-effects model, meta-analyses were performed to identify postpartum depression prevalence and risk factors. | There is a high prevalence of postpartum depression, especially in developing countries. Postpartum depression is associated with gestational diabetes mellitus, depression during pregnancy, premature birth, history of depression, epidural anesthesia during delivery, and depression during pregnancy. Having a clear understanding of the risk factors for PPD can help healthcare personnel manage and | Strengths of this study include quality and trustworthy data. There were limitations to the study, including a lack of in-depth analysis of some risk factors for PPD and high heterogeneity among the studies included in the analysis. | High | II |

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| | | | | | treat patients more effectively. | | | |
| Xue, W. Q., Cheng, K. K., Xu, D., Jin, X., & Gong, W. J. (2020). Uptake of referrals for women with positive perinatal depression screening results and the effectiveness of interventions to increase uptake: A systematic review and meta-analysis. *Epidemiology and Psychiatric Sciences*, *29*, e143. https://doi.org/10.1017/S2045796020000554 | Even though screening programs exist for perinatal depression, non-uptake of referrals to further mental health care reduces the utility of these programs. This study conducted a systematic review of evidence on referral rates, estimated the pooled rate, identified interventions to improve referral rates, and examined their effectiveness. | Systematic Review and Meta-Analysis | There were 2302 articles found in the systematic literature search, including 2296 English articles and six Chinese articles. There were 1818 references identified after eliminating duplicates; 1681 were eliminated after title/abstract reviews, and 105 were eliminated after full-text reviews because they did not meet inclusion criteria. This resulted in 32 studies for inclusion. After additional searches, nine studies were | PubMed, Web of Science, Cochrane Library, Ovid, Embase, CNKI, Wanfang Database, and VIP Databases from database inception to January 13, 2019, and reference lists of relevant research were reviewed. Studies providing information on the uptake rate and effectiveness of interventions on referral uptake were eligible for inclusion. Meta-analysis was used to estimate the pooled uptake rate based on | After perinatal depression screening, almost three-fifths of women with positive results do not take advantage of referral offers. Although referrals to on-site assessment and treatment may increase uptake, the quality of evidence on interventions to increase uptake was low. There is a need for more robust studies, especially in low- and middle-income countries. | This study was strong because it examined the uptake of referrals by women with positive postpartum depression screening results and the effects of the interventions. However, it did have some limitations. This review focuses on uptake rather than all three steps in the referral and treatment process. Furthermore, with only one RCT in 41 eligible studies, the quality of included studies posed an important limitation in | High | I |

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| | | | included from reference lists of included papers. This review included 41 articles, including one RCT, one before-and-after comparison study, and 39 observational studies. | observational and quasi-experimental data. Since there was only one randomized controlled trial, descriptive analyses were conducted instead of meta-analyses. | | estimating referral uptake and assessing the effectiveness of interventions to increase referral uptake. | | |
| Shorey, S., Chee, C. Y. I., Ng, E. D., Chan, Y. H., Tam, W. W. S., & Chong, Y. S. (2018). Prevalence and incidence of postpartum depression among healthy mothers: A systematic review and meta-analysis. *Journal of psychiatric research*, *104*, 235–248. https://doi.org | Among mothers who gave birth to healthy full-term infants and who did not have a prior history of depression including postpartum depression, this review examines the prevalence and incidence of postpartum depression. | Systematic Review and Meta-analysis | Across 15,895 articles, 58 articles (N = 37,294 women) were included in the review. | In addition to a systematic search of ClinicalTrials .gov, CINAHL, EMBASE, PsycINFO, and PubMed, a manual search of the references of included articles was performed, and an expert panel was consulted. | The incidence of postpartum depression was 12% while the overall prevalence of depression was 17% among healthy mothers without a prior history of depression. The prevalence was similar regardless of the diagnostic tool used; however, there were statistical | Healthy mothers were the focus of research, which is not frequently examined. However, as no randomized control trials were included, the quality of sources was limited. Furthermore, the included studies used varying sampling methods and screening methods that | High | II |

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| /10.1016/j.jpsychires.2018.08.001 | | | | | differences between different geographic regions. There was no statistical difference in prevalence between different screening time points, but prevalence increased after six months postpartum. | were not standardized, which led to high heterogeneity between them. | | |
| Tyokighir, D., Hervey, A. M., Schunn, C., Clifford, D., & Ahlers-Schmidt, C. R. (2022). Qualitative Assessment of Access to Perinatal Mental Health Care: A Social-Ecological Framework of Barriers. *Kansas journal of medicine*, *15*, | This study's purpose is to note the knowledge and barriers of the mental health services during the perinatal period. | Qualitative Study | 33 interviews with 12 pregnant/postpartum women, 15 primary care providers, and 6 mental health care providers. | Interviews were completed via telephone from 10/2019-03/2020. Interviews were 20 minutes in duration with a standardized script and were considered complete when saturation of themes was reached. | Interventions at a multi-level are needed to improve mental health access for women of low income during the perinatal period | Strengths: triangulation use<br><br>Limitations: selection bias (possible), excluded critical group in the assessment (nurses, social workers, etc.) | Low | VI |

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| 48–54. https://doi.org/10.17161/kjm.vol15.15853 | | | | Transcripts were reviewed by researchers and community partners by the ground theory approach. Themes were identified based on triangulation. The barriers identified were separated by levels: individual, social, and society. | | | | |
| Faisal-Cury, A., Levy, R. B., Kontos, A., Tabb, K., & Matijasevich, A. (2020). Postpartum bonding at the beginning of the second year of child's life: the role of postpartum depression and early bonding | This study's purpose is to evaluate further the link between early mother-child bonding and maternal depression at infancy with bonding in later years impaired in a sample of mothers at high risk of postnatal depression. | Cohort Study | 346 low-income postpartum women with antenatal depression | The postpartum bonding questionnaire and patient health questionnaire at 6-8 months and 12-15 months post delivery | Bonding impairment and postpartum depression have a strong association at both 6-8 and 12-5 months. Postpartum depression and bonding impairment is highly recommended within the first year of life. | Strengths: results cannot be generalized to other types of women & the design of the study strengthen this by allowing for the evaluation of postpartum depression and bonding impairment among a group of very | Moderate to High | IV |

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| impairment. *Journal of Psychosomatic Obstetrics & Gynecology, 41*(3). P. 224-230. https://doi.org/10.1080/0167482X.2019.1653846 | | | | | | vulnerable women. Limitations: findings are based on secondary data analysis & different socio-demographic variables/maternal characteristics affecting the association between bonding impairment and postpartum depression | | |
| Sidebottom, A., Vacquier, M., LaRusso, E., Erickson, D., & Hardeman, R. (2021). Perinatal depression screening practices in a large health system: identifying current state and assessing opportunities to provide more | The purpose of this study was to assess the prevalence of perinatal and postpartum depression screening in a large healthcare system to identify gaps in screening, while recognizing/understanding the disparities present in | Retrospective cohort study | 7548 women receiving perinatal care at 35 clinics and delivering at 10 hospitals | Data was used from the electronic health record that had (1) delivered in 2016; (2) received at least three perinatal care visits at an Allina Health clinic; and (3) consent on file for the use of their HER data for research under the | Variations in screening practice were not found in the peripartum time but were identified postpartum. Women were less likely to get screened if they were young (<24), African American, American Indian, multi-racial, | Strengths include the inclusion of the entire health system population, screening tool incorporated into the EHR, which could also be a weakness as it was not provider or patient self-report. Population is localized | Moderate | III |

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| equitable care. *Archives of Women's Mental Health*, *24*(1), 133–144. https://doi-org.ezproxy.umary.edu/10.1007/s00737-020-01035-x | current practice | | | Minnesota Health Records Act. Demographic measures were used to examine disparities in accordance with race. Outcome measures were depression screening during pregnancy and for the first 3 months postpartum, PHQ-9 was used as the screening tool. | Hispanic, single, or insured by Medicaid/Medicare, or spoke any other language besides English. Patients were more likely to get screened by an Ob-Gyn (71.2%) compared to other provider types (58-60%). Screening varied significantly ranging from 24.8-95.6% between the 35 clinics. This study concluded that further studies need to focus on achieving universal screening. | | | |
| Bodnar-Deren, S., Benn, E. K. T., Balbierz, A., & Howell, E. A. (2017). | The purpose of this study is to measure the stigma that is associated | 2 randomized controlled trials | 481 white and black women | Data was used from two postpartum depression randomized | Treatment stigma is associated with lower treatment acceptance | Strengths: The use of vignettes allowed assessment of intended | High | II |

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| Stigma and postpartum depression treatment acceptability among black and white women in the first six-months postpartum. *Mattern Child Health J, 21.* P. 1457-1468. DOI 10.1007/s10995-017-2263-6 | with four types of postpartum depression therapies in order to estimate the association between stigma and therapy acceptance for both white and black woman in the postpartum period. | | | controlled trials in which woman at the 6-month mark of postpartum answered a series of questions. Race, stigma, and treatment acceptability associations were examined with the utilization of bivariate and multivariate analysis. | for postpartum depression; stigma was not found to be the cause of decreased treatment acceptance amount in black women. Increased research is needed in the future to understand these barriers during the postpartum period. | behavior, which decreased cost, access to daycare/transportation/structural concerns<br><br>Limitations: Vignettes used to assess treatment acceptance/stigma; | | |
| Manso-Córdoba, S., Pickering, S., Ortega, M. A., Asúnsolo, Á., & Romero, D. (2020). Factors Related to Seeking Help for Postpartum Depression: A Secondary Analysis of New York City PRAMS Data. *International* | This study's aim was to analyze the influence of different sociodemographic and health factors associated with postpartum depression symptoms. Determination of which subgroups of women are at highest risk for not seeking | Cross-sectional secondary analysis | 618 women met the inclusion for the criteria out of the 2729 women who completed the NYC phase 8 PRAMS survey | Self-administered survey mailed out monthly to a random sample of women in NYC within 2-4 months of giving birth, if written questionnaire was not completed, a telephone interview was conducted. | Data analysis was done using SPSS statistics software. Outcomes look at the association between a diagnosis of ppd and having been asked during pregnancy, after giving birth, and having asked for help vs antenatal or postpartum | Limitations include the sample focusing on women in NYC (rural not explore), exclude criteria of anxiety (only used depression, hopeless, or sad). Strengths include doing the 3 rounds of mailed questionnaires to exclude | Moderate | III |

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| *Journal of Environmental Research and Public Health*, *17*(24). https://doi-org.ezproxy.umary.edu/10.3390/ijerph17249328 | professional help when they experience symptoms with PPD; second aim was to identify the impact of health professionals asking mothers about ppd symptoms | | | | check-up questioning. The most demographic variable of race was associated with ppd, and API women were at higher risk for not asking for help. Interventions should be aimed at removing barriers include reducing stigma and increasing knowledge on PPD within antenatal education sessions for pregnant patient population. | bias (surveys were not accepted after 9 months) | | |
| Prevatt, B.-S., & Desmarais, S. L. (2018). Facilitators and Barriers to Disclosure of Postpartum Mood Disorder Symptoms to | This study examined barriers and facilitators to disclosure of postpartum mood disorder symptoms to healthcare | Community based participatory research study | 291 community-based women | The participants were given an online survey which included: perceived barriers to treatment scale, the | More than half of the sample reported symptoms of postpartum mood disorder. Though 1:5 did not | Strengths: The use of self-report in past studies has shown to have both validity and reliability when | Low | III |

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| a Healthcare Provider. *Maternal and Child Health Journal*, *22*(1), 120–129. https://doi-org.ezproxy.umary.edu/10.1007/s10995-017-2361-5 | professionals among a community-based sample. | | | maternity social support scale, the depression, anxiety and stress scales-21, and items of postpartum mood disorder disclosure. The perceived barriers were operationalized factors and patient perspective which reduced the patient discussion symptoms of postpartum mood with providers in the field. | disclose to a provider. Half of the sample reported at least 1 barrier to disclose of these feelings to a provider. With 1/3 of the sample reporting less than adequate social support. | collecting data.<br><br>Limitations: Lacks diversity due to use of relatively homogenous sample group; data was self-report measures, not clinical diagnosis. Selection bias limited generalizability. Recall bias and errors as barriers and facilitators could different over a three-year span post birth. The PBPT does not utilize the perceptions of providers treatment plan based on ability, interest, or efficacy. | | |
| Modest, A. M., Prater, L. C., & Joseph, N. T. (2022). | The study's aim was to look at the differences in | Retrospective cohort study | 10,411 were included in the data set from the | Populations were stratified on pregnancy | Suicide occurred more frequently | Limitations include the completeness/ incompletene | Moderate | III |

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| Pregnancy-Associated Homicide and Suicide: An Analysis of the National Violent Death Reporting System, 2008-2019. *Obstetrics and Gynecology*, *140*(4), 565–573. https://doi-org.ezproxy.umary.edu/10.1097/AOG.0000000000004932 | demographic and social factors associated with pregnancy associated violent deaths comparing homicide with suicide | | CDC NVDRS data from 2008-2019 which captures all 50 states, district of Columbia, and Puerto Rico | status at time of death. 1)pregnant at the time of death, 2) pregnant within 42 days of death (early postpartum), 3) pregnant 43 days to 1 year before death (late postpartum), 4) not pregnant within 1 year of death. SAS 9.4 was used for analysis. | during pregnancy and in the late postpartum period; pregnancy-associated homicide occurred more frequently in non-Hispanic Black women- either in pregnancy or in the late postpartum period. | ss of data from NVDRS due to the reports received in logging the information. Late postpartum status may be missed, and "unknown" status is used which was 68% of female deaths (not included in study) but may mean that these results may underestimate the number of pregnancies associated violent deaths. Variation between states is also a limitation. | | |
| Iturralde, E., Hsiao, C. A., Nkemere, L., Kubo, A., Sterling, S. A., Flanagan, T., & Avalos, L. A. (2021). Engagement | Factors were examined in perinatal depression treatment engagement by race/ethnicity of insured | Qualitative Study | Four focus groups with 30 pregnant/post partum women (Asian, Black, Latina, and white | With a semi-structured format, barriers to treatment, cultural factors, and strategies that could be | Barriers to treatment included: social stigma, difficulty noting one's own depression, lack of | Strengths: Standardized screening protocol, which utilized repeated screening during the perinatal | Low | Vl |

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| in perinatal depression treatment: a qualitative study of barriers across and within racial/ethnic groups. *BMC Pregnancy & Childbirth*, *21*(1), 1–11. https://doi-org.ezproxy.umary.edu/10.1186/s12884-021-03969-1 | patients in a healthcare system with equal access to care and treatment for depression. | race/ethnicity) with positive depression screens; Nine clinicians were interviewed with background in perinatal depression | helpful were elicited. A general inductive approach was utilized to code discussion transcripts, utilizing themes mapped to COM-B theoretical framework. | understanding of treatment options, and lack in treatment time. Non-white women experienced distinct factors including discouraging treatment, lack of social support, traumatic history, and difficulty taking time away from work. Factors from clinicians included: the knowledge/skill to treat and manage perinatal depression, cultural competence, and barriers in language. | period which allowed for validated measure. Purposeful recruitment of women of different racial/ethnic backgrounds and stages of pregnancy over a large region. Increased representiveness due to the use of telephone focus groups.<br><br>Limitations: Not generalized to those of low English language proficiency, without health insurance, or care received in a non-integrated health system. Small number of participants. |

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| Lewkowitz, A. K., Whelan, A. R., Ayala, N. K., Hardi, A., Stoll, C., Battle, C. L., Tuuli, M. G., Ranney, M. L., & Miller, E. S. (2024). The effect of digital health interventions on postpartum depression or anxiety: a systematic review and meta-analysis of randomized controlled trials. *American Journal of Obstetrics and Gynecology*, *230*(1), 12–43. https://doi-org.ezproxy.umary.edu/10.1016/j.ajog.2023.06.028 | The study was aimed at examining the effects that digital health interventions had on ppd and postpartum anxiety compared with usual treatment. | Meta-analysis; systematic review | 31 randomized controlled trails with 5532 participants randomized to digital health interventions and 5492 randomized to usual treatment were included | Two authors independently screened all abstracts for eligibility and independently reviewed full-text articles for inclusion, a third author screened abstracts as needed to determine discrepancy. | Digital health interventions can be modest, but there were no significant differences between the randomized trials with digital health intervention to usual treatment. | Strengths include the study size, limitations include the analysis of articles | High | II |
| McNicholas, E., Boama-Nyarko, E., | Aim of the study was examining | Secondary analysis of PRSIM study | The final data set was 280 perinatal | Self-report surveys. Questions | Rates of care were compared | Strengths included uniqueness of | Moderate | III |

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| Julce, C., Nunes, A. P., Flahive, J., Byatt, N., & Moore Simas, T. A. (2023). Understanding Perinatal Depression Care Gaps by Examining Care Access and Barriers in Perinatal Individuals with and Without Psychiatric History. *Journal of Women's Health (15409996)*, *32*(10), 1111–1119. https://doi-org.ezproxy.umary.edu/10.1089/jwh.2022.0306 | how access to perinatal depression care and reported barriers to care differ between perinatal patients that either have had or have no had prior psychiatric history | (randomized controlled trial 2017-2022). | individuals who answered questions in the PRISM study on prior psychiatric history. | included 1) been screened for perinatal depression during obstetric care, 2) been offered or referred to mental health treatment, and 3) if they accepted or declined treatment | between groups with and without psychiatric history during each step of the care pathway (screening, referral, and attendance). Perinatal individuals without a pre-pregnancy psychiatric history were less likely to be screened, referred to, and treated for depression. | including previous psychiatric history; study population was diverse. Limitations are due to the data set from PRISM data limiting the analysis. | | |
| Bašková, M., Urbanová, E., Ďuríčeková, B., Škodová, Z., & Bánovčinová, Ľ. (2023). Selected Factors of Experiencing | The main aim of the study was to look at whether antenatal education (satisfaction/attitude toward it), attitude toward | Cross-sectional research design | 584 postpartum women | Data was analyzed using the Edinburgh Depression Scale; scoring 10 points or higher flagged for elevated | Study showed an increased risk of postpartum depression symptoms in women that were not satisfied with their antenatal | Limitation: women were highly educated (demographic); unsure of attendance to antenatal classes (just know | Moderate | III |

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| Pregnancy and Birth in Association with Postpartum Depression. *International Journal of Environmental Research and Public Health*, *20*(3). https://doi-org.ezproxy.umary.edu/10.3390/ijerph20032624 | pregnancy (unwanted or wanted conception) and support provided during birth (information, emotional, and physical) have significance in level of postpartum depressive symptoms. | | | levels of depressive symptoms. Subjective perception was done on topics: support during birth, informational support, emotional support, physical support, antenatal education, and attitude toward pregnancy | education when compared with those that were satisfied. | enrollment). Next study focuses on satisfaction with education Strengths: used well known screening tool, with significant research | | |
| Arias, M. P., Wang, E., Leitner, K., Sannah, T., Keegan, M., Delferro, J., Iluore, C., Arimoro, F., Streaty, T., & Hamm, R. F. (2022). The impact on postpartum care by telehealth: a retrospective cohort study. *American Journal of Obstetrics &* | The aim of the study was to determine if the impact of having telehealth available would increase achievement of postpartum goals | Retrospective cohort study | 1579- 780 in pre-implementation period and 799 in the postimplementation period | Comparison was between the pre-implementation of telehealth for postpartum care, and post-implementation of telehealth. Secondary analyses were analyzed with goals identified by ACOG with postpartum depression, | 90% increased odds of attending a postpartum appointment with telehealth available. 86.3% compared to 65.1% got screened for ppd in the telehealth group compared to the in office. | Limitations include retrospective-only studying over a certain timeframe. ACOG guidelines are not always recorded in chart so the comparison of screening for ppd may not be accurate | Low | IV |

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| *Gynecology MFM*, *4*(3), 100611. https://doi-org.ezproxy.umary.edu/10.1016/j.ajogmf.2022.100611 | | | | contraception method and breastfeeding | | | | |
| Zhao, L., Chen, J., Lan, L., Deng, N., Liao, Y., Yue, L., Chen, I., Wen, S. W., & Xie, R.-H. (2021). Effectiveness of Telehealth Interventions for Women with Postpartum Depression: Systematic Review and Meta-analysis. *JMIR MHealth and UHealth*, *9*(10), e32544. https://doi-org.ezproxy.umary.edu/10.2196/32544 | This study aimed to look at the effectiveness of telehealth interventions on PPD and associated maternal mental health problems in the postpartum period (less than or equal to 12 months). | Systematic review of randomized control trials | 9 RCTs with a total of 1958 participants | Measurements include depressive symptoms in the telehealth group and the control group, social support in both groups, loneliness in both groups, and anxiety in both groups. EPDS was used to measure scores in the PPD group. | Maternal depression scores were significantly lower in the telehealth group when compared with the control group- anxiety and depression were improved, but improvement of social support and reducing loneliness was less obvious | Strengths: all 9 studies had low risk for bias; sensitivity was conducted using subgroup analysis; both developing countries and developed countries were included. Limitations include many of the studies being self-report measured scales/different scales were used | High | II |

## Literature Synthesis

Upon completing the literature review, each author was responsible for reviewing the articles separately to ensure proper alignment with the PICO question. Evidence from the literature was assessed to identify common themes while also recognizing comprehensive elements of research necessary to understand the gaps in healthcare for postpartum women. Key themes identified in the reviewed articles encompass the heavy reliance on standardized screening tools, such as the EPDS or PHQ-9, rather than individualized comprehensive assessments; persistent stigma surrounding mental health among mothers, which impedes open communication with healthcare providers about symptoms; inadequate attention to the full 12-month postpartum period within the continuum of care; and a substantial gap in educational resources, particularly focusing on the perinatal period of care. It is essential to comprehend the components of a PPD diagnosis, including etiology, pathophysiology, risk factors, diagnostic criteria, and treatment, to understand these themes.

## Definition of Postpartum Depression

The pathophysiology of PPD is currently unknown. PPD is depression following the birth of a child and is thought to arise from hormonal and psychological changes, fatigue, and risk factors with genetics. The changes in reproductive hormones are likely related to neuroendocrine pathophysiology for PPD, with emphasis on the hypothalamic-pituitary-adrenal (HPA) axis function. The HPA releasing hormones increases throughout pregnancy and remains elevated up to 12 weeks postpartum (Mughal et al., 2022). Other sensitive hormone fluctuations include estrogen, progesterone, and other gonadal hormones. Furthermore, multifactorial etiologies include biologic-genetic components, inflammation, and psychosocial stressors (Domino et al., 2023). Psychological risk factors include a history of depression and anxiety, negative attitude

toward pregnancy, and sexual abuse. Social factors include lack of social support, domestic violence, and stressful life events (e.g., marital conflict, emigration, and finances) (Viguera, 2023). Lifestyle also poses a risk for the development of PPD with eating habits, sleep cycle, and level of physical activity (Mughal et al., 2022).

PPD is prevalent at about 20% among postpartum women, as well as 17% among healthy mothers overall (Shorey et al., 2018). Common symptoms include sleep disorders, mood swings, sadness and crying, loss of appetite, and lack of interest in daily activities; however, outcomes of undertreatment can be suicide or homicide (Zhao et al., 2021). Identification of depression during pregnancy or in the postpartum period (12 months after delivery) is critical, as Modest et al. (2022) emphasize that every pregnancy-associated violent death is preventable. Iturralde et al. (2021) maintain many women's symptoms progress to severe categories before they even realize they require treatment; thus, prevention and early identification are critical.

**Screening Tools and Timeframe**

According to ACOG, a validated tool should be used to screen for depression and anxiety symptoms at least once during perinatal period. Additionally, as part of the comprehensive postpartum visit, OB-GYNs (and other obstetric providers) should conduct a comprehensive assessment of mood and emotional well-being no later than 12 weeks following delivery (ACOG, 2018). Among the more commonly used validated rating scales for universal screening are the EPDS and the PHQ-9, along with a partner version of the EPDS (Domino et al., 2023). According to Viguera (2023), a score of 10 or above on the EPDS scale or a score of 5 to 20 on the PHQ-9 indicates mild-severe PPD (Viguera, 2023). The diagnosis of PPD is made when at least five depressive symptoms are present for at least two weeks. These symptoms lasting most of the day include depressed mood, loss of interest or pleasure, insomnia/hypersomnia,

psychomotor retardation or agitation, worthlessness or guilt, loss of energy or fatigue, suicidal ideation or attempt, recurrent thoughts of death, impaired concentration or indecisiveness, and change in weight or appetite (Mughal et al., 2022). Healthcare providers in obstetrics and gynecology should be educated on initiating medical therapy and referring to appropriate behavioral health resources when indicated (ACOG, 2018).

Screening perinatal and postpartum women for depression not only facilitates early detection and support for those experiencing depressive symptoms but also contributes to reducing the overall prevalence of depression within the population (Bašková et al., 2023). However, Sidebottom et al. (2021) report that providers overestimate the prevalence of their screening. Postpartum screening is highest in OB-GYNs (71.2%) compared to other providers (58-60%) (Sidebottom et al., 2021). Literature specifically highlights certain risk factors leading to PPD including previous episodes of PPD and a history of mild depressive disorder or anxiety.

In addition, physiologic and psychosocial changes in pregnancy and postpartum increase the risks of depression in all individuals, not just those with a psychiatric background (McNicholas et al., 2023). Without a background of mental health problems prior to pregnancy, patients were less likely to be screened perinatally and offered a referral to therapy for perinatal depression. Lack of screening continues amongst certain ethnicities like Black and Native American/Alaska Native, as well as Asian and Latina women (Taiwo et al., 2024). With the advancement in technologies, mediums such as telehealth or application notifications through patient portals can aid in achieving ACOG's postpartum goals, such as attendance, screening of PPD, contraceptive services, and breastfeeding (Arias et al., 2022). Furthermore, according to research by Taiwo et al. (2024), incentives such as reimbursement for screening and treatment programs, increased availability of community health workers, and the establishment of culture-

centered birth centers should be considered to encourage organizations to adhere more closely to national screening guidelines.

Manso-Córdoba et al. (2020) propose that addressing the continued screening for PPD throughout the first year following childbirth necessitates providers (OB-GYNs and pediatricians) receiving specific training on PPD management, while also highlighting the significance of fostering a strong doctor-patient relationship rather than solely relying on depression-based screening tools. Despite efforts to implement universal screening, barriers still exist, such as mothers believing their provider might consider them to be a bad parent. In order to de-stigmatize societal views of mental illness, these barriers must be recognized and acknowledged. Furthermore, a sense of responsibility among providers needs to be established to guide comprehensive assessment and provide resources and education rather than reliance on scales that often underscore and underdiagnose symptoms (Prevatt & Desmarais, 2018; Robbins et al., 2023).

**Consequences of Untreated Postpartum Depression**

As a result of the significant amount of time that passes between the publication of changes in clinical guidelines and the implementation of those changes in the standard of care, there remains a gap in care (Sidebottom et al., 2021). Although evidence-based practice in screening for PPD has been emphasized in the literature, it has been found that follow-through screening and assessment in the first 12 months postpartum is still not being met. As Robbins et al. (2023) discovered in their study of PPD 57.4% of patients who had depressive symptoms at two to six months postpartum had not reported those symptoms until nine to ten months postpartum. The neglect of interventional screening after three months continues to be a concern, especially among healthy mothers (Shorey et al., 2018).

Mayberry et al. (2007) further emphasize that PPD can last up to two years after delivery. A prolonged lack of treatment for PPD results in severe consequences related to the woman's ability to adjust and can rapidly lead to chronic, recurrent chronic depression. PPD affects not only the mother's ability to cope with life but also the infants. Infants have been shown to have lower social engagement, slower maturation in regulatory behaviors, and higher cortisol reactivity (Liu et al., 2022). Bonding between mother and infant impacts the lifelong relationship between the two. Bonding can be significantly impacted by depression in the postnatal period, and women who were depressed were 5.6 times more likely to have bonding impairment at the 6-month postpartum period (Faisal-Cury et al., 2020). Faisal-Cury et al. (2020) found that both mild depression and moderate-severe depression were associated with bonding impairment at 12 months and affected 1:10 women. Patients continue to be undereducated on the results of untreated PPD and the stigma around being a 'bad mother'.

**The Mental Health Stigma among Mothers**

As it is evident that there is a high demand for PPD services, one of the most critical factors and barriers to consider when working toward improving the diagnosis and treatment of PPD is lowering the stigma associated with mental illness (Manso-Cordoba et al., 2020; Prevatt et al., 2018; Tyokighir et al., 2022). Several types of stigma prevent patients from seeking and receiving care; two types to consider are self-stigma and treatment stigma. A person's self-stigma is associated with feelings of shame, and a person's treatment stigma is associated with feeling ashamed of seeking mental health treatment (Bodnar-Deren et al., 2017). There are a multitude of barriers related to maternal mental health stigma. One example of a barrier is cultural messages, shame, or the belief that PPD is incompatible with motherhood. Further,

discrimination related to immigration status or child custody are also barriers related to stigma (Bodnar-Deren et al., 2017; Iturralde et al., 2021).

With specific focus on treatment, another barrier includes women diagnosed with PPD declining referrals due to stigma surrounding psychiatric treatments (Xue et al., 2020). As a result, the stigma negatively impacts the health of the woman, her infant, and her family. Additionally, patients may be stigmatized by both provider attitudes and service preferences. Women's acceptance of referrals is heavily influenced by provider attitudes. Referrals for treatment are most likely to be accepted by women who feel validated, heard, acknowledged, and supported by their providers. Of the services offered, home visits are the most widely accepted forms of treatment (Xue et al., 2020). Providers can and should address stigma by using standardized screening tools, avoiding language that divides this population, and being aware of the mental health needs of perinatal women (Tyokighir, et al., 2022).

Zhao et al. (2021) coincide stigma and accessibility within the PPD realm, finding that traditional face-to-face psychotherapy continues to be met with gaps as a treatment modality. They suggest that telehealth lessens this stigma, adds accessibility and convenience, and costs less. With evidence of women utilizing available online apps to find informational support, consult specialists, or seek resources for PPD and anxiety, the stigma around these resources shows lesser, with the extension to more of this population being greater (Zhao et al., 2021). Throughout the literature, it is consistently recognized that special healthcare services for mothers with PPD, as well as a reduction of social stigma surrounding mothers, remain in high demand.

In order to provide optimal care to women, it is essential to break the chains of stigma. PPD causes mothers to constantly feel guilt and shame, affecting how often they seek help, thus

preventing it from being detected. McNicholas et al. (2023) highlight these attitudes, finding that about 70% of their participants reported the desire to "solve the problem on (their) own" (p.1113). This was a substantial barrier for the postpartum population, along with concerns about available treatment and believing the problem would improve by itself. Interestingly, McNicholas et al. (2023) observed that these symptoms were more prevalent in mothers without a psychiatric history, which is a neglected subgroup for screening and treatment, as also presented by Shorey et al. (2018). Despite the increased awareness of PPD, it remains underdiagnosed and undertreated, resulting in the unnecessary suffering of women and their families.

There is a need for education regarding the woman's ability to access care along the depression care pathway during this time, with an emphasis on psychoeducation regarding perinatal and postpartum depression (McNicholas et al., 2023). Sidebottom et al. (2021) suggest that in order to destigmatize depression, the incorporation of depression screening tools, diagnostic assessment, and clinical decision support will help enhance clinical outcomes and help patients accept treatment. It remains essential for providers to pay particular attention to risk factors such as culture and ethnicity. For example, Asian/Pacific Islander women and African American women may not seek help due to stigmas associated with mental health and motherhood (Manso-Córdoba et al., 2020). Ultimately, stigma prevents women from receiving treatment and can place them in extremely dangerous situations; therefore, it must be reduced.

**Perinatal Educational Necessity**

Patients in the perinatal and postpartum periods have a right to receive excellent patient education, which is truly the responsibility of the provider. The screening of PPD is not enough, as it does not address maternal depression effectively (Sidebottom et al., 2021). Further,

ineffective screening tools become void if treatment is not initiated based on scoring. Treatment initiation and referrals to mental health professionals are crucial to properly care for and manage patients within this population, which requires providers to be well-educated on how to manage PPD. Screening, education, and referrals are ideal in the perinatal period since there are frequent appointments with providers, and the woman has fewer obstacles (Modest et al., 2022).

Further, providers educated in perinatal psychoeducation and psychotherapy to prevent PPD have improved patient outcomes, patient acceptance, and can more effectively identify and treat PPD (Lewkowitz et al., 2024; Sidebottom et al., 2021). Additionally, providers who continue and further their education pave the way for stronger patient-provider relationships (Manso-Cordoba et al., 2020). Alternatively, Basková et al. (2023) found that women who were unsatisfied with their perinatal education were more likely to suffer from PPD symptoms. Overall, as a result of interventions such as educating providers, altering electronic medical records, and using standardized exercises for PPD screening, women screening positive are more likely to adhere to screening, accept referrals, and receive treatment (Tyokighir et al., 2022).

Within the psychological process of pregnancy and postpartum, the transitional changes are met with how the specific woman deals with them. This can be impacted by her personality, definition of her role as a mother and within the family, relationship with the unborn infant, attitude toward pregnancy, socio-economic condition, and her physical condition (Bašková et al. 2023). Because of the physical and psychological aspects, women are increasingly sensitive and prone to depression, moodiness, aggression, fear, and anxiety. If high quality childbirth preparation classes coincide with perinatal care, Bašková et al. (2023) found a positive effect on improving familial relationships, family planning, health habits, stress management, reduction in anxiety, and postpartum adaptation with successful breastfeeding.

Manso-Córdoba et al. (2020) reiterates that obstetric visits and perinatal education classes can be the bridging platform for providing education around PPD. Well-composed education classes for women in the perinatal period of pregnancy can improve the system in aiding women to better recognize the first signs of the development of depression, thus reporting becomes more congruent between provider and patient. Moreover, it is essential to consider social support and develop strategies to enhance it during the postpartum period, including establishing a post-birth plan to ensure that resources are available to the patient, both physically and emotionally (Prevatt et al., 2018).

Moreover, it is critical for providers to normalize the development of depression within the pregnant or postpartum population, as this can aid in open communication. Developing a trusting and comfortable relationship will continue to aid in the communication of symptoms or reassurance the woman might need. Improvement of the quality of healthcare provided is directly correlated with a provider raising awareness of educational interventions available to the perinatal and postpartum patients (Manso-Córdoba et al. 2020). Overall, prioritizing women's support and decreasing stigma are essential steps toward fostering effective communication, building trust, and enhancing educational initiatives in perinatal and postpartum care.

**Theory Overview and Clinical Fit**

Cheryl Beck's Substantive Theory of Postpartum Depression is a valuable resource for healthcare professionals, especially those focusing on women's health, such as obstetricians and gynecologists, midwives, childbirth educators, or nurses, as it can significantly improve the quality of care offered to pregnant and postpartum women and their families. Cheryl Beck understands the importance of healthcare professionals working with this unique population to be diligent in identifying the symptoms of PPD, as well as adequately educating these women and

offering guidance on how to seek help effectively. Beck conducted a qualitative study exploring the specific social and psychological challenges of PPD and the social and psychological processes involved in overcoming it. Over 18 months of interviews with multiple women, the most prevalent theme identified was a sense of loss of control (Marsh, 2013). Women who experienced PPD described feeling unable to manage their emotions, thoughts, and sometimes even their actions. Beck termed this loss of control "Teetering on the Edge," defining it as "walking a fine line between sanity and insanity" (Beck, 1993, p. 44). Cheryl Beck's Substantive Theory of Postpartum Depression further describes the theory of loss of control, which comprises four distinct stages: encountering terror, dying of self, struggling to survive, and regaining control (Beck, 1993).

The initial stage of the theory, termed "Encountering Terror," typically emerges within a few weeks to six months postpartum. During this stage, women experience the sudden and unforeseen onset of PPD (Marsh, 2013). Women describe this experience as trapped in a dark tunnel with no visible future. This stage encompasses three specific conditions: horrifying anxiety attacks, relentless obsessive thinking, and enveloping fogginess. Horrifying anxiety attacks are characterized as a sensation of "losing one's mind," sometimes perceived as worse than depression itself (Marsh, 2013, p.51). Women often describe relentless obsessive thinking as an inability to quiet the mind, persisting throughout the day and interrupting attempts at sleep. The consequence of relentless obsessive thinking is total exhaustion, leading to the subsequent condition of enveloping fogginess, which includes symptoms such as difficulty concentrating or loss of motor skills (Beck, 1993).

The second phase of the theory, termed "Dying of Self," arises from the initial stage. Within this stage, three involuntary consequences unfold: alarming unrealness, isolating oneself,

and contemplating and attempting self-destruction (Beck, 1993). Mothers undergoing this stage feel as though they have entirely lost their sense of identity, going through the motions of daily life while feeling emotionally absent. Their partner may describe this phase as no longer knowing who their partner is. The consequence of isolation leads mothers to lose interest in activities they once enjoyed, feeling utterly alone as they believe no one truly understands their struggle (Marsh, 2013). They may develop a fear of leaving home and doubt their abilities as mothers, distancing themselves from their babies in the process. The final consequence, contemplating or attempting self-harm, arises from feelings of guilt and failure as mothers and partners, which can manifest as fantasizing about death, self-harm, or even thoughts of harming their baby (Beck, 1993).

Stage three, labeled "Struggling to Survive," emerges as women seek strategies to cope with the consequences of stage two, as it feels impossible to survive otherwise. During this stage, women utilize three strategies, including battling the system, praying for relief, and seeking solace in a PPD support group. The strategy known as battling the system was named because it is when women decide to seek professional help; however, they experience disappointment, frustration, humiliation, and anger due to the lack of assistance received from family, friends, and even healthcare professionals. Instead, many women turn to prayer or seek solace in support groups, finding hope in the possibility of regaining control over their lives (Beck, 1993).

The final stage of Beck's substantive theory is called "Regaining Control." This phase lasts longer and encompasses three key consequences: unpredictable transitioning, mourning lost time, and guarded recovery. Unpredictable transitioning is labeled as such because, during the gradual process of recovery, women may encounter both good and bad days, with variations in intensity and duration (Marsh, 2013). However, as time progresses, the prevalence of good days

tends to outweigh the bad ones, leading to a more positive life. Mourning lost time entails mothers grieving over the time they have missed with their infants, recognizing that these moments cannot be recaptured. Guarded recovery signifies the phase where mothers and others start to notice the return of their former selves as the symptoms of PPD gradually diminish. However, the woman recognizes that the experience has left a lasting impact and may fear the possibility of symptom recurrence at any moment (Beck, 1993). Ultimately, it is evident that Cheryl Beck and her theory have a detailed and thorough understanding of this unique population and complex condition.

Cheryl Tatano Beck's theory on PPD is rooted in her educational background and personal life experiences, which holds relevance for DNP project students. Beck completed an analysis of maternal-newborn nursing literature, concluding that research designs needed to be more reliable and valid for instruments used in maternal-child nursing research. Furthermore, Beck identified the gap in her initial study around PPD with discharge of the mother and baby from the hospital and postpartum follow-up care not given equal priority to perinatal care and hospital care (Lasiuk & Ferguson, 2005). Research in this area is challenging to predict trajectory, as social factors, past medical history, and family history impact each mother differently. Nevertheless, Beck maintains that research in this field, particularly when conducted collaboratively with individuals possessing methodological expertise on the subject, can yield valuable insights and knowledge. Thus, research should be guided by previous systematic research, making knowledge cumulative in this specific area of healthcare.

Numerous gaps have been identified in the literature, as evidenced by the ongoing research within the DNP project. However, Beck recognizes the intricate and multifaceted nature of women's health, especially during the postpartum period. In her work, Beck highlights that the

DSM-5 criteria for PPD fails to adequately capture women's experiences and instead contributes to further stigma surrounding their condition. By delving deeper into her investigations and engaging directly with mothers, Beck revealed that women exhibit diverse presentations of PPD, with individualized experiences that a single set of criteria cannot capture. Healthcare professionals must appreciate the uniqueness of each individual, and Beck's theory aligns perfectly with this understanding. Given Beck's background in women's healthcare, particularly in PPD, and the comprehensive framework and scope of her theory, the DNP project team opted to utilize this theory as the cornerstone of their evidence-based practice change endeavors. The DNP project team aims to gather meaningful data through collaboration with experts in the field, including the Essentia Mid Dakota Women's Center and the CHI St. Alexius labor and delivery floor.

Further, Beck also incorporates the view of a woman as a whole being, or person-health-environment-nursing complex, distinguishing the importance of holistic care in congruence with nursing care (Lasiuk & Ferguson, 2005). When selecting a theory to guide the DNP project further, it was essential to choose one that aligns with the mission and values established by the University of Mary. Beck's perspective and theory regarding postpartum women highlight the genuine significance of Benedictine values such as service, hospitality, community, respect for persons, and prayer. Additionally, the mission of the Saint Gianna School of Health Sciences is to honor and defend the dignity of the human person, a crucial aspect often overlooked in vulnerable populations such as mothers and children affected by PPD.

Overall, with the established expertise in women's healthcare at Essentia Mid Dakota Women's Clinic and the availability of quality resources like Healthy Beginnings, this DNP project has identified a gap between research and practice. The opportunity to impart practical

knowledge to enhance the discipline and address women's vulnerability to PPD and its diagnosis aligns seamlessly with Beck's theory and the organization where the DNP project will be implemented. Beck's theory effectively addresses this project's needs, enabling providers to comprehend the reasons behind PPD and empathetically understand the individual experiences of those affected (Marsh, 2013). Understanding the emotional and physical aspects of postpartum feelings allows for specific intervention and assistance in preventing and treating PPD.

**Theory Evaluation**

Theory evaluation involves breaking down the elements of a theory and assessing them based on predetermined criteria. This process is crucial to ensure a valid and reliable theory is selected for the intended research. Furthermore, it helps thoroughly comprehend the theory and its potential contributions to research and practice (Peterson & Bredow, 2020). To thoroughly comprehend Cheryl Beck's Substantive Theory of Postpartum Depression and ensure its relevance to the current DNP project, the students evaluated the theory comprehensively. This evaluation further examined its operationalization, application, performance, relationship to other theories, congruence with the research problem, and available tools associated with the theory.

**Theory Operationalization**

Cheryl Beck’s Theory of PPD is operationalized based on the fact that it is a middle-range theory that is narrow in scope, making it more applicable to research and evidence-based practice. The goal of this theory was to identify the specific social psychological problems in PPD and the social psychological process used to resolve this cardinal problem (Beck, 1993). Beck (1993) operationalized the idea that researchers investigated biological variables. However, a gap still existed between the findings of using a traditional assessment and the intake of depressive symptoms being normal changes and stresses of childbearing. Beck's (1993)

collection of data revealed that a loss of control was a basic social psychological problem among postpartum women. Postpartum women with PPD were found to cope with this problem through a four-stage process deemed by Beck as teetering on the edge. These stages include encountering terror, dying of self, struggling to survive, and regaining control. The operationalization revealed the phenomenology and symbolic interactionism to deliver the lived experience of PPD clustering the phenomenological cluster findings that delivered a grounded theory of loss of control. The completeness of the theory came into the big picture, with the substantive theory explaining the basic social process on a more abstract level, using the four-stage process (Beck, 1993). This theory's operations are based on human lived experience in relation to PPD (Marsh, 2013). Beck's theory is now a relevant tool for healthcare professionals working in women's healthcare to strengthen care for pregnant and postpartum patients.

**Theory Application**

A thorough literature review was conducted to identify research areas where Beck's theory of PPD was utilized and implemented. This review revealed a significant disparity between the application of Beck's PPD theory and its integration into medical care. Unfortunately, the authors were only able to identify eight articles that referenced or contained Cheryl Beck's Theory of PPD since it was first formulated in 1993. Marsh (2013) highlights this significant gap in use when specifically evaluating PPD and nursing education, with Marsh's search failing to reveal a single result in Beck's theory and nursing research. The available research primarily centers on Cheryl Beck's own investigations, which encompass various aspects such as posttraumatic stress disorder, its impact on women, families, and children, PPD specifically in rural women, and the repercussions of PPD on the cognitive and emotional development of the child.

However, the literature research, although inconsistent with Beck's findings, did reveal some correlation between the training of maternal-child nurses and their ability to detect early warning signs of PPD prior to being released from the hospital (Marsh, 2013). The scarcity of research, as highlighted by Marsh (2013), still remains overwhelmingly inadequate. Opportunities persist, and the DNP project team is seizing one by advocating for the practical application of Beck's theory of PPD in both perinatal and postnatal patients, regardless of whether they have experienced PPD. Cheryl Beck remains committed to advancing research using her theory. For example, her latest extension of this theory focuses on immigrant and refugee women. Research literature consistently identifies this demographic as underserved in the postpartum context. Additionally, two categories were added to the third stage of her theory, including barriers to support sources and battling self and culture (Beck, 2023). This extension underscores the significance of this theory in practical application and its evolution to address the significant gaps identified in research regarding postpartum care.

**Theory Performance**

Theory performance can be correlated to reality convergence and how well the theory builds on the premise from which it is derived from, relating back to the reality of what it is trying to support (Peterson & Bredow, 2020). Beck's (1993) paradigm compares phenomenological study and grounded theory to develop a multifaceted approach while interrelating the holistic outlook throughout the framework. From the data derived from her phenomenological study, the yielding 11 themes embody the codes for the grounded study, revealing the transferability, dependability, and congruence between the studies. Elements of the theory are strongly supported by this high degree of internal consistency and congruence (Lasiuk & Ferguson, 2005). Furthermore, when analyzing those in the study, they were considered

experts of their own experience or almost patient-centered decision makers, emphasizing the importance of patient-centered care. The major concepts included in Beck's theory, including loss of control, encountering terror, dying of self, struggling to survive, and regaining control, are considered moderately abstract while still being of narrow scope (Lasiuk & Ferguson, 2005). The concepts identified in Beck's theory aid in the performance of developing a Postpartum Depression Predictor Inventory tool, along with further collaboration to develop a Postpartum Screening Scale (35-item Likert-type, self-report instrument). This theory, these tools, and the framework of holistic care all incorporate the value of nursing for this postpartum population.

**Theory Relationship**

Approximately 13-20% of new mothers experience PPD, yet a significant number of cases go undiagnosed due to various factors such as missed opportunities, screening gaps, sociodemographic influences, insufficient perinatal education, or misdiagnosis as postpartum blues, affecting 70-80% of postpartum women (Manso-Cordoba et al., 2020). The literature review highlighted notable deficiencies in PPD education, diagnosis, and treatment. Beck (1993) also acknowledges the existing gaps in PPD care, noting that most studies conducted to advance care have been quantitative rather than qualitative. Beck conducted qualitative research by directly interviewing mothers and subsequently developed stages to enhance the understanding of mothers' experiences among family, friends, and healthcare professionals. These stages demonstrate relevance to the challenges identified in further research, such as inadequate maternal education, stigma, and healthcare providers overlooking mothers who do not meet strict diagnostic criteria.

Beck's research has contributed to emphasizing that PPD is highly individualized and cannot be confined to specific diagnostic criteria, as often observed in quantitative studies.

Additionally, Beck (1993) emphasizes the importance of personalized care during this vulnerable period and recognizes that each mother's journey is unique and necessitates individualized support. Cheryl Beck's Substantive Theory of Postpartum Depression demonstrates the significance for all healthcare professionals working with this population, including advanced practice nurses, childbirth educators, or staff nurses, to recognize, assess, and possibly reassess risk factors and stages of PPD among perinatal and postnatal patients. By recognizing these factors, providers can intervene and aid in the prevention and treatment of PPD. Through further research and education, individuals experiencing PPD may realize that it is not something to be ashamed of, potentially diminishing the stigma associated with PPD in contemporary society (Marsh, 2013).

**Theory Congruence**

Cheryl Beck's Theory of Postpartum Depression aligns well with the scope of the DNP project and addresses many of the deficiencies observed in postpartum care for women. Further, it can be applied from the onset of pregnancy through the postpartum period. Beck's theory provides a specific framework aimed at describing the lived experiences of postpartum PPD and offers effective strategies to assist those dealing with PPD (Marsh, 2013). A major theme identified in the literature review was the lack of education, stigma, and feelings of failure experienced by mothers, stemming from a fundamental lack of understanding among mothers, their families, friends, and healthcare providers. Beck's theory enables patients to gain a clearer understanding of the emotions associated with PPD and allows healthcare professionals to assess and implement interventions as necessary. Ultimately, this theory is a valuable tool in the care of perinatal and postnatal patients, regardless of whether PPD is experienced or not (Marsh, 2013).

Moreover, while PPD carries stigma, it is crucial to recognize that all women who become mothers undergo a significant physical and emotional journey that merits acknowledgment and support. Although each mother's journey may differ, they all deserve to feel supported. Ultimately, Beck's theory on PPD aligns with the identified issues in postpartum maternal mental healthcare, emphasizing the need for education to comprehensively understand the significant transition that mothers undergo and normalize it, making it easier for women to recognize, seek help if necessary, and cope (Marsh, 2013). Finally, its congruence with the problems identified in literature and practice makes it suitable for serving as a guiding framework for structuring further investigation within this DNP project.

**Theory Tools**

The validation of Beck's (1993) research is apparent through her continuing work to update and alter the theory to meet the needs of the postpartum population. She has since gone on to develop a Postpartum Depression Predictors Inventory (PDPI), a tool used to identify women at risk for developing PPD, which was revised in 2001. The guided questions within the tool are designed to aid the provider in an interview-type assessment, allowing the patient to discuss her experiences and problems she may be experiencing, all within the context of what these questions might prompt her to bring up with the clinician. It was not devised as a scoring tool but rather a tool to rate women as "high risk"; instead, it was a screening instrument to facilitate a comprehensive conversation between the provider and the patient (Beck, 2002).

Furthermore, Beck collaborated with Gable (2001) to develop a Postpartum Screening Scale (PDSS), which addressed the need for a self-reporting instrument identified in the literature. The study concluded by Beck and Gable (2001) provided meaningful interpretations of scores, with internal reliability ranging from 0.83 to 0.94 (Lasiuk & Ferguson, 2005). This tool

was further evaluated against the Edinburgh Postnatal Depression scale and Beck Depression Inventory-II, demonstrating that the PDSS had the highest combination of sensitivity and specificity among the three instruments. Therefore, this research holds significance for clinical practice, particularly for identifying the most severely depressed mothers. Clinicians must be aware of the varying sensitivities of depression assessment tools for the benefit of this vulnerable population (Beck & Gable, 2001).

In addition to the tools utilized in this theory, it is crucial for clinicians to consider and identify genetic makeup, hormonal and reproductive makeup, and life stressors, as these all place women at an increased risk for PPD (Lasiuk & Ferguson, 2005). Identifying these risk factors, or characteristics, allows for improved identification and implementation of interventions on a patient-by-patient basis. Beck (2002) reveals that women with identified risk factors should be referred for a telephone and home visit if possible (within the first six weeks of delivery). They should not wait until later, as ACOG would recommend.

**Conclusion**

In the past 15 years, PPD has been extensively studied, leading to the establishment of evidence-based practices such as universal screening during the first and third trimesters and regular follow-up in the postpartum period. While screening tools like the EPDS and PHQ-9 have improved treatment outcomes, gaps persist. Providers often overestimate the prevalence of screening tools, stigmas surrounding mental health prevail, and well-designed perinatal education classes are lacking. Additionally, certain ethnic groups face higher diagnosis rates but encounter hindered treatment due to limited resources and provider training. Failure to adequately treat PPD may result in impaired mother-infant bonding and physical harm to both mother and infant. Through a comprehensive literature review, these gaps and challenges were

identified, leading to recommendations for improving prevention, diagnosis, and treatment. These include enhancing perinatal education, destigmatizing mental health through provider education, integrating telehealth interventions, and conducting thorough assessments alongside screening tools. As the perinatal and postpartum periods pose unique challenges for women, addressing these recommendations is vital for influencing future practice and enhancing care for women and their families.

Moreover, theoretical frameworks play a crucial role in guiding evidence-based projects, with the selection of an appropriate theory being essential to establishing the project's foundation. Cheryl Beck's Theory of Postpartum Depression aligns well with the scope of the DNP project, emphasizing personalized care, support, and education. To address the persistent gaps in PPD literature and practice, careful execution of each stage of the DNP project, including theory selection and implementation, is essential. A foundation has been set by aligning literature and theories, like Beck's, to progress toward enhancing care for mothers and families.

## Chapter III: Project Recommendations, Determinants of Change, Change Theory, Implementation Planning, and Evaluation Planning

Postpartum care often falls short due to various factors, including insufficient provider education and follow-up, societal stigma surrounding motherhood, and numerous socioeconomic obstacles. Postpartum depression (PPD) is specifically problematic due to its profound impact on maternal mental health, hindering the mother's ability to bond with her newborn, disrupting family dynamics, and increasing the risk of self-harm or harm to the infant (Manso-Cordoba et al., 2020). Therefore, a DNP project concentrating on improving postpartum care, particularly in addressing PPD, has been formulated. After identifying PPD care as a crucial topic and developing a PICO question through thorough literature review and analysis, the subsequent

phase involves evidence-based recommendations to guide the course of action for project implementation and evaluation.

The DNP Project comprises three key stages: planning, implementation, and evaluation. The planning phase involves not only formulating evidence-based recommendations, but also developing a plan for implementation and evaluation of the project. During implementation planning, the focus is assigning tasks to project participants and establishing a timeline for effectively executing interventions. Evaluation planning focuses on determining how project recommendations will be measured and identifying necessary outcome measures (Wensing et al., 2020). Identifying project recommendations, selecting a change theory to inform the project's implementation strategy, and establishing an effective implementation and evaluation plan are essential for the overarching success of a DNP project. Ultimately, the combination of organizational culture emphasizing innovation and adaptability is instrumental in driving the success of the implementation plan (Wensing et al., 2020). At Essentia Mid Dakota Women's Clinic, this culture aligns seamlessly with the project's aim of creating a consistent process that ensures that all women and health professionals are knowledgeable about PPD and that patients receive consistent, thorough, and timely care.

**Project Recommendations**

Utilizing SMART (specific, measurable, achievable, realistic, timely) goals to define project recommendations precisely is essential for mapping out project steps effectively, ensuring the achievement of long-term project objectives, and setting the groundwork for future action (Moran et al., 2024). Each recommendation outlined below stems from a thorough review of existing literature and insights gathered from subject matter experts during stakeholder meetings. These recommendations are presented in SMART goal format followed by further

evidence-based discussion. The recommendations outlined aim to facilitate a system change within Essentia Health Mid Dakota Women's Center in Bismarck, North Dakota.

**Recommendation One**

The initial recommendation is to collaborate with the coordinator of the Healthy Beginnings program to comprehensively understand the program, enabling its utilization for educating healthcare staff, subsequently empowering them to educate pregnant and postpartum mothers effectively. The SMART goal is outlined as follows: By the end of the next academic semester, DNP students will collaborate with the coordinator of the Healthy Beginnings program to comprehensively understand its components, goals, and methodologies, resulting in the development of an educational plan. Success will be measured by the DNP students demonstrating effective teach-back of significant information to the program's coordinator and other subject matter experts, indicating comprehensive understanding and readiness to apply the knowledge gained to the educational program.

Acquiring a comprehensive understanding of the Healthy Beginnings program is essential not only for the DNP student's education but also for the program's development. As Sidebottom et al. (2021) point out, the biggest problems with clinical guideline changes and integration of a change within the standard of care are the barriers of limited resources, organizational restructuring, and staff turnover. With this project, the DNP students have time to be well-versed in the Healthy Beginnings program, with the aid of the coordinator. This collaboration will provide the prevalent information necessary for stakeholder buy-in of the program, benefiting both the students and the program. The project focuses explicitly on the relevance of the delivery strategies of where, how, and when healthcare education is provided, as well as the individuals

responsible for providing healthcare and support, care coordination, and interventions tailored to healthcare professionals working with postpartum individuals (Saldanha et al., 2023).

**Recommendation Two**

The second recommendation is to share the developed educational initiative with healthcare professionals in the project setting to enhance identification and care of postpartum depression throughout the perinatal to postpartum period with a focus on ensuring postpartum follow-up within 3 weeks postpartum per ACOG guidelines. The initiative will cover the Healthy Beginnings program, ACOG's postpartum guidelines, and Cheryl Beck's Substantive Theory of Postpartum Depression, fostering holistic perinatal and postpartum care. The SMART goal is described as follows: By the start of the next academic semester, DNP students will implement an educational initiative to enhance healthcare professionals' identification and care of postpartum depression in the project setting. Effectiveness will be measured through surveys assessing changes in provider knowledge and practices, alongside tracking postpartum follow-up rates.

The current deficiencies in perinatal and postpartum care often stem from inadequate education among healthcare professionals and patients alike, resulting in adverse outcomes. Saldanha et al. (2023) underscore the challenges within multidisciplinary care teams, emphasizing the need for a cohesive framework that integrates educational initiatives such as Healthy Beginnings and adheres to ACOG guidelines. This integration is essential for enhancing provider competency and patient empowerment, thereby improving overall maternal health outcomes (Modest et al., 2022).

The Healthy Beginnings program stands out as a vital resource for women navigating the perinatal and postpartum phases, offering comprehensive support tailored to their specific needs.

According to ACOG guidelines, it is crucial for women to have more frequent appointments during the postpartum period, more specifically within the first 3 weeks postpartum and another within the first 12 weeks. This is a practice aligned with the Healthy Beginnings program's approach. This structured support not only ensures adherence to medical recommendations but also enhances the early detection of complications, including signs of postpartum depression (Bašková et al., 2023).

Beck's substantive theory of postpartum depression provides a theoretical foundation that addresses the stigma surrounding mental health in the postpartum period (Beck, 1993). By incorporating lived experiences into personalized screening tools, healthcare providers can better assess and support this vulnerable population, reinforcing the holistic approach advocated by Healthy Beginnings. The integration of Healthy Beginnings with evidence-based guidelines and theoretical frameworks like Beck's theory not only addresses current gaps in perinatal and postpartum care but also promotes a more supportive and informed healthcare environment for women. This holistic approach ensures that women receive the necessary support and monitoring during critical phases of their maternal journey, leading to improved health outcomes and enhanced overall well-being.

**Recommendation Three**

The third recommendation is to share the developed educational initiative with postpartum floor nurses in the project setting to enhance identification and care of postpartum depression throughout the perinatal to postpartum period. The initiative will cover the Healthy Beginnings program, ACOG's postpartum guidelines, and Cheryl Beck's Substantive Theory of Postpartum Depression, fostering holistic perinatal and postpartum care. The SMART goal is described as follows: By the start of the next academic semester, DNP students will implement

an educational initiative to enhance postpartum floor nurses' identification and care of postpartum depression in the project setting. Effectiveness will be measured through surveys assessing changes in nurse knowledge and practices.

Bašková et al. (2023) demonstrate that with adequate support during childbirth and the postpartum phase, including education, emotional support, and physical assistance, there is a statistically significant decrease in postpartum depressive symptoms. The mother's sense of security during hospital admission and childbirth plays a vital role in her mental well-being and subsequently influences the infant's well-being following birth. Saldanha et al. (2023) maintain that providing patients with information about their first postpartum appointment while still in the hospital increases the likelihood of attending both the first appointment within the first three weeks and the second appointment within the first seven weeks postpartum. Combining this evidence with the support provided by the Healthy Beginnings program for postpartum women, registered nurses have a unique opportunity to educate all women who have recently given birth, regardless of peripartum care.

Postpartum nurses play a critical role in educating postpartum women, thus affecting not only the recovery of the women themselves but also that of their infants. Beck's substantive theory of postpartum depression further supports these findings by emphasizing the importance of emotional support and the early identification of depressive symptoms. By integrating Beck's theory into nursing practices, healthcare professionals can better address the psychological needs of postpartum women, facilitating a more holistic approach to maternal care.

**Determinants of Change**

Clinical guidelines are necessary to improve medical care and aid in a concise summary of research findings, making information transparent, reducing the variation between healthcare

providers, providing accountability in both internal and external demographics, establishing a baseline for teaching and education, involving different disciplines, and bring to light the under-recognized health problems (Wensing et al., 2020). Guidelines revolve on a turning axis of change to optimize patient care, and it is essential within a DNP project to understand the strategy that is most effective in correcting a gap in care while also implementing a method of change in the correct way at the right time, and in the proper settings. The success of the DNP project, which aims to integrate new healthcare innovations, depends on various factors known as determinants of change. These elements can either strengthen or impede the effectiveness of strategies and innovations. They cover a range of aspects, such as the nature of the innovation, the traits of those expected to adopt it, the social environment they operate in, the structure and culture of healthcare organizations, and broader healthcare systems, including professional bodies, financial incentives, and regulations. It is imperative to navigate barriers to change effectively, as they can significantly impact the achievement of desired changes. Effectively overcoming barriers to change requires implementing change methods appropriately, at the right time, and in suitable settings (Wensing et al., 2020).

For the DNP project at hand, it is crucial to take into account a range of determinants of change, encompassing cognitive, motivational, and behavioral aspects, along with patient-related factors, professional interactions, networks, organizational elements like structure and culture, the availability of resources, and societal influences (Wensing et al., 2020). These factors will collectively shape the success and effectiveness of the DNP project implementation. For example, despite the ACOG recommending postpartum screening within three weeks and a comprehensive review within 12 weeks, there remains inconsistency in screening protocol times within the chosen project setting (ACOG, 2021). In this context, a crucial determinant of change

is the interplay of cognitive and behavioral factors, where individual routines and institutional organizational processes can influence the adoption of innovations. These routines often stem from professional training and personality traits. When implementing change, it is imperative to recognize these determinants of change, along with professional interactions and team dynamics, as individuals may perceive the change as personal (Wensing et al., 2020).

Recognizing and addressing organizational barriers is essential, as they shape, enable, and guide individual behaviors. Most healthcare professionals operate within the constraints and opportunities set by their organizations, which are intertwined with factors such as resource availability and power dynamics (Wensing et al., 2020). Healthcare providers often have limited time availability, typically 15 minutes per appointment, to convey extensive information about the perinatal and postpartum periods. Consequently, crucial maternal health programs like Healthy Beginnings are frequently overlooked during these appointments, which underscores a weakness within the organization, stemming from either insufficient time or inadequate education regarding the importance of patient education. Further, the shift to corporate management at Essentia Mid Dakota Women's Health could impact change implementation and may involve enforcing standardized processes, potentially neglecting community-specific resources and personalized patient care. Centralized decision-making might create a disconnect between decision-makers and local needs while focusing on cost-effectiveness could lead to budget constraints in regional areas of need (Cheraghi et al., 2023).

The successful implementation of the DNP project ultimately relies on providing healthcare professionals with education not only to grasp the significance of the maternal health program, Healthy Beginnings, but also to recognize the importance of adhering to current postpartum care guidelines. This education aims to empower healthcare professionals to educate

patients effectively, increasing their confidence in navigating this phase of their lives and seeking help if needed. Changing behaviors, especially when there are existing barriers to standard routine care, can be challenging. Therefore, assessing health care staff's current beliefs, knowledge, preferences, motivations, and behaviors is crucial to determine how best to educate them. Some healthcare professionals may encounter personal barriers to accepting this innovation. In such cases, it is essential to address these barriers directly to facilitate progress toward the next level of implementation among stakeholders (Cheraghi et al., 2023).

One effective method to overcome obstacles and garner stakeholder support is appointing a project champion within the project setting. This individual serves as a liaison between team members, fostering effective communication and understanding from all perspectives to facilitate successful change implementation (Moran et al., 2024). Dr. Rachel Marohl has been selected as the project champion due to her esteemed reputation as an obstetrician and gynecologist within the project setting. Her dedication, leadership, and advocacy are expected to play a pivotal role in ensuring the success of the project and its lasting impact on the organization. A prior organizational assessment has identified Dr. Rachel Marohl's position and passion, indicating that she will be instrumental in facilitating care innovation and leading change for the postpartum population. Overall, considering determinants of change enhances the quality, relevance, and impact of efforts by guiding interventions, optimizing resource allocation, and informing decisions about policy and practice.

**Change Theory**

A theory of change offers a conceptual framework that directs the evaluation process, ensuring that evaluation efforts are aligned with the project's objectives. It clarifies the fundamental reasoning behind the project, facilitating planning, implementation, and assessment.

Change theories encompass both theoretical and empirically-based knowledge about the mechanisms of change, extending beyond individual projects. Grounding projects in change theory enables change agents to utilize existing knowledge and contribute more effectively to a shared understanding of achieving significant change (Reinholz & Andrews, 2020). Overall, selecting the best change theory is crucial as it guarantees alignment with the objectives of the DNP project.

**Lippitt's Phases of Change Theory**

The most relevant change theory for the improvement project is Lippitt's Phases of Change Theory (1958). This theory provides a comprehensive framework for implementing evidence-based recommendations through seven phases: diagnosing the problem, assessing motivation and capacity for change, assessing the change agent's motivation and resources, selecting progressive change objectives, choosing an appropriate role for the change agent, maintaining the change, and finally terminating the helping relationship (Mitchell, 2013). Planned change is intentional and structured, and using this theory helps in formulating an effective plan. By following these phases, the project team can ensure systematic and sustainable improvements in care practices.

Phase one of Lippitt's Phases of Change Theory involves identifying the problem. This was identified through collaboration between the project champion and other stakeholders, highlighting a gap in care for postpartum women, specifically the need to identify PPD. This issue was thoroughly examined in the DNP project's needs assessment. The needs assessment included an in-depth analysis to determine the extent of the problem and its impact on patient outcomes. By involving stakeholders, the project team ensured a comprehensive understanding of the problem and its underlying causes.

Phase two assesses the motivation and capacity for change. The DNP project recognized Dr. Rachel Marohl and Marie Jensen BSN, RN, CLC, TTS, as key motivators within the project environment. According to Mitchell (2013), strong leadership and effective communication between leaders and their teams are essential for successful planned change. Leaders' influence, clarity about task changes, commitment to optimal patient care, confidence in their abilities to facilitate change, the perceived quality and rewards of the change, and positive team behavior all contribute to the project's success (Mitchell, 2013). The project team also evaluated the organization's and staff's readiness to embrace change through discussion with key stakeholders.

Phase three identifies the resources available in the clinic and hospital and evaluates the overall staff motivation for adopting a care pathway after receiving education on the Healthy Beginnings maternal health program. This phase assesses the program's values and the likelihood of the intervention being implemented in both clinic and hospital settings. The assessment included a review of current resources, such as staffing levels, educational materials, and technological support, and staff's willingness to participate in training and adopt new practices. By understanding the existing resources and constraints, the project team could tailor their approach to maximize engagement and minimize resistance.

Phase four involves selecting a progressive change objective, aiming to create a consistent process that ensures all women and health professionals are knowledgeable about PPD and that patients receive consistent, thorough, and timely care. This phase included setting SMART goals to guide the implementation process. The project team also seeks to develop educational materials and training programs for healthcare providers to enhance their understanding and management of PPD

Phase five focuses on choosing an appropriate role for the change agent, which involves implementing a care pathway to achieve the project's aims. Healthcare professionals must be educated on patient care in order to provide patients with resources and regularly check-in with them at recommended intervals. Additionally, hospital staff need to understand the importance of the Healthy Beginnings program during a mother's hospital stay and at discharge. Educating healthcare professionals will increase knowledge and awareness among women and families, reducing the incidence of PPD or enabling earlier detection and timely intervention. The care pathway should ensure consistent scheduling for postpartum women to participate in Healthy Beginnings, providing them with support during this challenging period. Providers must also adhere to ACOG guidelines when scheduling appointments. The project included developing guidelines and protocols for healthcare providers and establishing a way to monitor adherence to the care pathway.

Phase six involves maintaining the change, which is evaluated by the acceptance of clinic and hospital staff and the stabilization of the care pathway's routine use in clinical practice. Surveys will be administered to measure needs and changes to sustain the change among staff and patients. This phase also includes ongoing support and reinforcement for staff, such as regular feedback, refresher training sessions, and recognition of staff who consistently adhere to the new practices. The project will establish a continuous improvement process to monitor outcomes and make necessary adjustments to maintain the change's effectiveness and sustainability.

Finally, phase seven is the termination of the helping relationship, identified in the student's DNP project when the care pathway's implementation is evaluated for continued use after the student's educational services have ended. The care pathway aims to redesign the

system to deliver effective, evidence-based, and personalized care. This phase includes ensuring that the changes are fully integrated into the organization's policies and procedures and that staff can maintain the new practices independently. This ensures that the benefits of the change are sustained over the long term and that the organization continues to deliver high-quality care to postpartum women.

**Implementation Planning**

Successful implementation of innovations in patient care necessitates thorough preparation and planning (Wensing et al., 2020). Achieving successful implementation involves creating a realistic timeline that integrates seamlessly into the target group's established work routines. Implementation strategies and interventions are derived from evidence-based recommendations and analysis of encountered problems; therefore, careful preparation is essential throughout the process. While the plan should be specific, it should also allow for flexibility and adjustment based on experiences gained during implementation (Wensing et al., 2020). Before beginning the implementation process, thorough planning is essential, including planning project tasks and personnel, identifying milestones and critical events, outlining work breakdown, and establishing the project budget.

**Project Tasks and Personnel**

For the successful planning of this project, it is imperative to provide a clear overview of project tasks and subtasks essential for its implementation, along with identifying the personnel involved. The professionals collaborating in this DNP project comprise DNP students, including Tori Weinand, RN, BSN, DNP-S; Megan Macke, RN, BSN, DNP-S; and Shelby Tschakert, RN, BSN, DNP-S. The project champion is Dr. Rachel Marohl, an obstetrician and gynecologist at Bismarck's Essentia Health Mid Dakota Women's Center. Other key individuals include

registered nurse Marie Jensen, RN, BSN, CLC, TTS, the maternal health program coordinator, and other providers at Bismarck's Essentia Health Mid Dakota Women's Center, as well as the staff at CHI St. Alexius Hospital. The University of Mary nursing faculty involved in the project include Dr. Brittany Kudrna, a family nurse practitioner, and Dr. Deborah Cave DNP, RN, CNE. It is also worth noting that several foundational components of the project have already been completed prior to this stage, as they lay the groundwork for the rest of the implementation plan. These components include the literature review and synthesis, problem establishment, formulation of the PICO question, organizational needs assessment, academic stakeholder meetings, and development of the theoretical framework.

A comprehensive breakdown of each individual recommendation is essential for a thorough understanding and effective development of the next stages of the implementation plan. Regarding recommendation one, students will meet with the Healthy Beginnings coordinator to gain insights into the program, a crucial step in developing a comprehensive education program for providers at Essentia Mid Dakota Women's Center and relevant nurses at CHI St. Alexius Health. Building on this knowledge, students will design an educational program tailored for a lunch and learning session for providers at Essentia Health, as well as in-service education sessions for postpartum floor nurses. These sessions, limited to one hour, will highlight key aspects of the Healthy Beginnings program, stress important components from Beck's theory on postpartum depression, and present current ACOG guidelines for follow-up care.

Furthermore, students will create educational materials to disseminate to healthcare staff, ensuring a lasting understanding of the program's significance. They will also ensure that providers receive updates on existing education materials regarding the Healthy Beginnings program and its value in patient care, making any necessary revisions to reflect the latest

information. By adhering to these steps, the implementation plan aims to successfully educate providers and nursing staff about the Healthy Beginnings program, emphasizing its crucial role in patient care and adherence to ACOG guidelines.

The second recommendation expands on the first recommendation by implementing the established education program designed for healthcare professionals at the clinic. Implementing the educational session involves conducting a lunch and learning session within the project setting to educate providers about the Healthy Beginnings program, Beck's theory on postpartum depression, and the latest postpartum guidelines outlined by ACOG. Planning the lunch and learn session will involve collaboration with the organization to ensure compliance with established policies and protocols. Additionally, coordination with the DNP project team will be essential to select a suitable date and time, reserve a venue, arrange catering, and publicize the event to maximize attendance rates. The process will require careful communication and coordination to address all logistical aspects effectively and efficiently.

The educational session aims to facilitate more stakeholder buy-in, address any questions or concerns related to the topic, equip providers with existing educational materials to share with patients, and emphasize the importance of patient-centered care. Providers and nurses will be encouraged to provide patients with resources and education during their visits, and they will be provided with contact information for follow-up concerns. Attendance during the session will be monitored, as high attendance rates facilitate comprehensive implementation, ensuring the validity and accuracy of the data collected during the evaluation. Additionally, the session will conclude with a post-training survey to evaluate stakeholder buy-in and understanding of the information presented.

The third recommendation focuses on conducting established education sessions regarding the significance of the Healthy Beginnings program, ACOG guidelines, and Beck's theory on postpartum depression for postpartum floor nurses where patients enrolled in Essentia's Healthy Beginnings program deliver their babies. The goal is to ensure that these women receive appropriate discharge education and understand the importance of Healthy Beginnings during the postpartum phase. This educational sessions will be held through an in-service. The DNP students will need to collaborate with the nurse manager of the floor to determine the best date, time, and attendance strategy for the session. The education provided during these sessions will be a tailored version of the program, designed to accommodate floor nurses' specific role in assisting postpartum women. The educational sessions aim to increase stakeholder buy-in, address any questions or concerns, provide staff with existing educational materials for patient sharing, and highlight the importance of patient-centered care. Attendance will be recorded, and nurses will complete a brief post-training survey to gauge their understanding and buy-in regarding the information presented.

Throughout the project, students will be pivotal in creating, planning, assessing, and evaluating various aspects. Dr. Rachel Marohl and Marie Jensen, RN, BSN, CLC, TTS, will continuously act as champions to foster stakeholder buy-in. Meanwhile, nursing faculty Dr. Brittany Kudrna and Dr. Deborah Cave will provide oversight and offer essential feedback crucial for the project's success. During implementation, data will be compiled for evaluation at the project's conclusion to determine lessons learned and assess potential successes or areas for improvement. Furthermore, information collected before, during, and after implementation will be disseminated and shared with project stakeholders to ensure transparency and keep stakeholders informed and engaged throughout and after the process.

**Milestones, Critical Events, and Work Breakdown**

It is crucial to provide detailed explanations of project tasks and subtasks, specifying the individuals responsible for each task and their roles in accomplishing them to ensure thorough planning and execution of the project. Identifying major milestones and critical events, including the creation and execution of educational sessions, is crucial for ensuring the project's successful completion and developing a data collection plan template. In order to facilitate this process, the implementation plan can be structured within a work breakdown sheet, which is a way to organize tasks efficiently to clarify responsibilities, ensure collaboration, and set realistic timelines.

**Table 3: Implementation plan**

| Task name | Start date | Finish date | Individual(s) responsible |
|---|---|---|---|
| 1. PLANNING | January 1, 2024 | April 11, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1a. Project proposal | January 1, 2024 | January 9, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1b. Literature review and synthesis | January 9, 2024 | February 4, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1c. Problem establishment | February 4, 2024 | February 18, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1d. Development of PICO question | February 4, 2024 | February 18, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1e. Organizational needs assessment | February 18, 2024 | March 3, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1f. Development of the theoretical framework | March 3, 2024 | March 17, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |

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| 1g. Identification of project recommendations | March 17, 2024 | April 7, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1h. Academic stakeholder meetings | January 28, 2024 | April 11, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1i. DNP project proposal presentation | June 2024 | July 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1j. Application to University of Mary IRB board approval | July 2024 | August 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 1k. Presentation to Essentia Mid Dakota Women's Clinic leadership | July 2024 | August 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 2. IMPLEMENTATION | September 1, 2024 | December 23, 2024 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 2a. Meet with Marie Jensen, RN, BSN, CLC, TTS, and establish an educational program. | September 1, 2024 | October 1, 2024 | Tori Weinand, Megan Macke, Shelby Tschakert, and Marie Jensen |
| 2b. Lunch & learn presentation at Essentia Mid Dakota Women's Center in Bismarck | November 14, 2024 | November 14, 2024 | Tori Weinand, Megan Macke, Shelby Tschakert, Marie Jensen, Rachel Marohl, and Essentia Health providers |
| 2c. In-service education at CHI St. Alexius on the postpartum floor | November 14, 2024 | December 14, 2024 | Tori Weinand, Megan Macke, Shelby Tschakert, Marie Jensen, Rachel Marohl, and CHI St. Alexius postpartum floor staff |
| 2d. CHI. St. Alexius staff training on consistent scheduling & implementation of care pathway | November 14, 2024 | December 14, 2024 | Tori Weinand, Megan Macke, Shelby Tschakert, Marie Jensen, Rachel Marohl, Essentia |

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| | | | Health providers, and CHI St. Alexius postpartum floor staff |
| 3. EVALUATION | January 1, 2025 | April 25, 2025 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 3a. Dissemination and evaluation of results | March 1, 2025 | April 1, 2025 | Tori Weinand, Megan Macke, and Shelby Tschakert |
| 3b. Presentation and University of Mary's scholarship day | January 1, 2025 | April 25, 2025 | Tori Weinand, Megan Macke, and Shelby Tschakert |

**Budget**

A budget is critical to effective financial management, resource allocation, cost control, and stakeholder accountability in a DNP project. To adequately plan and prepare for the implementation of the DNP project, the budget analyzed should include coordination, auxiliary staff, computers, instruments, and materials necessary, and consideration of salaries of clinic staff and hospital staff (Wensing et al., 2020). First, for a DNP project to be successful, it is necessary to understand an organization's mission to ensure that mission-driven considerations are integrated into the budgeting process. Essentia Health Mid Dakota Women's Center's mission statement is "We are called to make a healthy difference in people's lives," highlighting the values of quality, hospitality, respect, joy, justice, stewardship, and teamwork (Essentia Health, n.d.). Further, CHI St. Alexius Health is "committed to creating healthier communities by strengthening the quality of life, health, and well-being of the residents we serve" (CHI. St. Alexius Health, 2019). Essentia and St. Alexius's mission statements align with the DNP project purpose and recognizes the significance of a collaborative team, including physicians, nurses, patients, and families in this setting. Collaboration is essential for driving innovation and effecting systemic change to enhance quality and safety for the peripartum and postpartum

population. Furthermore, there is a recognized need to serve the broader community as part of this endeavor. Belief statements also play a key role in what defines the context of change in the project setting, including the value of integrated health care services, a meaningful presence in the community, and most importantly, the combination of soul and science of healing with a focus on continuous improvement to meet the highest quality of healthcare (Essentia Health, n.d.). The innovative change of this proposal meets the concrete foundation of the mission, values, and belief statements of Essentia Health Mid Dakota Women's Center and CHI St. Alexius while also showing just how relevant this change is in this project setting.

The DNP project aims to address the disparity of postpartum mental health care by integrating existing resources, such as Healthy Beginnings, into provider and nurse education concerning its significance throughout a mother's pregnancy and postpartum journey. Additionally, adherence to ACOG's recommended postpartum visit timelines is emphasized. It is noteworthy that the establishment of Healthy Beginnings and its associated educational materials are already in place and are not accounted for in the budget. Since the project focuses on education, the essential supplies include the DNP students' computers and evidence-based research findings, which are crucial for supporting the successful implementation of changes in healthcare practice. These expenses have been accounted for, as the students already possess these resources.

Direct expenses for this project include paper, ink, and lamination supplies to provide high-quality education and reinforce learning. Printed resources will include educational handouts, and a well-developed pathway posted in the clinic and the hospital. The training will differ slightly in terms of the specific staff learning needs.  A paper survey will be provided for easy accessibility and ease in future analysis. Additionally, the students must ensure that

appropriate tools are accessible at the facilities, such as a compatible computer and projector screen for conducting the educational in-service. The projector is essential for delivering educational content to small and large groups through a straightforward PowerPoint presentation incorporating free interactive activities.

Offering clear and concise protocols can enhance overall learning outcomes. Ensuring specific instructions and confirming patient comprehension of the education presented are vital steps in closing the care gap targeted by this project. Another direct cost associated with the provider educational session includes a lunch for the employees to make their volunteer time valued and worthwhile. For the postpartum nurses, food will also be provided for the staff in accordance with the scheduled time. Hosting a “lunch and learn” or providing snacks serves as a platform to incentivize people to use their own time to improve the system in which they work. Estimated cost will be between $300-$400. The idea is to provide an alternative to classroom-based learning, with the DNP student’s hope to foster a culture of learning and knowledge sharing around the resources available to the patients that both providers and nurses are caring for. Creating a conducive learning atmosphere also fosters an environment that makes people comfortable reaching out with concerns or questions about the changes in practice being introduced.

Indirect expenses involve various stakeholders' support and time contributions, including healthcare providers, the project champion, the Healthy Beginnings coordinator, clinic and hospital staff, and the IT department. It is also pertinent to account for the compensation of the healthcare professionals involved in the educational sessions including providers and postpartum nurses. The project champion and clinic staff allocated time to prepare materials and participate in educational sessions alongside providers at the clinic and postpartum nurses at the hospital

who volunteered their time for these sessions. The involvement of Marie Jensen, RN, BSN, CLC, TTS, in stakeholder meetings and providing detailed information about Healthy Beginnings to DNP students also demanded additional time (estimated: 4 hours). Anticipated travel expenses are expected for two out of three DNP students who will deliver educational content. No further travel expenses were observed for the rest of the project team or other staff, as most stakeholder meetings took place over Microsoft Teams, and educational sessions will be conducted in person. Despite these indirect costs primarily consisting of staff time, given the workplaces' mission and collaborative spirit in promoting ongoing learning, the short-term time investment is considered valuable for the long-term benefits of improved care provision. Ultimately, a well-structured and meaningful budget that encompasses coordination, staff, and necessary equipment is essential for the success of a DNP project.

**Evaluation Planning**

After reviewing the alignment between project designs and methodologies, it is important to highlight that this DNP blueprint is centered on program improvement. With this type of project, evaluation assesses the intervention's effectiveness and aims to enhance the system's quality through continuous improvement efforts. In the evaluation process, it is essential to analyze how well the intervention works, the extent of its design, and whether the intervention is accessible and acceptable to its target population. Establishing evaluation methods ensures a project's success, accountability, and continuous improvement (Moran et al., 2024).

Understanding the project aim and clinical question is critical to understanding outcome measures. The clinical question aims to determine if among healthcare professionals who provide care for pregnant and postpartum patients at a small Midwest women’s clinic, how implementation of a postpartum depression education session impact the knowledge and

practices of the healthcare staff on the topic of maternal mental healthcare compared to current practice. Further, the overarching project aim being the establishment of a consistent process to ensure all women and healthcare professionals are well-informed about PPD, and patients receive consistent, thorough, and timely care. DNP students developed an evaluation plan to measure outcomes, aiming to establish Healthy Beginnings as a reliable support system for postpartum women, aligning with ACOG recommendations for PPD screening timelines.

**Outcome Measures**

The initial recommendation is to collaborate with the coordinator of the Healthy Beginnings program to comprehensively understand the program, enabling its utilization for educating healthcare staff, subsequently empowering them to educate pregnant and postpartum mothers effectively. This recommendation will be measured by the DNP students demonstrating effective teach-back of significant information to the program coordinator and other subject matter experts, indicating comprehensive understanding and readiness to apply the knowledge gained to the educational program. Immediate feedback sessions following these teach-backs will help identify any gaps in understanding and inform subsequent educational efforts. A pivotal milestone involves the students presenting their finalized educational plans to significant stakeholders, such as the program coordinator and healthcare managers, before proceeding to educate other staff members. Feedback gathered from these presentations will contribute to evaluating the students' readiness and the clarity of their educational approach.

The second recommendation is to share the developed educational initiative with healthcare professionals including providers and nurses in the project setting to enhance identification and care of postpartum depression throughout the perinatal to postpartum period with a focus on ensuring postpartum follow-up within 3 weeks postpartum per ACOG

guidelines. The initiative will cover the Healthy Beginnings program, ACOG's postpartum guidelines, and Cheryl Beck's Substantive Theory of Postpartum Depression, fostering holistic perinatal and postpartum care.

The evaluation consists of two main components. Firstly, online surveys using validated Likert scale tools and qualitative questions will measure changes in healthcare professionals' knowledge and practices regarding postpartum depression identification and management. These surveys will more specifically assess awareness of guidelines, familiarity with theoretical frameworks, and perceived confidence in managing postpartum depression. The project survey can be found in Appendix B. Secondly, the utilization of information technology, specifically the EPIC electronic health records system, will track the proportion of women admitted for labor and delivery who schedule a Healthy Beginnings appointment or a postpartum follow-up within three weeks of discharge and the data will be compared to past records. This numerical data will provide insights into adherence to recommended postpartum care timelines.

The third recommendation is to share the developed educational initiative with postpartum floor nurses in the project setting to enhance identification and care of postpartum depression throughout the perinatal to postpartum period. The initiative will cover the Healthy Beginnings program, ACOG's postpartum guidelines, and Cheryl Beck's Substantive Theory of Postpartum Depression, fostering holistic perinatal and postpartum care. The evaluation plan includes administering online surveys using validated Likert scale tools and qualitative questions to the postpartum care nurses participating in the educational initiative. These surveys aim to assess changes in their knowledge and practices concerning the identification and management of postpartum depression. Specifically, they will gauge awareness of guidelines, familiarity with theoretical frameworks, and perceived confidence in managing postpartum depression before and

after receiving the education. This evaluation approach will provide insights into the effectiveness of the educational initiative in enhancing nurses' abilities to support postpartum mental health within the project setting.

Overall, the providers and nursing staff's receptiveness and understanding of the educational initiative will be measured and analyzed. The definition of measure will be the education uptake following the education in-service. Outcomes will be assessed through a paper survey, measuring knowledge of current practice guidelines and adherence to ACOG timeframe recommendations, attitudes around change, and incorporation of Healthy Beginnings tools available for patient use. The evaluation participants include providers and nurses from Essentia Mid Dakota Women's Clinic and CHI St. Alexius Hospital. Data collection will occur after the educational in-services, with the DNP students gathering outcome data through surveys. Attendance will be monitored throughout the educational sessions as maintaining a high response rate is crucial within a DNP scholarly project to ensure the statistical integrity of the data.

**Outcome Measurement Sources and Collection Process**

Three recommendations were formulated and discussed previously to outline tasks for implementation, with subsequent evaluation. However, additional outcome measurements beyond those outlined by the current recommendations must be considered to assess the project's success to identify future opportunities. The project's aim is to create a consistent process that ensures that all women and health professionals are knowledgeable about PPD and that patients receive consistent, thorough, and timely care. Initiating this project marks just the beginning. In order to sustain and progress, it is imperative to secure stakeholder buy-in regarding the project's significance. The ultimate objective is to enhance stakeholder buy-in through proactive sharing and dissemination of outcomes, as well as leveraging feedback to consistently improve outcomes

for pregnant and postpartum women in the long term. Further progression and enhancement of the Healthy Beginning program could extend to the infant's pediatric healthcare providers, as it aligns with the education and care pathway provided within the initiative.

A sustainable plan is crucial for long-term success, involving the identification of existing gaps post-initiative, maintaining stakeholder engagement, and securing ongoing support to include postpartum depression education in healthcare professionals' annual mandatory training programs. Accessible educational materials will be developed to ensure continued adherence to updated guidelines, and project outcomes will be shared to demonstrate impact and encourage further evaluation. Additionally, stakeholders will be informed about potential areas for expanding on the current project, empowering them to utilize project information for future initiatives if desired.

One outcome of this project that will help in sustainability is to ensure the effective implementation of the Healthy Beginnings program, emphasizing education not only for providers but also for patients, as patients are the ultimate beneficiaries whose outcomes the DNP team seeks to enhance. Therefore, another key outcome is to assess patients' understanding of the program's significance, which could, in the future, be gauged through anonymous post-evaluation surveys throughout the program compared to its initial stages. As providers and nurses grow more confident in using care pathways and delivering patient education, patient understanding is expected to improve, with potential outcomes measurable after 2 months. For future project improvement, patient post-evaluation surveys could include questions assessing the likelihood of continued attendance, reasons for non-attendance or discontinuation, and soliciting feedback for improvement from the participants' perspective. While some drop-off may be expected, gaining a comprehensive understanding of the most pertinent individual, the

patient, remains crucial. Getting feedback from patients and healthcare professionals is essential and enabling updates based on this input to enhance the program, patient education, and ultimately patient outcomes.

Furthermore, it is essential to ensure the implementation of the ACOG postpartum care recommendations by clinic providers, particularly concerning follow-up appointments. Additional evaluation measures may include assessing the perceived helpfulness of more frequent follow-up appointments offered to patients through survey, as well as quantifying the number of patients offered a follow-up appointment within three weeks postpartum and the proportion of those patients who actually attend the appointment instead of waiting for an extended period. Manso-Córdoba et al. (2020) maintains that heightened education and the establishment of strong patient-healthcare professional relationships result in heightened postpartum follow-up rates, as women perceive it as more significant for their care. This increased follow-up leads to better recognition and diagnosis of PPD during this vulnerable period, which is ultimately the goal of this project.

**Outcome Measurement Analysis Plan**

The data analysis for this DNP project on PPD education integrates both quantitative and qualitative approaches to comprehensively assess its impact on healthcare professionals and patient care practices. Project outcomes will be measured through a few different methods.

First, surveys that will collect quantitative and qualitative data will be administered to healthcare providers and postpartum floor nurses to assess changes in knowledge and practices related to postpartum depression identification and management. Quantitative data from staff surveys, utilizing a 5-point Likert scale, will be entered into Survey Monkey systems for statistical analysis. This approach aims to validate the significance of the data and facilitate

comprehensive interpretation of findings. Specifically, the data will be compiled and analyzed to identify trends in knowledge and practices related to postpartum depression care before and after the educational initiative. Qualitative insights gathered from healthcare professional's surveys will undergo thematic analysis to identify perceived gaps in current postpartum care practices. Themes emerging from both qualitative and quantitative data will inform potential areas for improvement in postpartum depression care. Attendance and participation records will also be reviewed to establish data validity.

The staff surveys will incorporate data obtained through a 5- point Likert scale. An example survey assessment item will be to evaluate beginning provider knowledge of Healthy Beginnings and then if healthcare professionals feel Healthy Beginnings is relevant enough to implement in their practice moving forward. The scale for this assessment will include the following scale: (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). All project surveys can be found in Appendix B.

Quantitative data will be gathered by working with the CHI. St. Alexius Health information technology team for the digital trail tracking of births using EPIC systems. This data will include the number of women admitted to give birth and those scheduled for a postpartum appointment with providers and the Healthy Beginnings program within three weeks of discharge. Data collection logs will be utilized with numerical findings of appointments made after delivery for postpartum follow-up and compared to logs before the educational initiative

To assess the project's significance, the project leaders will evaluate how effectively the educational initiative enhances healthcare professionals' knowledge and practices in postpartum depression care. This evaluation will involve analyzing survey data to detect shifts in

understanding and application of postpartum depression care practices. Additionally, project leaders will examine changes in postpartum appointment follow-up rates to gauge improvements.

Continuous reassessment, evaluation, and adjustment using the PDSA (Plan-Do-Study-Act) model will ensure consistency with changes. Stakeholder input, including perspectives from healthcare professionals and administrators, will be gathered to understand their perceptions of the initiative's impact on clinical practice, patient care, and overall healthcare delivery. This input will inform sustainability planning and guide future evidence-based practice initiatives, such as the possibility of annual mandatory postpartum depression staff training.

Upon project completion, stakeholder feedback will gauge the current impact and identify necessary changes on continuing these methods in future practice. Adequate evaluation of project sustainability is critical for positively impacting maternal health outcomes and guiding adjustments as needed. Charts and a comprehensive project report will be generated to summarize findings, measure project significance, and highlight areas for future research and interventions. These materials will be shared with stakeholders to discuss outcomes and potential sustainability of project interventions in maternal health.

## IRB Process

IRB approval is important to ensure projects follow ethical guidelines and protect patient confidentiality. Prior to implementation, the University of Mary required IRB approval. The IRB application was submitted to the University of Mary IRB board on August 20, 2024 for official approval to move forward with the project. Attached to the application was a letter of support from Dr. Rachel Marohl, the project champion, as well as the survey to be used during the education initiative. The IRB board approved the project on September 13, 2024. This project involved the use of unidentifiable data, ensuring HIPAA confidentiality. Per the University of

Mary IRB board, according to 45 CFR 46, this project did not require full IRB as human subjects were not utilized in research. The DNP project team verified that no further approval was required from CHI St. Alexius Health or Essentia Mid-Dakota Women's clinic, receiving confirmation to move forward in September of 2024. All University of Mary IRB approval documentation is included in Appendix C.

## Conclusion

The planning stage encompassed the development of recommendations to guide this DNP project, thoughtful planning of implementation and evaluation, and the process of IRB approval. Three project recommendations were developed using SMART goals, which were essentially used as the future guides for this project to collaborate with the Healthy Beginnings program and build an educational initiative for healthcare professionals within the project setting. While recommendations were developed as stepping-stones for the layout of this project, determinants of change were identified to assist in identifying gaps and mitigate the potential barriers affecting successful implementation. The Lippitt's Phases of Change Theory used seven phases to lay down a framework and formulate a structured plan for implementation. Furthermore, a thorough breakdown was discussed highlighting project tasks, collaborating professionals, identification of major milestones and critical events, and a work breakdown sheet to layout a formulated timeline. A budget was developed to layout direct, indirect, and variable expenses expected during the implementation of this project, and how they correlate with the needs of the project. The evaluation planning was addressed through the outcome measures and analysis plan. The project recommendations are measured through education uptake achieved following the educational initiatives, as well as implemented use of the Healthy Beginnings Program and providers following ACOG postpartum care guidelines. Finally, since this project used

unidentifiable information, full IRB approval was not indicated. With thorough development of the planning process, this allowed for groundwork to be laid for successful implementation and evaluation of the DNP project with an ultimate goal of improving postpartum care for mothers, children, and families.

## Chapter IV: Project Implementation and Evaluation

The implementation stage of a DNP project is the operationalization of the plan. The action phase requires collaboration, quality, safety, interprofessional partnerships, and leadership in order to develop a successful project (Moran et al., 2024). A thoroughly developed plan is crucial to successful implementation of the project. Chapter IV lays out each step of the DNP project from start to finish. This is done through clear explanation of the project timeline and the process of monitoring the implementation phase.

In addition, this chapter includes the project evaluation, which determines the project's significance, value, or condition by appraising and studying whether it was successful. It also determines the identified issues or opportunities in answering the clinical question. The importance of evaluation lies in the fact that it separates making a change from improving since evidence-based practices must be measured (Moran et al., 2024). It is therefore essential that a successful project evaluation incorporates clear explanations of findings, data integrity, influential factors, monitoring implementation phases, and interpreting project outcomes in order to understand the impact on patient care, healthcare processes, and the organization.

### Implementation Discussion

The Doctor of Nursing Practice (DNP) project, at hand, focused on reshaping maternal mental healthcare, with an emphasis on addressing postpartum depression. The setting for this DNP project was an urban OB-GYN clinic in midwestern North Dakota. The population

included all pregnant and delivering mothers who received prenatal and postnatal care at Essentia Mid-Dakota Women's Clinic. The delivering hospital is CHI St. Alexius. Previously discussed recommendations highlighted that both the staff at Essentia Mid-Dakota Women's Clinic and CHI St. Alexius Hospital received the education initiative. The primary focus was on delivering OB-GYNs however other ancillary staff made this project possible, which included nursing and management staff. The Healthy Beginnings Program and its coordinator, Marie Jensen BSN, RN, CLC, TTS, were a critical piece of the DNP project with their already established program for prenatal and postpartum mothers.

**Getting the Project Started**

The planning phase of the project followed a structured process, including the project proposal, literature review and synthesis, problem establishment, development of the PICO question, and organizational needs assessment. The final project proposal was approved on July 9, 2024, with IRB approval following. The DNP project team ensured no further approval was needed from CHI. St. Alexius Health or Essentia Mid-Dakota Women's Clinic and received confirmation to move forward September 2024. The project champion and Healthy Beginnings Coordinator approved the project details and educational materials on October 9, 2024. Ensuring the strong support of project champions on the specific education was a critical step in securing stakeholder buy-in which is essential to the successful implementation of the project. The project was then scheduled, food was ordered, and education was printed.

The implementation of this DNP educational initiative on maternal mental healthcare was completed on November 14, 2024, aligning with the planned timeline and objectives outlined in the DNP project proposal. The project focused on the importance of follow-up with postpartum patients within three weeks, communicating effectively with these patients to decrease

postpartum depression stigma using Cheryl Beck's Nursing Theory and utilizing the Healthy Beginning program for education and follow-up to support their care. These components, identified through research, are critical to care that provides comprehensive support for women throughout pregnancy and postpartum.

Education sessions were delivered to postpartum floor nurses at CHI. St. Alexius Health as well as providers and nurses at the Essentia Mid-Dakota Women's Clinic. Addressing both locations was essential to establishing a seamless continuum of care, ensuring healthcare professionals and women received comprehensive support. The DNP project aligned care across the entire postpartum journey, starting with prenatal care at Essentia Mid-Dakota Women's Clinic, continuing through labor, delivery, and discharge at CHI St. Alexius, and transitioning back to the clinic for follow-up. These sessions included interactive PowerPoint education, critical thinking discussion, and educational handouts on the topics outlined to simplify processes and discuss any current barriers. Surveys were distributed after the initiative to gather feedback on participants' knowledge and openness to change post-education.

Six weeks prior to the educational initiative, the coordinator for the Healthy Beginnings Program began assisting the DNP students in collecting data on the number of patients following up within three weeks postpartum with either her or a provider. The Healthy Beginnings Coordinator concluded data collection on January 30, 2025, providing 11 weeks of post-implementation data. This data tracks the number of women who delivered at the hospital, were under the care of an Essentia provider, and completed follow-up within three weeks postpartum with either their provider or the Healthy Beginnings Program.

**Influencing Factors**

A major barrier occurred due to the educational initiative being limited to one single session compared to multiple sessions. This limited which individuals were capable of attending due to professional responsibilities. For example, out of the ten providers at the Essentia Mid-Dakota Women's Clinic only three of them were able to attend the session leading to a decrease in provider engagement. While registered nurses from the absent providers' teams were present and voiced awareness of the guidelines presented, this limitation reduced direct provider engagement.

To address the challenges faced during the implementation phase, adjustments were made to the original plan to ensure the project remained on track. Since access to Epic or clinical informatics resources to analyze data were unavailable, the Healthy Beginnings Program Coordinator was chosen by the Operations Manager of Essentia Mid-Dakota Women's Clinic to manually track and share data with the students. Recognizing the coordinator's limited time, the students developed a spreadsheet to simplify data tracking. Additionally, the manager committed to supporting the coordinator with chart reviews of past data.

Another barrier was the perception that meeting ACOG guidelines, including timely postpartum follow-ups, was primarily the responsibility of the Healthy Beginnings Program and its coordinator, Marie Jensen BSN, RN, CLC, TTS. Although Marie is meant to serve as a resource, many providers defer postpartum obligations to her, overburdening the program. Additional challenges that were brought up in discussion after the initiative included providers' already demanding schedules and concerns about insurance reimbursement. Despite these challenges, the project has made progress in fostering collaboration and awareness among staff.

A notable challenge identified during post-presentation discussions at Essentia Mid-Dakota Women's Clinic highlighted concerns regarding the Healthy Beginnings Program.

Currently, Marie Jensen BSN, RN, CLC, TTS, is the only individual contacting patients on behalf of the program. She noted that each patient interaction requires approximately 30 minutes to complete comprehensively, which limits the number of patients she can reach each week. Since the program is offered as a free service and not reimbursed, her available hours are restricted, making it difficult to follow up with all postpartum patients, especially within the recommended three-week timeframe.

Although Healthy Beginnings has traditionally been offered as a free service, this may change now that Essentia has taken over. There is potential for patients to be billed for these services, which not all insurance plans cover. Some Essentia facilities use mid-level providers to conduct virtual follow-ups as reimbursable encounters; however, this is not currently done at the clinic, showing the need for a better way to adequately support postpartum patients.

To address limitations within the Healthy Beginnings Program, discussions with stakeholders, including Marie Jensen BSN, RN, CLC, TTS and clinic leadership, highlighted the importance of resource allocation. Although the program traditionally operated as a free service, potential solutions were discussed to potential billing conflicts, such as advocating for additional staff or integrating mid-level providers to handle follow-ups as reimbursable encounters; however, these ideas remain under discussion. Providers were also encouraged to take responsibility for following up with their own patients in accordance with ACOG guidelines for postpartum care, whether through in-person or telehealth visits while utilizing Healthy Beginnings as a supportive resource.

**Monitoring the Implementation Phase**

Students monitored initial preliminary findings from the surveys that provided both qualitative and quantitative data. The survey collection process was ongoing for approximately

two weeks. The pre- and post-implementation data was collected by the Healthy Beginnings Coordinator, Marie Jensen BSN, RN, CLC, TTS. Marie, the Healthy Beginnings Coordinator manually collected data for 6 weeks pre-implementation and continued to collect post-implementation data through January 30, 2025. The students maintained communication with the Healthy Beginnings Coordinator to ensure any barriers were addressed right away, engagement was maintained, and implementation and long-term success accomplished. As surveys and data was collected, students entered the data into computer programs including Survey Monkey and Excel Spreadsheets to further analyze it to compare pre-implementation and post-implementation data, to ensure continued evaluation of project success.

## Interpretation of Project Outcome Data

A comprehensive project evaluation, including the interpretation of project outcome data, is critical to guiding evidence-based practice and informed decision-making. Interpretation means looking beyond project evaluation and data analyses, focusing on making meaningful judgments about how the project fits together (Reavy, 2016). Therefore, for a comprehensive interpretation of project outcomes, it is critical to assess if project recommendations were achieved, identify key facilitators and barriers, and reflect on both the intended and unintended consequences of the project's implementation. Through this comprehensive interpretation, insights can be made on the project's influence on patient care, healthcare outcomes, and broader impacts.

### Project Findings

The Doctor of Nursing Practice project set out to measure how effective an educational initiative on maternal mental health was by using both survey data and follow-up times collected before and after the initiative. The survey looked at topics such as awareness, knowledge, and

application in practice. In addition, they included open-ended questions for qualitative feedback and a Likert scale for grading quantitative responses from healthcare providers and nurses. The hope of the combination of quantitative and qualitative data was to provide a well-rounded evaluation of the initiative's impact on improving maternal mental health care practices.

### *Survey Results*

A number of trends were identified from the survey data, highlighting strengths as well as areas for improvement in project implementation. The majority of survey respondents were nurses (12), with only one OB-GYN participating in the survey. However, during the educational initiative itself, a total of three obstetrician-gynecologists and 23 nurses were present. Overall, at least half of the participants in the initiative completed the survey. Two sessions were held as part of the initiative: one at the delivering hospital and the other at the women's clinic, where both prenatal and postnatal visits occur. Nurses and obstetrician-gynecologists from both locations participated. Of the survey responses, seven were from Essentia Health Mid Dakota Women's Center in Bismarck, and six were from CHI St. Alexius Health Bismarck, which indicates a balanced contribution of feedback across both healthcare settings.

When assessing the awareness and understanding of participants, only 23% of respondents strongly agreed they were previously aware of current ACOG guidelines for postpartum depression screening, indicating a gap in guideline knowledge before the initiative. Additionally, 69% of respondents were unfamiliar with Cheryl Beck's theory of postpartum depression before the training, and the other 31% marked a neutral response. In contrast, 90% of respondents agreed that they already understood the holistic and individualized approach to perinatal and postpartum care the Healthy Beginnings program provides. In terms of confidence,

84% of respondents agreed or strongly agreed that they felt capable of recognizing the signs and symptoms of postpartum depression in patients, although 16% did not express that confidence.

When evaluating practice changes after the initiative, 92% of respondents agreed or strongly agreed that they would implement or schedule regular follow-up with postpartum patients at or before 3 weeks and 12 weeks postpartum, as recommended by ACOG guidelines, as they are able to in their role. Similarly, 92% responded that they intend to incorporate Cheryl Beck's Substantive Theory of Postpartum Depression into their patient care. Finally, 100% of respondents agreed or strongly agreed to use the Healthy Beginnings care pathway to educate and refer patients as needed.

Regarding qualitative feedback, many respondents noted that the initiative enhanced their ability to identify postpartum depression symptoms. One participant shared, "I will better know the signs to look for and address them quickly." Respondents appreciated the emphasis on maternal mental health, with comments such as, "Thank you—very important topic needs to be stressed more." One respondent even related to the topic at hand, “Realizing the "teetering" can be the beginning of postpartum depression is profound. As a mom myself, I could absolutely identify with that theory”. However, there were several suggestions for continuous development and providing "updated resources regularly."

***Impact on Follow-Up Rates***

The project also tracked follow-up appointments within three weeks of delivery, whether with a specific provider or the Healthy Beginnings Coordinator. Many different forms of analyses were conducted using the data to provide a comprehensive assessment of the project's impact. First, overall postpartum follow-up rates were tracked whether with a provider or with the Healthy Beginnings Coordinator. The pre-initiative and post-initiative data were compared

using a bar graph, this can be found in Figure E5. Data was collected 6 weeks before the initiative, showing that 42.2% of patients had follow-up within three weeks; data collection, which occurred 11 weeks after the initiative showed an increase in follow-up to 55.2%, reflecting a 13% increase in follow-up rates. Delving deeper, of the 175 patients, 82 were followed up within less than three weeks post education initiative. While this finding is statistically significant, the accuracy of the significance could be improved with a larger sample size.

Further data analysis, specifically on each individual provider's follow-up rates also showed some differences from before to after the educational initiative. It is notable that providers that were present for the initiative had increases. For example, Provider B, OB-GYN showed a 57% increase and Provider D, OB-GYN, saw a 23% increase in three-week postpartum follow-up after the initiative, this is shown in Figure E6 and Figure E7.

Finally, the educational initiative emphasized the importance of utilizing the Healthy Beginnings Program throughout the perinatal and postpartum periods. While the program attempts to contact women during the postpartum phase, it faces challenges due to limited provider promotion and patient engagement. However, post-initiative data showed a 46.7% increase in follow-up rates, refer to Figure E4. The increase in follow-up rates with the Healthy Beginnings Program is evidence of increased engagement, likely due to healthcare professional buy-in.

***Summary of Findings***

The quantitative and qualitative data showed that the initiative had a significant positive impact on participants' intentions to apply best practices for postpartum care. While there was limited awareness and application of current ACOG guidelines and Cheryl Beck's theory before the training, the majority of participants expressed a strong commitment to adopting these

practices post-initiative. These findings support the achievement of several key project recommendations related to education and care pathway integration. These findings are visually presented with supporting graphs, tables, and a word cloud. The quantitative data findings can be found in Appendix E and the qualitative data findings can be found in Appendix F.

Quantitative data in Appendix E is broken down by first showing a bar graph of the initial knowledge of healthcare professionals and then their agreement to application to practice, see Figure E1. The subsequent bar graphs, shown in Figure E2, are statistical analyses of each survey question response. Figure E3 shows a bar graph comparing pre and post-education initiative representing if the patient had follow-up with a provider, contact was made by the Healthy Beginnings Program, contact was attempted by the Healthy Beginnings Program, or the patient had neither an attempted contact or contacted by either the Healthy Beginnings Program or a provider within 3 weeks of delivery, in accordance with ACOG guidelines. Figure E4 presents a pre- and post- education initiative comparison of the Healthy Beginnings Program's engagement in follow-up with patients within three weeks postpartum. Figure E5 is a representative bar graph comparing pre and post- education initiative data follow-up rates within 3 weeks of delivery for all mothers whether follow-up was completed in the office with the provider or over the phone with the Healthy Beginnings Coordinator. Finally, Figure E6 and Figure E7 comparatively show provider-specific postpartum follow-up rates within three weeks before the education initiative and following the education initiative.

Qualitative data is presented in Appendix F first by showing all qualitative responses to each survey question in Table F1. Table F2 presents qualitative responses key themes that were chosen by the students through review of the surveys with supporting quotes. Finally, a word cloud was created using a free online service by inputting all qualitative responses. The word

cloud is presented as a visual representation of the key findings shown in the qualitative question responses, which can be seen in Figure F3.

***Relation to Project Recommendations***

The project outcomes closely align with the outlined recommendations and evaluation plan, with each recommendation being either fully or partially met. Recommendation one: to collaborate with the coordinator of the Healthy Beginnings program to comprehensively understand the program, enabling its utilization for educating healthcare staff and subsequently empowering them to educate pregnant and postpartum mothers effectively, was fully achieved. Participants demonstrated a strong understanding of the program, and 100% of respondents expressed a commitment to using the Healthy Beginnings care pathway, as confirmed by survey results and qualitative feedback. The Healthy Beginnings care pathway can be found in Appendix D.

Recommendation two: share the developed educational initiative with healthcare providers and nurses at Essentia Women's Clinic to enhance the identification and care of postpartum depression throughout the perinatal and postpartum periods, was fully met. Survey results showed that 92% agreed or strongly agreed that they would schedule postpartum follow-ups at or before 3 and 12 weeks postpartum, in alignment with ACOG guidelines. Participants also firmly intend to incorporate Cheryl Beck's theory and the Healthy Beginnings care pathway into their practice. Pre- and post-initiative data tracking of follow-up appointments in accordance with ACOG guidelines showed an increase of 13% overall follow-up and an increase of 46.7% in follow-up with the Healthy Beginnings Program. Finally, providers that attended the educational initiative showed major increases in follow-up within three weeks, with one provider increasing by 57%.

Recommendation three: share the developed educational initiative with postpartum floor nurses at CHI St. Alexius to improve identification and care of postpartum depression was fully met as well, and postpartum nurses engaged actively in the initiative, with 100% of respondents indicating plans to use the Healthy Beginnings care pathway to educate and refer patients. Survey results also highlighted increased confidence and awareness of guidelines. The floor nurses even agreed to create a dot phrase representing the education presented to add to their after-visit discharge summaries.

### *Key Facilitators and Barriers*

It is critical to understand the impact of key stakeholders and barriers as they influence the project's effectiveness and follow-through. Key facilitators that impacted the project recommendations included strong engagement from the postpartum floor nurses during their initiative and the key stakeholders involved in the project. The key stakeholders in both locations supported the staff's needs and concerns throughout the implementation. Additionally, the initiative was mostly well received, as were the care pathways that were created to make implementation more practical.

However, several barriers affected the project. Many nurses and providers had limited pre-existing knowledge of updated postpartum depression guidelines and Cheryl Beck’s theory. Since many staff members already had established ways of providing care, integrating new approaches presented challenges. Although most feedback was positive, not all staff embraced the changes. Through qualitative feedback, it was evident that staff also wanted more hands-on training on how to apply Cheryl Beck’s theory during patient interactions. Participants also requested continuous education with annual updates on the latest guidelines and their practical implementation.

One major obstacle was that the staff are currently following up with patients after 6 weeks, and they already see many patients with limited availability each day, so it was difficult for them to understand how to follow up effectively within a lesser timeline of three weeks. Although the Healthy Beginnings coordinator hoped to follow up within two to three weeks, she was limited by part-time schedules and lack of support. In response to these challenges, Essentia Mid Dakota Center for Women's management expressed a commitment to exploring solutions, such as providing additional help to the Healthy Beginnings program or expanding telehealth options for providers and CHI management pledged to help in any way possible. In fact, the organizations are working on meeting monthly or bimonthly to ensure smooth workflows for prenatal and postpartum women. These changes may, however, require larger organizational financial investments, which require further approval and consideration.

***Unintended Consequences***

The implementation of the educational initiative resulted in both positive and negative unintended consequences. These consequences can be outlined well through the qualitative data that was received through survey collection. Overall, there was an increase in awareness and de-stigmatization of maternal mental health. A participant shared, "Talking about it is key." Another recalled how a stranger asked, "How are you doing?" after seeing her with her newborn, which made her feel understood and validated. Additionally, respondents indicated that they have a better understanding of how to identify early warning signs of postpartum depression. One participant expressed, "I will better know the signs to look for and ask appropriate questions." Finally, participants expressed a good experience with being included in the conversation and valued the Healthy Beginnings program's efforts to follow up with patients within three weeks.

Although the participants acknowledged time constraints and heavy workloads, they were committed to finding solutions and improving postpartum care practices.

Some negative unintended consequences included insufficient focus on specific populations, like those with limited resources such as single mothers, which showed that their was a need for more personalized education in future initiatives. Additionally, staff expressed a desire for additional training focused on real-life applications, including how to communicate effectively with patients during appointments. One respondent suggested, "How to actually visit with someone and get information to help them through this time." Several respondents emphasized the importance of continuous education to stay up-to-date with evolving guidelines. Suggestions included "annual education to help keep staff up to date and informed" and "list of resources as they are updated." Overall, the educational initiative led to improvements in knowledge and confidence. Even though participants showed a commitment to implementing these changes, maintaining them may remain difficult due to barriers such as time constraints, so annual training sessions, competency checks, and updated educational resources will be essential to support lasting improvements.

**Interpretation of Project Findings**

The educational initiative on maternal mental health had a significant impact on healthcare provider awareness, which hopefully will positively affect patient care. Providers and nurses noted increased awareness of the importance of current ACOG recommendations and Cheryl Beck’s Theory of Postpartum Depression. In fact, the survey results indicated a 92% commitment to incorporating earlier postpartum follow-ups at three and twelve weeks, as possible within their roles. Using these important guidelines will assist healthcare professionals in building trusting relationships with patients and enhance the early identification of needs.

Although, according to surveys, most already recognize the Healthy Beginnings Program as a helpful resource, it has not been utilized well. Post-initiative survey results indicated that 100% of participants expressed a commitment to using the Healthy Beginnings care pathway, ensuring a standardized approach to patient education, which should benefit patient care and early recognition as well. Further, post-initiative data tracking showed a 46.7% increase in follow-up with the Healthy Beginnings Program, further indicating stakeholder buy-in. The healthcare staff had concerns about processes throughout the education, yet they voiced positive feedback for bringing up the topic and having their voice in these changes. Through the use of ACOG recommendations and Cheryl Beck's Theory of Postpartum Depression, healthcare staff voiced feeling more confident and well-equipped in providing patient care, and hopefully, patients will feel more safe and comfortable with voicing concerns, receiving care, and following up appropriately. Although there remain barriers, the discussion opened the gateway to further discussion and focus on the importance of women in this vulnerable time.

### *Cost Effectiveness*

The DNP project was quite cost-effective since the main focus was on education and it relied on existing programs. The primary expenses were associated with the development of educational materials and coordinating the actual initiative, which required minimal financial investment.

For CHI St. Alexius, implementation required staff education and efficient communication strategies, both of which were provided at no cost. In contrast, implementation at Essentia Mid Dakota Women's Clinic was more complex. A main goal of the project was the implementation of more frequent postpartum appointments at three and twelve weeks, rather than just six weeks postpartum. Although, more frequent appointments could generate more

income for the clinic, leadership did share concern that these three week postpartum appointments are not highly profitable.

Additionally, the Healthy Beginnings Program, currently offered as a free resource to patients, has experienced an increased demand and may require expanded staffing. Ultimately, it is important to look at the big picture. Following the quadruple aim in healthcare, excellent patient education leads to better patient experiences, improved health outcomes, increased provider satisfaction, and reduced overall costs for the organization (Arnetz et al., 2020).

### *Recommended Revisions*

Although the educational initiative significantly improved healthcare professional awareness and practices, several revisions could have enhanced the project overall. For example, while healthcare professionals received education on effective communication through Cheryl Beck's Postpartum Depression Theory and a standardized care pathway for the Healthy Beginnings Program, many expressed a need for more hands-on training. Therefore, future changes could include providing more role-playing exercises or simulations.

The project was also limited by the number of actual OB-GYNs who attended, which will be a major factor in a long-term commitment to change. Therefore, in the future, ensuring more participation from providers themselves would be key.

Finally, there were barriers that were out of reach for the scope of this project. For example, systemic barriers such as time constraints, workflow inefficiencies, short staffing, and inadequate reimbursement posed challenges. For long-term sustainability, future initiatives should include more collaborative discussions with leadership to identify solutions that integrate postpartum depression screening and follow-up more seamlessly into existing workflows.

### *Project Impacts*

The project ended up having a variety of impacts professionally, economically, societally, and culturally. In the professional realm, it had a significant impact on all of the healthcare professionals that participated in the initiative, as evidenced by discussion and survey analysis. Most importantly, it encouraged interdisciplinary collaboration among nurses and providers at two different facilities.

Regarding economics, early identification has the potential to prevent costly mental health impacts on both the patient and both facilities. Additionally, the participating facilities became aware of the importance of prioritizing their organizational finances to support women in this vulnerable time, as often more emphasis is put on the prenatal period.

The project made a major social impact, as stigma is a massive barrier to the early identification and treatment of women experiencing postpartum depression. Through the educational initiative, stigma was reduced; healthcare professionals developed a better understanding and agreed to be more supportive and empathetic, and many even personally resonated with the topic.

Although the project did not focus on a specific culture, as every mother is at risk for postpartum depression, it did emphasize those at greater risk, including those with mental health histories, low income, or limited social support. Overall, the project successfully had an impact on various professionals and processes and will hopefully continue to impact the patients they serve.

**Project Succession**

An organized plan for project transfer to organizational stakeholders is essential to ensure long-term sustainability and continued impact. Key stakeholders that will continue to prioritize the project such as the nurse managers, the Healthy Beginnings coordinator, and the project

champion must be identified. With stakeholders identified, it is critical to create and inform them of a well-thought-out sustainability plan that they can follow through with. The current plan involves relaying the files containing project recommendations, educational materials, and the Healthy Beginnings care pathway to key stakeholders, including nurse managers, the Healthy Beginnings coordinator, and the project champion. These stakeholders will be responsible for integrating the education into existing staff training protocols, ensuring continued use of the care pathway, and reinforcing best practices on postpartum mental health screening, as ACOG recommendations continue to change. Regular follow-up with leadership at both facilities will help assess progress, address barriers, and make changes as needed. Periodic refresher educational sessions may be completed to support long-term adherence to the project goals. Finally, progress must continue to be evaluated through staff engagement and patient outcomes to continue to positively impact postpartum mental healthcare.

## Conclusion

Chapter IV outlines the comprehensive evaluation of the DNP project, moving through the implementation process, key findings, and other influential factors. The implementation phase was monitored with the assistance of post surveys after the educational initiative, as well as pre and post implementation data received from the subject matter experts. A comprehensive evaluation was conducted which highlighted project findings. The findings included survey results, evaluation of recommendations, key facilitators and barriers, and the unintended consequences. These findings were interpreted based on cost-effectiveness, recommended revisions, and the project impact. Finally, project succession was discussed, which involved continued stakeholder involvement and an ongoing evaluation process. The hope is for these findings to continue to inform best practices.

## Chapter V: Dissemination

Project dissemination ensures that project findings contribute to meaningful change, specifically in maternal mental healthcare, for this DNP project. The aim of the DNP project is to educate both pregnant and postpartum women, as well as healthcare providers, on PPD. By sharing evidence-based strategies, the project seeks to improve patient outcomes, enhance provider awareness, and address barriers to mental health care, including the stigma associated with seeking treatment after childbirth (Bodnar-Deren et al., 2017). Chapter V focuses on the dissemination of findings, including project results, the interpretations of the results, sustainability, recommendations, and implications for practice (Moran et al., 2024). In Chapter V, the project authors will discuss the specific means of dissemination with the goal of encouraging system and organizational improvement reflections on the DNP project's results and future suggestions for new clinical research paradigms.

### Dissemination of the Results

The Essentials: Core Competencies for Professional Nursing Education (AACN, 2021) includes 10 domains for nursing which includes the *Scholarship of Nursing Discipline* described as "the generation, synthesis, translation, application, and dissemination of nursing knowledge to improve health and transform health care" (AACN, 2021, p.10). The authors understand the importance of this within the DNP project along with the additional domain of *Interprofessional Partnerships* which includes the intentional collaboration between professions, care team members, patients, families, communities, and stakeholders with the goal of optimizing healthcare and the patient experience, along with strengthening health outcomes (AACN, 2021, p 11). Dissemination of the data in this evidenced-based project is necessary to meet these nursing domains. The process includes three means of dissemination. First, through the route of an oral

presentation given to the project stakeholders, project setting staff members, the project champion, and fellow DNP students. Second, through the University of Mary Research Colloquium in Bismarck, North Dakota on April 25th, 2025, where all members of the community are welcome to attend. Thirdly, through each student's professional portfolios which are intended for the use of potential job applications and serve as venues in which the project can be carried out within practice.

This project was strengthened by its unique combination of data from both the educational initiative, which included current ACOG screening guidelines, Cheryl Beck's Substantive Theory of Postpartum Depression, and a Healthy Beginnings care pathway, and the tracking of follow-up postpartum appointments completed with delivering moms at St. Alexius Hospital. This data compared follow-up appointments completed before and after the education initiative to track practice changes made among providers. Education initiative data outcome of 92% of respondents agreeing to schedule regular follow-up appointments with patients at or before 3 weeks and 12 weeks postpartum (ACOG guideline), and 92% of respondents indicating they will incorporate Cheryl Beck's Substantive Theory of Postpartum Depression into their patient care, and 100% of respondents in agreement to use Healthy Beginnings care pathway to educate and refer patients as needed facilitates the disclosure of PPD symptoms from patient to provider. To more fully understand the impact of the educational initiative, quantitative data was tracked and analyzed, showing a 13% increase in follow-up appointments within 3 weeks postpartum. This data was collected over an 11-week period following the initiative.

**Comparison to Existing Literature**

It is known that one in five women do not disclose PPD symptoms to a healthcare provider due to barriers in social support and stress, which is consistent with Cheryl Beck's

paradigm of postpartum depression (Beck, 2002; Prevatt & Desmarais, 2018). To bridge the cofounding literature of Manso-Cordoba et al. (2020) the concluding factor necessary is the need to highlight awareness and education of PPD symptoms in the pregnant population, particularly vulnerable sub-populations, as clinician assessment and depression screening tools are not proven to be enough amongst the literature. The authors understand the barrier of PPD screening tools not being enough even if they are conducted more frequently. Therefore, including Cheryl Beck's Postpartum theory and the Healthy Beginnings Program were critical in increasing awareness and knowledge for both patients and healthcare professionals. Additionally, it is important to understand literature findings of providers overestimating their screening prevalence, while even with screenings being best practice, the providers being well-versed in the initiation of treatment and referrals to mental health professionals is necessary to improve outcomes, increase patient acceptance of care, while also improving the providers ability to identify and treat depression (Sidebottom et al., 2021). Furthermore, the enhancement of this DNP project was to highlight the importance of care within the hospital setting (recommendation 3). Current research shows that supportive staff within the hospital setting has a significance in decreasing the level of postpartum depressive symptoms (Bašková et al., 2023). The feeling of security during childbirth has a role in maintaining mental well-being following birth, in addition to both mental health education of mothers in prenatal classes, and education to the mother prior to discharge from the hospital setting (Bašková et al., 2023; Manso-Córdoba et al., 2020). By addressing each part of the continuum of care, throughout the prenatal and postpartum times, the well-being of both mothers and their families is enhanced.

**Broader Applicability**

The findings of this project have the potential to influence maternal mental health care at organizational, local, regional, and national levels. In a national setting, increased awareness of PPD and targeted social support of families while they are pregnant and postpartum indicates a need for a public policy change such as increased paid maternity leave. Prevatt and Desmarais (2018) emphasize the importance of public awareness messages being aimed at improving knowledge around the massive fluctuation of emotions postpartum women experience, thus, increasing the community awareness of mental health literacy, while also decreasing stigma, and increasing a mother's motivation to seek help.

Three core principles are essential to broadening the impact of this project. These include reducing the social stigma surrounding postpartum mental health to facilitate earlier diagnosis and treatment, providing well-structured education and preparation classes during the perinatal period to empower mothers and families, and ensuring adherence to ACOG screening guidelines, which recommend screening at or before three weeks and again at 12 weeks postpartum. All of these together can drastically improve the rates of diagnosing and treating mothers with PPD.

At the organizational level, these findings can be applied within other clinics and healthcare institutions, beginning with programs like Healthy Beginnings, as it should be known that this program is only active in the chosen DNP project clinic. Expanding this initiative within a larger healthcare system, for example, the rest of the Essentia women's clinics, would provide better support for all prenatal and postpartum mothers. However, other health organizations may also adopt similar programs with goals in line with evidence-based practice. By integrating these strategies across various settings, healthcare organizations can work toward a more comprehensive and effective approach to maternal mental health care.

## Future Directions

Proceeding the implementation of the DNP project, the sustainability of interventions was considered by the authors. The authors selected an implementation strategy specifically working with the organization for long-term success and sustainability planning that best fits their workflow. Working closely with leadership, as well as those who work on the floor, is necessary to understand the whole continuum of care to ensure all barriers are addressed and sustainability is feasible for the organizations and, most of all, the health of all mothers. Dedication by the project stakeholders was identified within the data with the suggestion on the education initiative survey of "annual education to help keep staff up to date and informed." Additionally, positive trends in the quantitative data support the effectiveness of the educational initiative, and continued tracking of patient follow-up would enhance the reliability of these findings. This identifies sustainability and evolution of the project, while evolution amongst the hospital side of the project also holds true. Upon completion of the education initiative for the St. Alexius floor nurses at the hospital, the agreement to create a dot phase within the EPIC charting system for education presented to the postpartum patients at their after-visit discharge summary opens additional opportunities for sustainability. It is critical to acknowledge the importance of supporting mothers emotionally, physically, and with informational support before, during, and after childbirth as it plays a role in well-being of the mother and the child's development (Bašková et al., 2023). However, further research is needed to explore specific interventions that optimize support during this critical time, ensuring lasting benefits for both mother and child. The interconnectedness of a sustainable care pathway in a setting in which all delivering women present has a concrete role in maintaining maternal mental health identification and education before and following birth.

Upon dissemination of data, identified needs within the postpartum care system include culture of shared responsibility and public engagement. The transition into motherhood continues to be more recognized throughout society. However, more effective collaborations among government, academia, and the healthcare industry need to take place to support mothers. To do this, the necessity of education for pregnant women and PPD is necessary. The development of a comprehensive educational initiative for patients with PPD specifically can help women better recognize the first signs of the development of depression and report them, allowing clinicians to implement appropriate interventions to reduce depressive symptoms and decrease negative consequences that affect both mother and infant. Ultimately, inclusiveness of this education initiative within the USPSTF recommendation of providing or referring pregnant and postpartum persons who are at increased risk of perinatal depression to counselling interventions recommendation (USPSTF, 2021). This would standardize care, while also initiating the autonomy of the patient's shared responsibility of understanding PPD. Though the key intervention of drawing attention to ACOG recommendation of follow-up at or before 3 weeks and 12 weeks of standardized care within the education initiative, the authors understand through the data dissemination and literature review that if a patient is not well versed in what PPD is, clinician identification and treatment is delayed or nonexistent. Thus, standardized teaching needs to occur during the perinatal period.

As well as developing a postpartum theory, Cheryl Beck developed the Postpartum Depression Screening Scale (PDSS), a tool designed specifically to assess postpartum depression (Beck and Gable, 2001). When compared to other standardized screening tools such as the EPDS and the PHQ-9, the PDSS demonstrated the highest combined sensitivity and specificity.

Incorporating Beck's validated tool into clinical practice would be another way to continue improving maternal mental healthcare, and another avenue for future direction of a DNP project.

Additionally, future iterations of this project could focus on developing updated patient education materials for healthcare professionals to provide to mothers and their families. A follow-up project could build upon this foundation by incorporating enhanced educational resources and implementing a system for tracking patient outcomes. This approach would allow for a more comprehensive evaluation of the project's long-term impact and effectiveness in improving maternal mental health support.

## Conclusion

Insufficient postpartum care frequently leads to adverse consequences, directly affecting the well-being of the mother, child, and family. The DNP project outlined represents a collaborative effort to address the critical need for comprehensive and effective interventions in postpartum care, particularly targeting PPD. The chapters mentioned above collectively encompass important pieces of the larger picture, from identifying the problem statement and formulating a precise PICO question to conducting a thorough literature review, synthesizing evidence, and selecting an appropriate theoretical framework.

Additionally, the project's recommendations, change theory, and planning for implementation and evaluation phases are all crucial components in the journey toward enhancing healthcare outcomes for pregnant and postpartum women. These recommendations encompass collaborative efforts with the Healthy Beginnings program, educational initiatives for healthcare providers, adherence to postpartum guidelines, and establishing consistent workflows. By utilizing SMART goals, integrating change theory into implementation planning, project

implementation, evaluation of outcomes, and dissemination, the project aimed to foster sustainable improvements in maternal mental healthcare delivery.

Ultimately, the project aims to create a consistent process to ensure all women and healthcare professionals are well-informed about PPD, and patients receive consistent, thorough, and timely care. The final dissemination of this DNP project findings will be completed at the University of Mary's Colloquium. The future mothers of this world rely not only on the dedication of their healthcare provider, but their healthcare teams, and the healthcare system to educate them on the changes that can occur with the transition into motherhood, what that means for them as an individual, and what that means for their baby.

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## Appendix A

## Letters of Support from Jenifer Becker BSN, RN and Dr. Rachel Marohl, OB-GYN

Essentia Health

Subject: Letter of Support for University of Mary Postpartum Care DNP Project:

To whom it may concern,

I am pleased to express my support for Tori Weinand, Megan Macke, and Shelby Tschakert's Doctor of Nursing Practice (DNP) project focusing on postpartum depression. As the Operations Manager at Essentia Health Mid Dakota Women's Center- Bismarck, I recognize the critical importance of initiatives that address maternal mental health within our clinic.

I am confident that this DNP project will not only advance the understanding of postpartum care, but also contribute valuable insights that can lead to meaningful improvements in patient care. Therefore, I extend my full support for the successful implementation and completion of this project.

Sincerely,

Jenifer Becker, RN
Essentia Health Mid Dakota Women's Center- Bismarck

Subject: Letter of Support for University of Mary Postpartum Care DNP Project:

To whom it may concern,

I am writing to express my support for Tori Weinand, Megan Macke, and Shelby Tschakert's Doctor of Nursing Practice (DNP) project focusing on postpartum depression. As an obstetrician-gynecologist at Essentia Health Mid Dakota Women's Center in Bismarck, ND, I am passionate about improving maternal mental health outcomes.

Postpartum depression is a significant public health concern that affects countless mothers and families worldwide. The DNP students aim to leverage the resources and expertise available at my workplace, including myself and my colleagues, along with research findings, to integrate evidence-based practices into the organization.

I am hopeful that this DNP project will not only contribute valuable insights to the field of maternal mental health, but also have tangible benefits for the individuals and communities it serves. As such, I offer my full support for the successful implementation and completion of their project.

Sincerely,

Rachel Marohl MD

Rachel Marohl, MD

## Appendix B
## Post-Educational Initiative Survey

**Staff Evaluation of Educational Initiative on Postpartum Depression Care**
Thank you for participating in this survey. Your feedback will help evaluate the effectiveness of our DNP project on postpartum depression.

**Demographic Information**
Role: [Select one]
Obstetrician/Gynecologist
Certified Nurse Midwife
Nurse
Other (please specify)

Primary Setting: [Select one]
Essentia Health Mid Dakota Women's Center - Bismarck
CHI St. Alexius Health Bismarck Medical Center

**Instructions:** Please rate each statement based on your current knowledge and practices related to postpartum depression using the 5-point Likert scale provided:
(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

**Section 1: Knowledge**
1. I was aware and using the current guidelines recommended by organizations like ACOG for postpartum depression screening and management before the educational initiative.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

2. I was familiar with Cheryl Beck's Substantive Theory of Postpartum Depression before the educational initiative.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

3. I understood the holistic and individualized approach to perinatal and postpartum care to all moms as outlined in the Healthy Beginnings program before the educational initiative.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

4. I believe that early identification and intervention of postpartum depression is crucial for maternal and infant health.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

5. I feel confident in my ability to recognize the signs and symptoms of postpartum depression in patients.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

6. I am open to incorporating theoretical frameworks, such as Cheryl Beck's Substantive Theory, into my care to improve patient care.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

**Section 2: Practices**

7. After this educational initiative, I will implement or schedule regular follow-up with postpartum patients at or before 3 weeks
and 12 weeks postpartum, as recommended by ACOG guidelines, as I am able in my role.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

8. I intend to incorporate Cheryl Beck's Substantive Theory of Postpartum Depression into my patient care.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

9. I plan to use the educational care pathway to educate and refer patients to the Healthy Beginnings program throughout the perinatal and postpartum periods as I am able in my role.

1 (Strongly Disagree) 2 (Disagree) 3 (Neutral) 4(Agree) 5 (Strongly Agree)

**Section 3: Reflection**

10. Reflecting on the educational initiative, how do you anticipate it will influence your approach to identifying and addressing postpartum depression symptoms during patient consultations? [Free Text]

11. Were there any aspects of postpartum depression care that you feel were not adequately covered in the educational initiative? [Free Text]

12. What strategies could be employed to ensure continuous professional development in this area beyond the initial educational session? [Free Text]

**Additional Feedback**

13. Please share any comments or suggestions you have regarding the educational initiative on postpartum depression care: [Free Text]

Thank you for completing the survey! Your input is valuable for improving postpartum depression care.

# Appendix C
# University of Mary IRB Approval Documentation

UNIVERSITY of MARY | for Life.

**University of Mary IRB Office**
irb@umary.edu • 701-355-8037

**IRB Determination – Not Human Subjects Research**

2336082024
IRB Protocol Number

Optimizing Maternal Mental Healthcare: Educating Healthcare Professionals and Enhancing Utilization of the Healthy Beginnings Program for Pregnant and Postpartum Women
Project Title

09 / 13 / 2024

Dear Shelby Tschakert,

The University of Mary Institutional Review Board (IRB) has reviewed the above referenced project. The IRB has determined that this study does not meet the definition of human subjects research under 45 CFR 46. The IRB acknowledges that it does not have oversight authority over projects which are not human subjects research.

If no changes in protocol are made that would shift this project into human subjects research, this project is able to proceed without further review from the IRB. However, if changes in protocol are made which may affect the human subjects research status of this project, then resubmission to the IRB is required prior to the implementation of those changes.

While IRB oversight has been determined to not apply to this project, be aware that you are still subject to any and all university policies, research site policies, or legal regulations which may apply to this project. Project investigators, along with project advisors, are responsible for making sure that studies are conducted according to the protocol and for all actions of the staff and sub-investigators with regard to the protocol. If you have any questions or concerns about this project's assessment as non-human subjects research, please contact the IRB Office through the contact information below.

Sincerely,

Melissa Maddock, PhD

Chair, Institutional Review Board
University of Mary
7500 University Dr
Bismarck, ND 58504

irb@umary.edu

Doc ID: 35baecf6fdcc974cab34f5d51d62c3385903df5c

# Appendix D
## Healthy Beginnings Care Pathway for Pregnant and Postpartum Mothers

### Healthy Beginnings Care Pathway for Pregnant and Postpartum Mothers

The following care pathway is designed to help healthcare professionals remind their pregnant and postpartum patients about key Healthy Beginnings Program check-ins and educational opportunities throughout their pregnancy and postpartum journey. This ensures that women receive the right support at the right time, from their first prenatal appointment through postpartum care.

| Timeframe | Opportunities | Done |
|---|---|---|
| First Prenatal Appointment | Briefly introduce the Healthy Beginnings Program to the patient and let them know that they will be hearing from the program coordinator, Marie Jensen, shortly after their first visit. | |
| First Trimester (0-12 weeks) | Remind patients to schedule their first trimester Healthy Beginnings appointment if they have not already.<br>**During this appointment they will:**<br>• Receive information about the YoMingo app for pregnancy, postpartum, and newborn education<br>• Discuss routine tests and OB visits, nutrition, vitamins, and medications.<br>• Review common pregnancy symptoms such as morning sickness and offer tips for relief.<br>• Discuss warning signs and when to contact a healthcare provider.<br>• Offer smoking cessation resources, if applicable.<br>• Introduce community resources for pregnancy and parenting.<br>• Help the patient select an OB provider if they haven't already. | |
| Second Trimester (13-28 Weeks) | Remind patients to schedule their second trimester Healthy Beginnings appointment if they have not already.<br>**During this appointment they will:**<br>• Review second and third-trimester fetal development.<br>• Discuss physical and emotional changes in mid-pregnancy.<br>• Address specific patient concerns or goals related to delivery and hospital stay.<br>• Provide information on childbirth preparation, breastfeeding, and sibling classes.<br>• Ensure pre-registration paperwork for hospital delivery is given. | |
| Third Trimester (29-40 Weeks) | Remind patients to schedule their third trimester Healthy Beginnings appointment if they have not already. Let the patient know to expect the program coordinator, Marie Jensen, to call and check in with them within 3 weeks postpartum.<br>**During this appointment they will:**<br>• Discuss late-pregnancy physical and emotional changes.<br>• Review signs of labor and finalize the patient's birth plan.<br>• Explain what to expect during the hospital stay and review postpartum care.<br>• Provide reassurance and support for upcoming delivery. | |
| Discharge from hospital | Let the patient know to expect the program a call from the Healthy Beginnings Program and check in with them within 3 weeks postpartum. Remind patients of the benefits of the program in the postpartum phase! If you do not receive a call, feel free to reach out with any questions. | |

## Frequently Asked Questions and Talking Points

**What is Healthy Beginnings?**
Healthy Beginnings is a comprehensive program offering personalized support and education to pregnant and postpartum women. It covers essential topics from prenatal care to infant feeding and postpartum recovery, ensuring mothers and their families are well-prepared.

**Why is it Important?**
Marie Jensen, the coordinator of the program provides continuous, individualized care throughout pregnancy and after birth, offering essential guidance on physical and emotional changes, labor preparation, and postpartum care. It's designed to improve maternal and infant outcomes by delivering timely and relevant information.

**How it Helps Even Experienced Moms:**
Healthy Beginnings isn't just for first-time mothers. It offers tailored support for mothers at any stage of their parenting journey. The program adapts to meet the needs of women who may already have children but still benefit from updated information on pregnancy, delivery, and postpartum health, including infant care and safety education. Remember, each pregnancy is a different experience!

**Support at Every Stage:**
The program provides key check-ins during each trimester and the postpartum period, ensuring mothers receive the right support when they need it most. This includes educational materials, discussions about physical and emotional changes, and preparation for labor and newborn care.

**Postpartum Check-Ins:**
Within the first 3 weeks postpartum, mothers receive a phone call from the program coordinator, Marie Jensen, to offer support and ensure they're adjusting well. This is particularly helpful in identifying early signs of postpartum depression and addressing any challenges.

**Why It's Worth Promoting:**
Healthcare Professionals should encourage all pregnant women to participate, as it helps bridge gaps in care that regular OB visits may not cover. By promoting Healthy Beginnings, healthcare professionals ensure their patients receive ongoing education and support, which can reduce complications and improve patient satisfaction.

# Appendix E

## Quantitative Data

**Figure E1**

**Pre- and Post-Initiative Knowledge and Application Comparison**

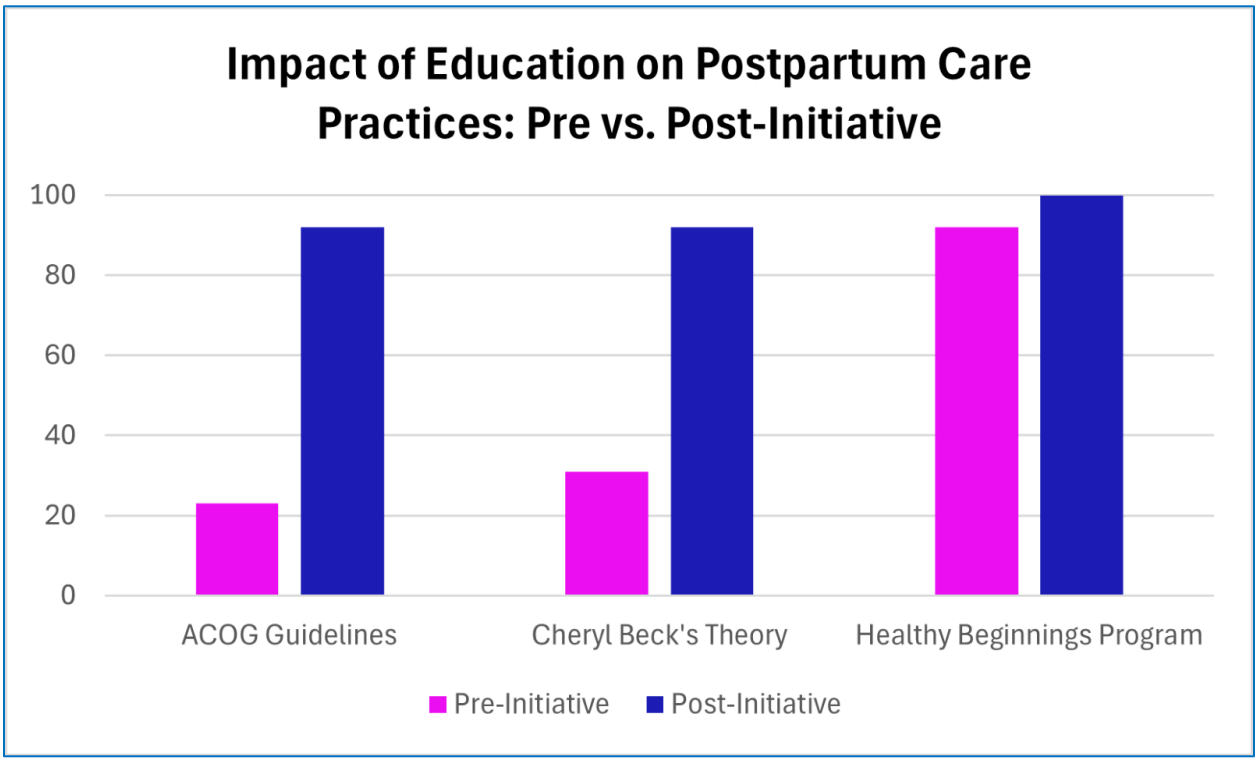
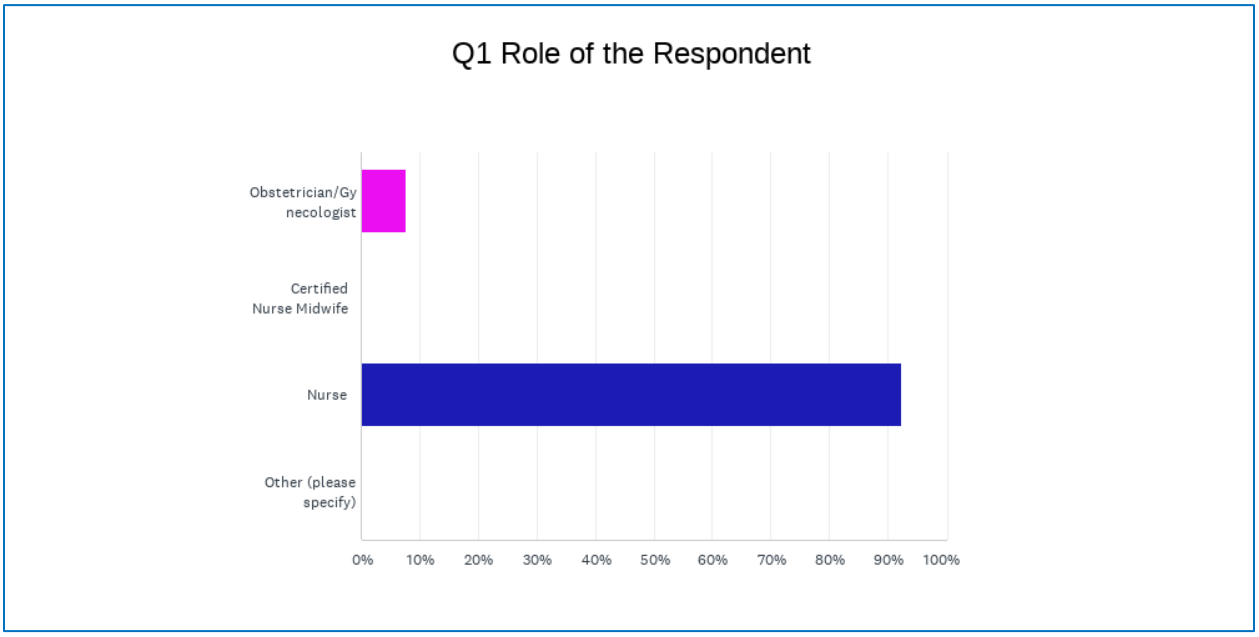
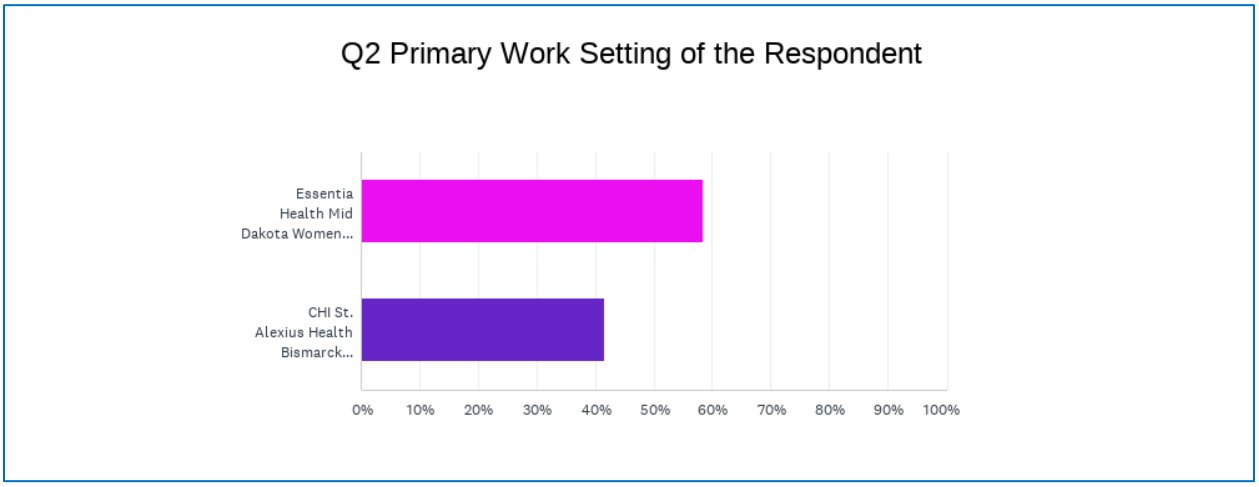


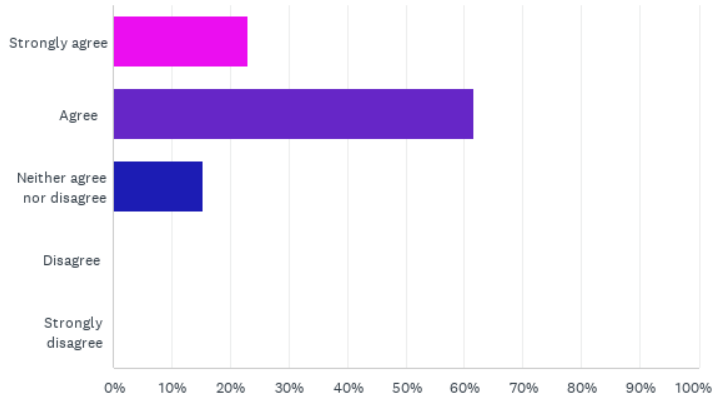
**Figure E2**

**Quantitative Data Analysis by Survey Question**

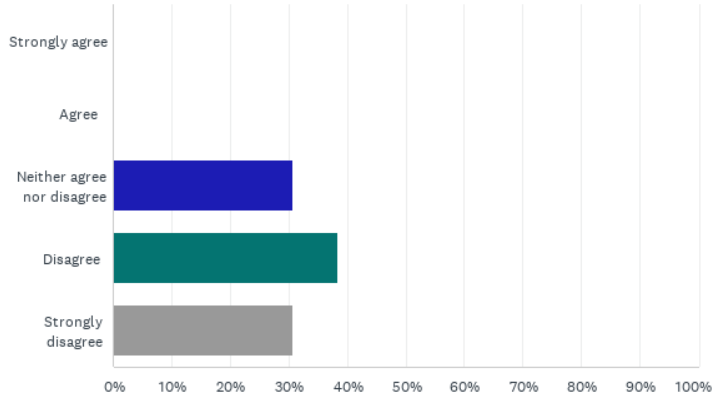


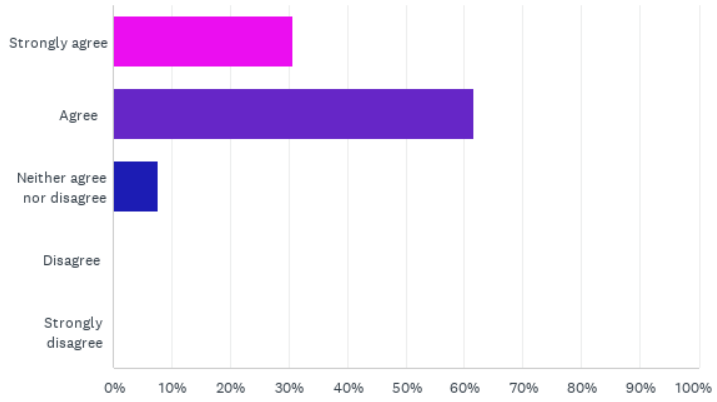
Q3 I was aware and using the current guidelines recommended by organizations like ACOG for postpartum depression screening and management before the educational initiative.



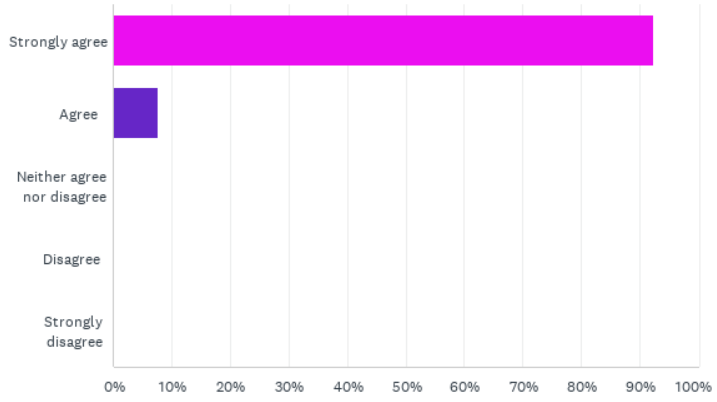

Q4 I was familiar with Cheryl Beck's Substantive Theory of Postpartum Depression before the educational initiative.



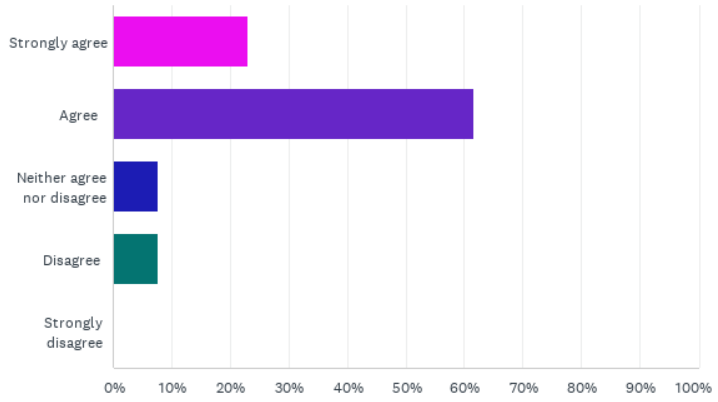
Q5 I understood the holistic and individualized approach to perinatal and postpartum care to all moms as outlined in the Healthy Beginnings program before the educational initiative.



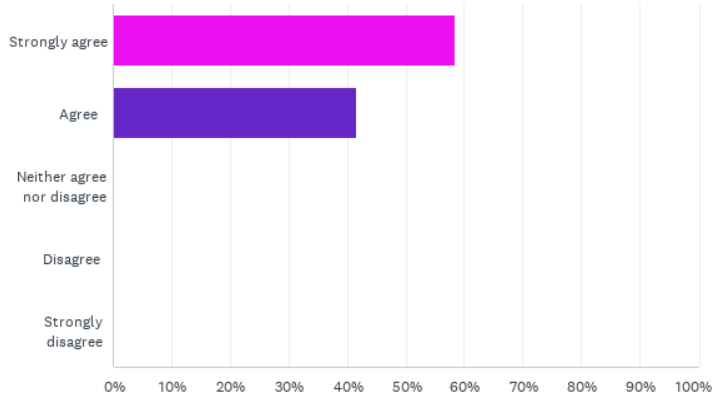

Q6 I believe that early identification and intervention of postpartum depression is crucial for maternal and infant health.



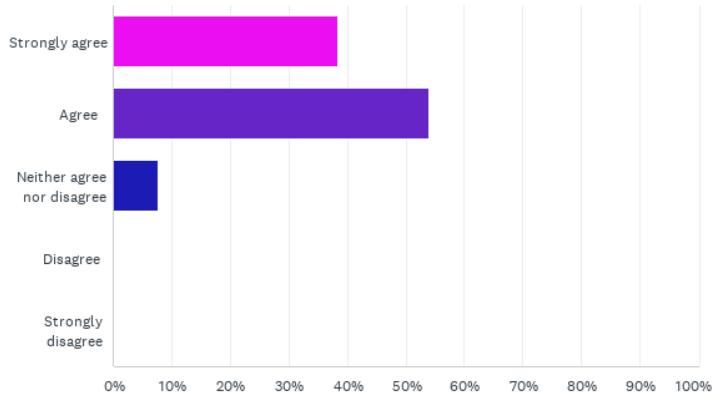
Q7 I feel confident in my ability to recognize the signs and symptoms of postpartum depression in patients.



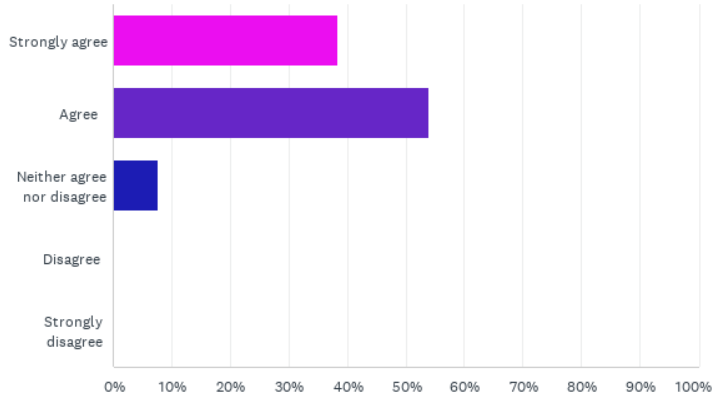

Q8 I am open to incorporating theoretical frameworks, such as Cheryl Beck's Substantive Theory, into my care to improve patient care.



Q9 After this educational initiative, I will implement or schedule regular follow-up with postpartum patients at or before 3 weeks and 12 weeks postpartum, as recommended by ACOG guidelines, as I am able in my role.




Q10 I intend to incorporate Cheryl Beck's Substantive Theory of Postpartum Depression into my patient care.



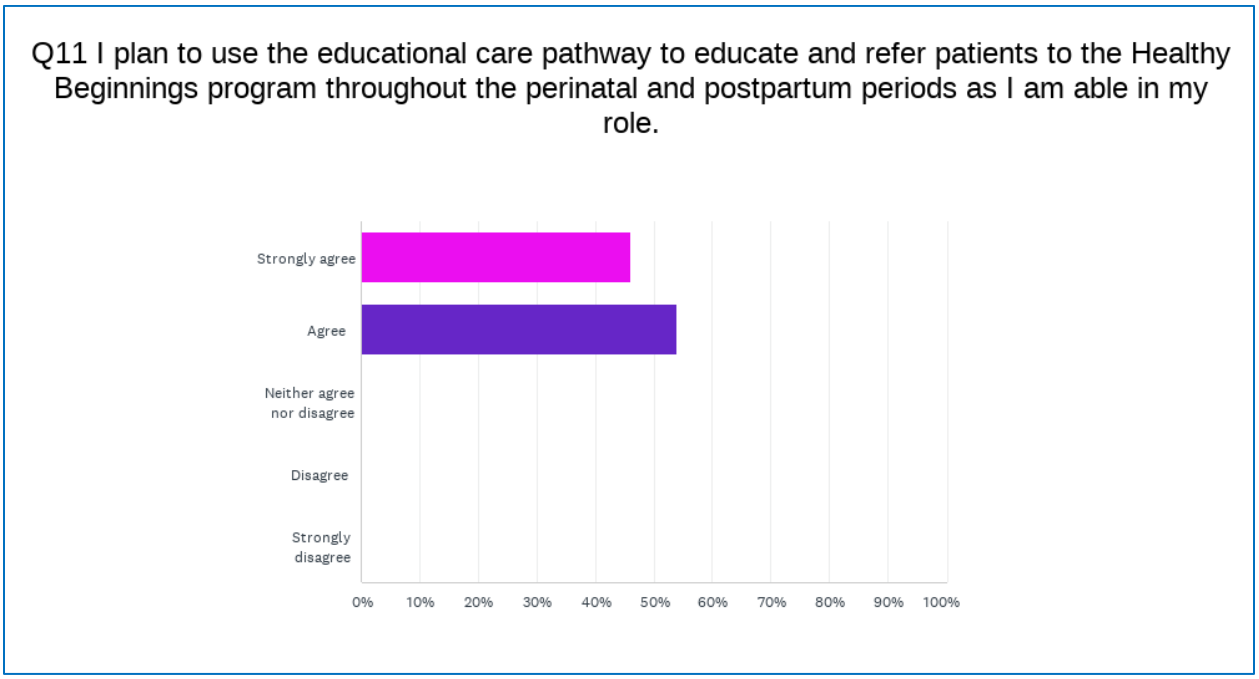



**Figure E3**

**Postpartum Patient Contact Rates: Compliance with ACOG's 3-Week Follow-Up Guideline (Pre- and Post-Intervention)**

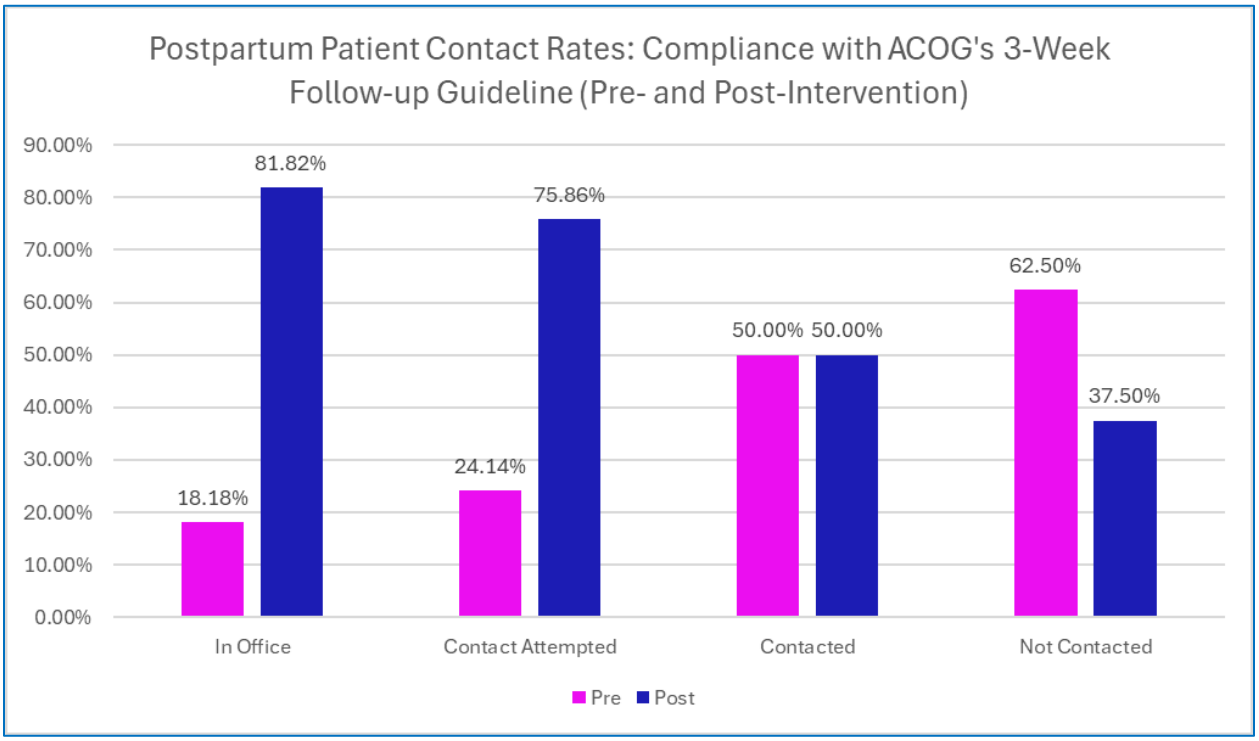


**Figure E4**

**Postpartum Patient Contact by Healthy Beginnings Coordinator Within 3-Weeks of Delivery (Pre- and Post-Intervention)**

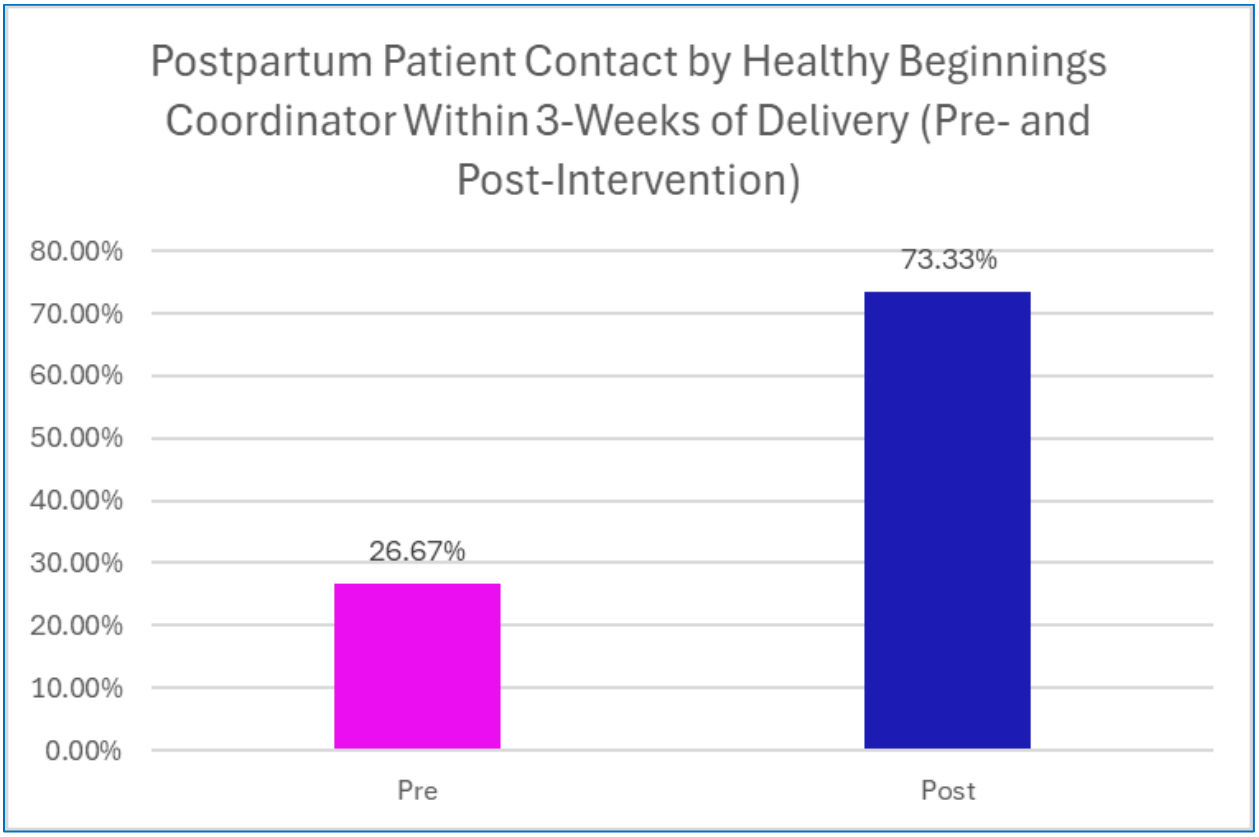


**Figure E5**

**Percentage of Patients Contacted Within 3-Weeks Pre- and Post-Educational Initiative**

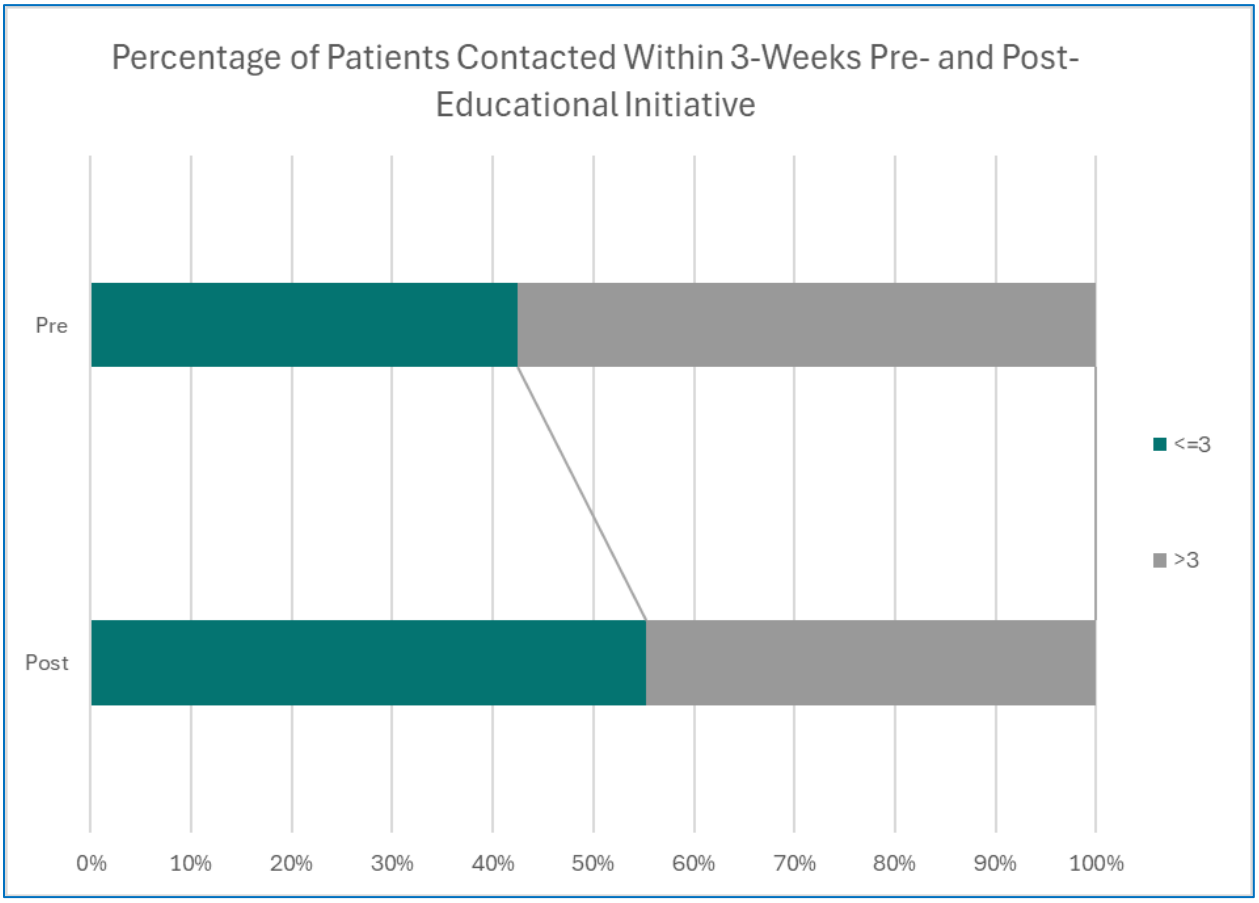


**Figure E6**

**Provider-Specific Postpartum Follow-Up Rates Within 3-Weeks: Pre-Educational Initiative**

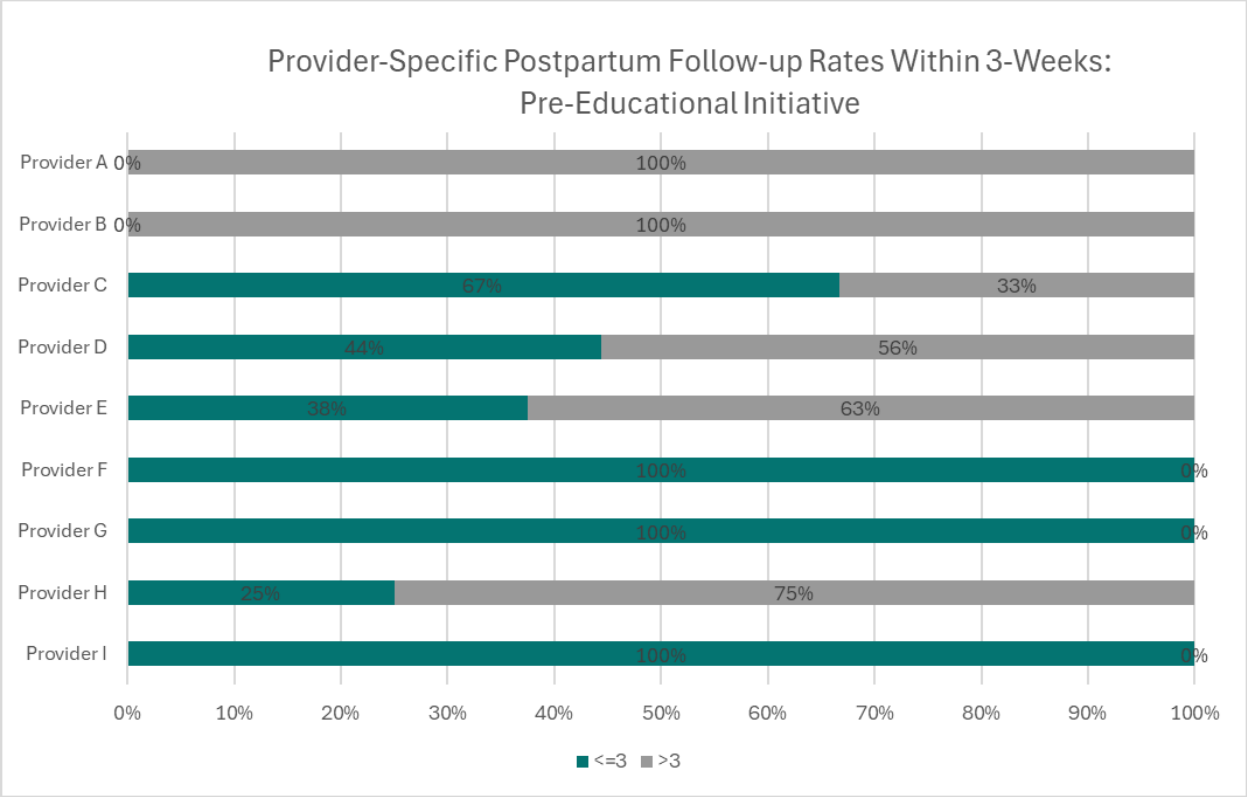
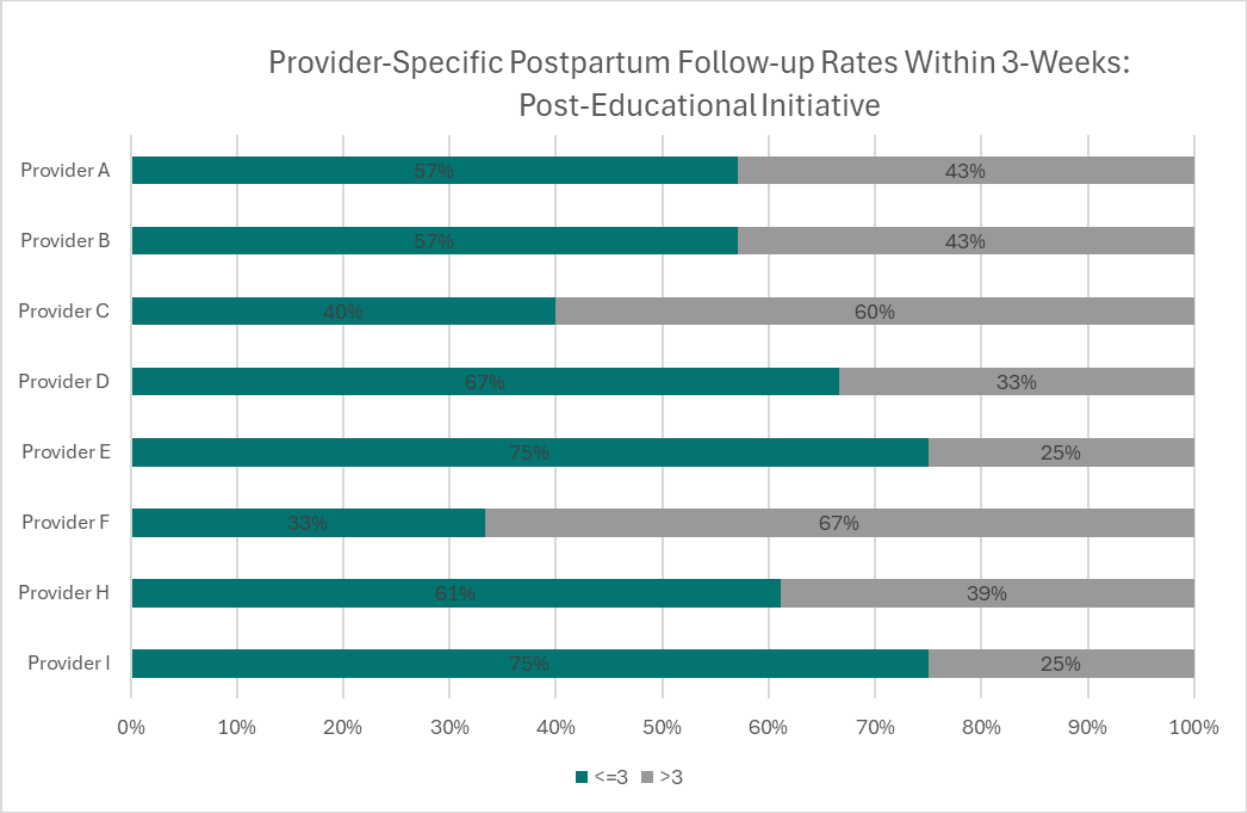



**Figure E7**

**Provider-Specific Postpartum Follow-Up Rates Within 3-Weeks: Post-Educational Initiative**




## Appendix F

## Qualitative Data

**Table F1**

**Qualitative Data by Survey Question**

| Qualitative Survey Responses on Postpartum Depression Education Initiative | | |
|---|---|---|
| **Question Number** | **Question** | **Response** |
| Question 12 | Reflecting on the educational initiative, how do you anticipate it will influence your approach to identifying and addressing postpartum depression symptoms during patient consultations? | • Having a better understanding of the process will aid in education to give. The study is great to reference.<br>• I think it is important to refer to Healthy Beginnings and additional info available.<br>• Will be forefront of my mind. Talking about it is key.<br>• Assess knowledge and fill in gaps. inform about healthy beginnings.<br>• Be genuine<br>• I will better know the signs to look for and ask appropriate questions.<br>• Realizing the "teetering" can be the beginning of postpartum depression is profound. As a mom myself, I could absolutely identify with that theory.<br>• Make sure they feel comfortable with all staff here to visit<br>• Will maybe catch more patients and earlier<br>• Able to give resources that are available |
| Question 13 | Were there any aspects of postpartum depression care that you feel were not adequately covered in the educational initiative? | • No<br>• No, you guys presented it very well. I am glad you are visiting with Essentia providers.<br>• No. I think the presentation covered the info well.<br>• No<br>• No<br>• There were none.<br>• No<br>• Possibly the special situation of "single-mom" with potentially few financial resources or at the least the resource of help at home. This is such a difficult situation in itself.<br>• How to actually visit with someone and get information to help them through this time. The |

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| | | signs and symptoms to look for at visits in office.<br>• No<br>• You had some great information and very thorough. |
| Question 14 | What strategies could be employed to ensure continuous professional development in this area beyond the initial educational session? | • Knowing what (nevermind, you laid out what is discussed each trimester) - very helpful :)<br>• List of resources as they are updated! It changes so frequently.<br>• Incorporating the follow up of Healthy Beginnings in the after visit discharge summary<br>• Online/virtual is often the way to go to reach everyone<br>• Add to the after visit discharge summary<br>• Continuing to do check-ins/ competency<br>• It's not necessarily professional development, but it makes me hopeful that there is such a push for mental wellness in general that I think the awareness of postpartum depression needs to be more common in regular culture.<br>• Annual education to help keep staff up to date and informed.<br>• Make sure staff speak open ended questions and not lead patients answers<br>• Continue with depression questionnaires |

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| Question 15 | Please share any comments or suggestions you have regarding the educational initiative on postpartum depression care. | • Thank you - very important topic needs to be shared that these are things that happen and it's OK to discuss and bring attention to.<br>• I love that the Healthy Beginnings Program is doing their best to reach out to this population within three weeks!<br>• Great job. I appreciated the presentation.<br>• Normalize mental health needs during this time<br>• I was at the grocery store in line to check out with my roughly 3 week old. A lady maybe in her 70's took a quick glance at my baby and said, "Congratulations!" She quickly looked at me and seriously asked, "and how are you doing?" I could tell she was genuinely concerned. I really was doing well, but I thought, "Wow! This lady gets it and has probably been there too!" It was a very cool experience! |

**Table F2**

**Key Themes and Findings from Qualitative Survey Responses**

| Theme | Summary of Findings | Supporting Quotes |
|---|---|---|
| Improved Knowledge & Awareness | Participants feel more confident in identifying postpartum depression and providing education to patients. | • "Having a better understanding of the process will aid in education to give."<br>• "I will better know the signs to look for and ask appropriate questions."<br>• "Will be forefront of my mind. Talking about it is key". |

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| Identified Gaps in Education | A need for more focus on single mothers with limited resources, financial difficulties, and lack of home support. | • "Possibly the special situation of 'single-mom' with potentially few financial resources."<br>• "How to actually visit with someone and get information to help them through this time." |
| Continuous Professional Development | Multiple requests for ongoing education, updated resources, and competency check-ins. | • "Annual education to help keep staff up to date and informed."<br>• "List of resources as they are updated! It changes so frequently."<br>• "Continuing to do check-ins/competency." |
| Overall Feedback & Reflections | Positive reception, with an emphasis on normalizing mental health discussions and the impact of personal experiences. | • "Thank you—very important topic needs to be shared."<br>• "Normalize mental health needs during this time." |

**Figure F3**

**Word Cloud Depicting Key Findings from Survey Feedback**


follow-up
support
effective
resource
recognizing
earlier
education
lists
patients
important
understanding
healthy
talking
signs
catch
feel
genuine
virtual
key
symptoms
provide
ensure
better
signal
beginnings
available
depression
gaps
communication
comfortable
inform
summary
moms
resources
teetering
postpartum
limited
assess
mental
single
staff
options
fill
updated
visits
financial
check-ins
discharge
knowledge
aids