

**Improving Consistency in Midwifery-led Postpartum Patient Education on the Day-of-Discharge:
A Quality Improvement Project**

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NURS 703B: DNP Project Planning

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Abstract

Background: The postpartum period is known to be a vulnerable time and patients are at elevated risk for maternal morbidity and mortality. A faculty midwifery practice at a Pacific Northwest academic hospital recognized a gap in consistent postpartum patient education delivered by certified nurse-midwives. This project aimed to improve the consistency and quality of postpartum discharge education.

Methods: Applying the Institute for Healthcare Improvement (IHI) Model for Improvement framework and the Knowledge to Action (KTA) Framework, the project was conducted over two Plan-Do-Study-Act (PDSA) cycles. Interventions included the development of a comprehensive postpartum patient education handout, modifications to the preexisting documentation template for the discharge summary, and alteration of the midwifery postpartum workflow.

Findings: Key outcomes demonstrated a significant increase in the documentation of postpartum education, with 100% of discharge summaries utilizing the standardized template post-intervention. In both PDSA 1 and 2, the midwives documented use of the revised basic postpartum education handout with topics ranging from 84.4% to 100%. Documentation of the five specific diagnoses (hypertensive disorders of pregnancy, gestational diabetes, hypothyroidism, mental health diagnosis, and postpartum anemia) in the discharge summary ranged from zero documentation to 86.7%. Of those with one or more of the specific diagnoses, corresponding education provided in the after-visit summary ranged from zero to 100%. Feedback from midwives highlighted the handout's clarity, usability, and effectiveness for patient education; areas for improvement included expanding content on mental health and postpartum anemia.

Conclusion: The project highlights the importance of improving consistency in discharge education for improving maternal health outcomes, enhancing provider workflow, and reducing disparities in postpartum care.

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Problem Description

The postpartum period is typically defined as the 12 weeks following delivery, often referred to as the "fourth trimester" (Paladine et al., 2019). Other sources suggest that this period extends up to 12 months after birth (Gunja et al., 2024). This is an immensely vulnerable time for both patients and their families, impacting them physiologically and psychologically. Of the many challenges that patients face during their pregnancy, the postpartum period can prove to be equally challenging and is often less monitored by the care team. After delivery, patients experience a significant shift in the amount of the care they receive, from appointment frequency being reduced from weekly visits in the last few weeks of pregnancy to only one or two visits in the postpartum period. This reduction results in decreased access to care after being discharged from the hospital (Dol et al., 2022).

Education surrounding maternal warning signs and when to call the provider for concerns is critical to decrease rates of maternal morbidity and mortality. As every postpartum person is at risk of developing complications in the postpartum period, providing education increases maternal awareness and identification of potential signs and symptoms that may require prompt medical attention (Reyes et al., 2022). Professional organizations such as the American College of Obstetrics and Gynecology (ACOG), Alliance for Innovation on Maternal Health (AIM), Association of Women's Health, Obstetric & Neonatal Nurses (AWHONN), and the World Health Organization (WHO) have published postpartum care guidelines to aid in postpartum discharge education and provide support in the postpartum period through educational material (Walker et al., 2019). Evidence supports that postpartum education and care provided by an interprofessional care team significantly benefit the patient and decrease rates of postpartum morbidity and mortality (Walker et al., 2019).

In the United States in 2021, the maternal mortality rate was 32.9 deaths per 100,000 live births, in comparison to 23.8 in 2020 and 20.1 in 2019. Even more striking is the 2.6 times higher rate of maternal mortality for non-Hispanic Black women at 69.6 deaths per 100,000 live births when compared

to their non-Hispanic White counterparts (Hoyert, 2023). Significant morbidity is common in the postpartum period, with 65% of pregnancy-related maternal deaths occurring within the first 12 months after delivery. Specifically, 12% of these deaths happen one to six days postpartum, while 23% occur between seven and 42 days postpartum (Gunja et al., 2024; McKinney et al., 2018). Additionally, Suplee et al. (2016) found that 39% of maternal deaths occurred on or before the day of delivery, with 61% occurring during the postpartum period, extending up to 12 months after delivery. In the year following delivery, maternal deaths may be due to hypertensive disorders, thrombotic pulmonary embolisms, infection, and suicide (Dol et al., 2022; Logsdon et al., 2018). In order to improve the rates of preventable postpartum mortality and morbidity and maternal wellbeing, there must be an acknowledgement of the problem at hand and an understanding that improvements must be made. An awareness of the timing and risk stratification during the postpartum period can potentially impact policy and recommendations aimed at improving access to high-quality postnatal care and education (Dol et al., 2022).

A faculty midwifery practice in a large urban academic hospital in the Pacific Northwest has identified inconsistencies among the midwives in the postpartum education that their patients were receiving prior to discharge. The current standard of care is to review with the patients' expectations for the immediate postpartum period. Patients are also provided with guidance on recognizing warning signs and are educated on when to contact their healthcare provider or seek emergency medical care. There is a lack of standardization for midwifery-led postpartum education on the day-of-discharge. The goal of the project was to implement consistent discharge teaching in the form of a handout that was given to patients and documented appropriately in their electronic discharge summary (DS).

Available Knowledge

Optimal postpartum discharge education delivered by certified nurse-midwives (CNMs) is an understudied area. While the importance of providing patients with adequate information and support

is well established, a significant knowledge gap remains in understanding the most effective ways to deliver the education and resources essential for a successful postpartum experience (Henshaw et al., 2018). In the absence of specific guidelines, current practices for discharge education may be carried out based on personal midwife experience and routines. This project reviews the current practice of nurse-centered postpartum discharge education, as well as recommendations from professional organizations, and patient satisfaction surveys in order to inform optimal midwifery-led postpartum discharge education.

Professional organizations

While there are recommendations for the timing of postpartum visits following postpartum discharge from the hospital from ACOG and ACNM, there are no professional guidelines or recommendations regarding the topics to be covered with patients on the day-of-discharge. The professional organizations' main focus is about timing of postpartum visits in the outpatient setting based on patient risk factors (McKinney et al., 2018). The only professional organization that has released a recommendation of content to cover during postpartum discharge is AWOHNN's POST-BIRTH flyer and Discharge Education Checklist (Reyes et al., 2022), which will be covered in later sections.

ACOG guidelines recommend that providers contact all patients within the first three weeks after delivery, with ongoing follow-up as needed between three and 12 weeks postpartum, facilitating a smooth transition from comprehensive postpartum care to well-person care (McKinney et al., 2018). Patients at high risk for postpartum depression, cesarean or perineal wound infection, lactation difficulties, or chronic conditions are recommended to be seen in clinic within one to three weeks postpartum (McKinney et al., 2018). Patients with hypertensive disorders during pregnancy or labor are recommended to have their blood pressure assessed in the out-patient setting within 7-10 days postpartum. However, for those diagnosed with preeclampsia with or without severe features,

evaluation is recommended within 72 hours postpartum due to the increased risk of stroke within 10 days of discharge (Martinez et al., 2017; McKinney et al., 2018).

The period between hospital discharge and the first outpatient follow-up appointment is a critical time for the postpartum patient. Unfortunately, this gap in care is often two to three weeks, which can be isolating and dangerous, when patients are at heightened risk for maternal complications, often preceding severe outcomes or mortality (McKinney et al., 2018; Reyes et al., 2022). The current education provided by nurses and providers may not adequately address maternal warning signs. This is of special concern in the gap between care, as the safeguard to maternal health lies in the patient's ability to recognize the warning signs that necessitate medical attention (Reyes et al., 2022).

Best practices for specific diagnoses

While overall guidelines are lacking for midwifery-led postpartum education at time of discharge, ACOG and various bodies of research have published best practice guidelines for managing specific diagnoses and diseases in the postpartum period. The most notable areas of concern that patients need to be made aware of at time of discharge are thyroid conditions, gestational diabetes, hypertensive disorders of pregnancy and postpartum, mental health conditions, and postpartum anemia management which are outlined below.

Thyroid conditions

For the purposes of this project, overt hypothyroidism in pregnancy will be the focus, although many other thyroid conditions can occur during pregnancy and the postpartum period; more complex cases are typically managed by primary care providers and/or endocrinologists. Recommendations are subject to change based on individual management, but general guidelines have been set by the American Thyroid Association (Alexander et al., 2017). For individuals who were diagnosed with hypothyroidism prior to pregnancy, the recommendation is to decrease the thyroid hormone replacement dose to their pre-pregnancy level immediately after birth. This adjustment should be made

when the next dose is due, and follow-up testing should be conducted six weeks postpartum (Alexander et al., 2017). Those who started taking levothyroxine during the pregnancy may not need medication postpartum to maintain a euthyroid state, but this decision should be made on an individual basis with repeat testing at six weeks postpartum (Alexander et al., 2017)

Gestational diabetes

Research shows that 30% of pregnant people with GDM remain glucose intolerant after delivery, with higher risk of hypertensive disorders, cardiovascular disease. Most notably, these patients have up to 60% risk of progression to type 2 diabetes mellitus (T2DM) within 10 years of the diagnosis in pregnancy (Martinez et al., 2017; Noctor & Dunne, 2015). In order to manage long-term risk of chronic disease, ACOG guidelines recommend that postpartum patients complete an oral glucose tolerance test (OGTT) between 4-12-weeks postpartum, which less than 50% of patients complete due to barriers with transportation, childcare, insurance, and lack of education surrounding the risks of diabetes mellitus (AGOC, 2018; ACOG, 2024).

In a recent clinical practice update, ACOG guidelines (2024) state that screening for type 2 diabetes mellitus (T2DM) during the immediate postpartum hospitalization, prior to discharge, is a reasonable alternative to the 4–12-week postpartum screening. This approach may increase the rate at which patients are screened and adequately treated if positive, although it may not be desirable or doable for most postpartum patients. This recommendation was based on a prospective cohort study (n=300) that showed a similar diagnostic value for those that completed a 2-day postpartum OGTT (100% adherence) versus a 4-12 week OGTT (68% adherence) in the ability to predict a patient's impaired glucose metabolism and risk of diabetes 1 year following delivery (ACOG, 2024). Furthermore, ACOG also endorses a fasting plasma glucose (FPG) test between 4 and 12 weeks postpartum as an alternative screening tool for patients with a recent history of GDM (AGOG, 2018). The OGTT and FPG tests are used to determine whether or not a postpartum patient has T2DM. If the tests indicate T2DM,

the patient is advised to work closely with their healthcare provider to start lifestyle changes and/or pharmacologic therapies. If the tests are negative, the recommendation is to continue healthy lifestyle habits and schedule follow-up screenings with their primary care provider every 1-3 years (ACOG, 2018).

While the OGTT is the gold standard for diabetes screening, the American Diabetes Association (ADA) listed a hemoglobin A1c (HbA1c) test as an option. Similarly, the Endocrine Society endorses using the FPG test and/or self-monitored blood glucose testing as options for postpartum screening (Martinez et al., 2017). Since the public health goal is to capture as many patients as possible to decrease risk, these options may be more affordable and accessible for patients with barriers to healthcare. Lastly, patients are encouraged to follow up with a primary care provider within a year of delivery, which may include further metabolic testing, nutrition and lifestyle counseling, and medication management (Martinez et al., 2017).

Hypertensive disorders of pregnancy and postpartum (HDP)

Postpartum hypertension, defined as the time between delivery and six weeks postpartum, affects up to two percent of pregnancies. This includes patients with a known hypertensive disorder during pregnancy that is persistent or evolving into a higher-risk condition, as well as those with de novo disease that arises following a normotensive pregnancy and delivery. Risk factors for postpartum hypertension include known hypertensive disorders of pregnancy (HDP), advanced maternal age, multiparity, elevated body mass index, and longer length of labor. Most de novo postpartum hypertension cases are diagnosed within five to seven days after birth, with 60% of cases resolving by six weeks postpartum (Kumar et al., 2022). The ACOG guidelines recommend that patients with hypertensive disorders of pregnancy should have their blood pressure evaluated within seven to 10 days postpartum, while those with severe hypertension should be assessed within 72 hours (Martinez et al., 2017; McKinney et al., 2018). Promising data show that at-home/remote blood pressure monitoring may be beneficial to improve time to diagnosis, reduce racial disparities and barriers to care, and effective

lost-cost intervention. The guidelines also strongly advise healthcare providers to offer comprehensive guidance on recognizing warning signs of postpartum preeclampsia and knowing when to seek medical attention on the day-of-discharge postpartum. This recommendation is based on evidence indicating that most patients who sought emergency care for postpartum preeclampsia had been experiencing these symptoms for several hours or even days before seeking help (ACOG, 2020). Other management strategies may include individualized recommendations of antihypertensive medications, diuretics, and/or consideration for use of magnesium sulfate (Kumar et al., 2022).

Mental health conditions

Mental health conditions affect up to one in five people during pregnancy and postpartum (2023a). Due to the complexity, clinical recommendations and management of postpartum mental health conditions vary widely and are focused on individual needs. Depression, anxiety, bipolar disorder, and acute psychosis can precede pregnancy or occur in the perinatal or postpartum period. These conditions need to be assessed with a validated screening tool following delivery up to 12 months postpartum (ACOG, 2023). The most commonly used, well-studied and validated screening instruments in perinatal populations are the Patient Health Questionnaire-9 (PHQ-9) or Edinburgh Postnatal Depression Scale (EPDS) for depression screening, Generalized Anxiety Disorder-7 (GAD-7), and Mood Disorder Questionnaire (MDQ) to screen for bipolar disorder (ACOG, 2023a). The timing of screening is recommended at the initial prenatal visit, later in the pregnancy, and at each postpartum visit to allow for timely treatment and appropriate follow-up. It is within the nurse-midwife scope of practice to identify mental health concerns postpartum and initiate, manage, or cease pharmacologic therapies (ACNM, 2020). The recommendation is for providers and patients to use shared-decision making to choose to initiate or continue pharmacological treatment and explore options for therapy (ACOG, 2023b).

During pregnancy and postpartum, biochemical and physiological changes are occurring such as metabolism acceleration, decreased gastric pH and prolonged gastric emptying, alteration in plasma volume and total body volume, and increased renal and hepatic clearance. These physiological and metabolic changes can alter the dose-response relationship via pharmacokinetics and pharmacodynamics of a drug and thus potentially necessitate the need for higher or lower doses for many medications in order to maintain therapeutic levels (Avram, 2020). Metabolic changes in the early postpartum period are understudied, however, research has shown that metabolism can be slower in the first few weeks postpartum (Kim et al., 2014). Due to this, if initiating a new treatment regimen for a mental health disorder in the postpartum period, the recommendation is to start with the lowest dose possible and increase as needed to achieve positive effect (Kim et al., 2014).

Lastly, there are dramatic hormonal shifts happening in the postpartum period that are believed to significantly contribute to individuals developing postpartum mood disorders. Estrogen and Progesterone play an important role in regulating serotonin and dopamine, which are known to influence mood. Following the birth of the infant and placenta, a sudden and sharp decline in both of those hormone levels is noted, which may contribute to the onset of the aforementioned postpartum mood disorders (Garapati et al., 2023). Although the exact mechanisms and interactions between hormonal changes and pharmacotherapy during the postpartum period are not fully understood, many providers may recommend patients maintain the same dose of antidepressant in the early postpartum period as was used during pregnancy due to the potential for mood lability (Kim et al., 2014). This approach may help stabilize mood despite the hormonal fluctuations occurring after childbirth. Providing comprehensive postpartum education on mood and fostering a therapeutic relationship with patients are crucial for decreasing barriers to seeking mental health support from healthcare providers and encouraging patients to initiate follow-up care (Hadfield & Wittkowski 2017). An individualized and

trauma-informed approach to managing and adjusting pharmacological therapies for postpartum mood disorders is crucial for effective and patient-centered care.

Postpartum anemia management

Currently, there are no standardized guidelines for screening, treating, or providing patient education regarding postpartum anemia due to acute blood loss from postpartum hemorrhage or untreated antenatal anemia. The thresholds for interventions such as initiating intravenous (IV) iron transfusions, administering blood products, advising on oral iron supplementation, and timing for re-evaluating Complete Blood Count (CBC) levels after treatment are subject to individual clinical judgment and clinician experience, leading to variability among providers in managing postpartum anemia. This topic is being thoroughly researched and addressed by a doctoral quality improvement project concurrent to this at the same clinical site.

Nurse-centered postpartum discharge education

There is substantial evidence supporting the education provided by postpartum nurses to patients on the day of discharge, which may inform best practices in the absence of evidence regarding midwife-led postpartum education. While midwife-led education is essential and certainly needed, the current lack of evidence in this area underscores the value of the insights from nurse-led education to inform midwifery practices and address topics that patients express a desire to have covered (McCarter et al., 2022; Suplee et al., 2023).

First, there is significant value in ensuring that providers and staff have proper education and training on discharge teaching, regardless of whether the person educating the patient is a nurse or provider. A quality improvement (QI) project was conducted in over 70 hospitals, with 2,306 registered nurses across the United States. The project was guided by the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and their POST-BIRTH Warning Signs (PBWS) initiative to provide nurses with a standardized and consistent approach to postpartum education with the aim of

improving universal discharge education and reducing postpartum maternal mortality (Reyes et al., 2022). Following the online course intervention, there was an 11% increase between pre and post-test scores in nurses' knowledge of the most common causes of maternal mortality. Prior to the nursing education on use of PBWS, 54% of nurses stated that they used this tool in their postpartum discharge education, with a substantial increase to 91% of nurses reporting the use of this tool after the project concluded (Suplee et al., 2023). The QI project showed that the PBWS educational program was positively associated with the nurse's confidence and ability to adequately teach their patients about potential postpartum complications. Clinical implications from this QI project reflect that nurses play a significant role in providing education to patients in order to reduce risk of maternal morbidity and mortality.

In a second QI project, researchers used the POST-BIRTH flyer to evaluate the effectiveness of educating the patient on maternal warning signs. The educational training initiative instructed nurses to introduce the POST-BIRTH flyer (Appendix A) and 'Discharge Education Checklist' (Appendix B) for discharge teaching. The POST-BIRTH group (n=183) was given the flyer and educated accordingly, while the other discharge group (n=151) was given the usual discharge teaching. The POST-BIRTH group was significantly more likely to have correct responses when asked about maternal warning sign recall (60% vs 30%, $p < 0.001$). With regard to the nine warning signs on the flyer, the POST-BIRTH group demonstrated improved knowledge across eight-out-of-nine scenarios with an increase in recognition for need of medical attention (80.1% vs 84.2%, $p > 0.05$), with exceptions to the seizure scenario. Though this initiative provided information about the usefulness of the tool from a nursing perspective, this initiative did not address the effectiveness of improving patient understanding about warning signs. A considerable limitation of this study is that the population is predominantly non-Hispanic, White. Research shows that pregnancy and postpartum-related morbidity and mortality disproportionately impact the non-Hispanic black and minority patients at a greater rate. Thus, future studies need to be

carried out in a more diverse setting in order to be able to generalize and infer the results to greater the population (Reyes et al., 2022).

A systematic review identified the main areas of education that nurses provide at postpartum discharge. This review found that nurses focused their discharge education on breastfeeding, infant care and safety, maternal self-care, physical recovery and pain management, mood disorders, and postpartum warning signs (McCarter et al., 2022). Research found that patients reported an unmet need for increased education regarding physical recovery, self-care, and postpartum mood disorders (McCarter et al., 2022). While this content is essential to success in the postpartum period, more research is needed in order to determine the effectiveness of consistent educational content in order for it to be less subject to change based on the individual nurses' knowledge, experience, and clinical judgment (McCarter et al., 2022).

Patient satisfaction and preparedness

A cross-sectional study carried out in Indiana found that patients were inundated with information during the pregnancy about prenatal care, labor and delivery preparation, however little-to-none of those sources extend their educational content into preparedness for postpartum. This left room for enormous deficits in knowledge surrounding maternal physical and mental health in the postpartum period (Guerra-Reyes et al., 2017). In a qualitative research study by Henshaw et al (2018), US parents reported being overwhelmed by the sheer quantity of parenting information available, while simultaneously feeling undereducated on primary concerns such as maternal physical and emotional health, and breastfeeding. This leads to information overload and the feeling of under-preparedness, despite being educated upon discharge and having all the information at their fingertips (Henshaw et al., 2018).

Nearly all new parents feel underprepared, undereducated, and anxious in the hours, days, and weeks surrounding postpartum discharge (Henshaw et al., 2018). Focus group participants in a

qualitative study mentioned feeling overwhelmed by the volume of contradicting and inconsistent outside information from the internet, books, friends, family, and pediatricians regarding parenting and the postpartum period, and not enough from their healthcare provider (Henshaw et al., 2018). Patients reported that receiving too much information from too many different sources caused feelings of insecurity and lack of knowledge (McCarter et al., 2022). Henshaw et al (2018) recognized that the primary concerns of new parents fell under four main categories of breastfeeding, working as a team, maternal physical recovery, and maternal mental health.

Patient recall and retention

McCarter et al (2022) found that the postpartum education provided shortly after birth was not well retained and was more information than what patients needed in that moment, which leaves questions about whether or not postpartum education provided inpatient after birth is effective. A QI project carried out by DeSai et al (2021) in the setting of an Emergency Department in Dallas, Texas noted that an inability to comprehend discharge information can lead to adverse patient outcomes due to ignoring concerning symptoms, misidentifying warning signs and missing follow-up appointments (DeSai et al., 2021). Assumptions were made that patients understood discharge instructions but revealed that at least 78% of patients discharged from the emergency department (ED) setting exhibited gaps in knowledge surrounding one or more areas of their discharge instructions (DeSai et al., 2021).

Education delivery method

There is mounting evidence from emergency department (ED) settings that show improving the method in which information is delivered to patients upon discharge reduces morbidity and improves resource use in a non-postpartum population (DeSai et al., 2021). Despite the rapid growth of materials available online, Wright et al (2021) concluded that most postpartum patients preferred non-electronic educational material, such as printed out materials, and this finding was apparent across all educational, cultural and socioeconomic levels. Although these patients still sought out information online or through

apps, it was reported that these options did not always meet their knowledge needs, especially regarding the postnatal period (Wright et al., 2020).

A single-page of simplified information that was targeted to educate patients about the most relevant discharge instructions was shown to be effective in the setting of the Emergency Department (ED) at time of discharge (DeSai et al., 2021). DeSai et al reported that only half of the participants in their study read or referenced their after-visit summary (AVS) or discharge papers for two reasons. First, discharge instructions in the AVS are written at a ninth grade reading level or above, which often exceeds patients' literacy levels due to the average being a fifth grade reading level average in the United States. Second, relying on certain mediums, such as solely electronic methods, can marginalize certain groups and create barriers to education (DeSai et al., 2021).

Evidence indicates that patients' preferred source of trusted information is directly from the healthcare providers, and Bustamante et al (2019) found that personal communication with a healthcare professional was the most effective source of information. However, when inadequate information has been provided or patients don't have access to providers, patients turn to friends, family, and the internet for medical and non-medical questions (Henshaw et al., 2018).

The intention of standardizing postpartum discharge teaching is not to take away the nuance and individualized aspect of midwifery care, but to provide consistent foundational patient education to raise maternal awareness and increasing wellbeing. Inconsistent education provided at discharge leaves room for errors and conflicting information, which may lead to confusion and distrust among providers and the medical system. Standardized discharge teaching aims to combat that issue. Suplee et al (2023) discussed how racism, health inequities, and bias contribute to rising rates of maternal morbidity and mortality and emphasized the importance of standardized, consistent approaches to discharge education to ensure patients are receiving the same equitable information. Standardizing postpartum education at discharge may decrease provider bias and equity gaps between racial and ethnic groups.

Delivering information more accurately and effectively leads to higher likelihood that postpartum patients will seek care when necessary and may decrease postpartum maternal morbidity and mortality rates (Reyes et al., 2022), however more research is needed to inform best practices for postpartum education delivered by certified nurse-midwives.

Rationale

The overarching goal of this project was to reduce preventable maternal morbidity and mortality in the postpartum period by disseminating a consistent and equitable patient education handout to be used in discharge counseling. This QI project applied the Institute for Healthcare Improvement (IHI) Model for Improvement framework. This framework consists of Plan-Do-Study-Act (PDSA) cycles that are typically short in nature and provide the ability to make changes to the plan quickly based on effectiveness and data gathered during each cycle (IHI, 2017; Tyler & Glasgow, 2021). The evolving nature and rapid iterations of this model may enable the consistent implementation of postpartum discharge teaching to be quickly evaluated and adapted, supporting the midwifery workflow and ensuring the long-term sustainability of this patient education handout in practice.

A conceptual framework of this project was guided by the Knowledge to Action Framework (KTA Framework) which aimed to guide the implementation process by translating evidence-based knowledge and practices into sustainable interventions (Appendix C) (Field et al., 2014). This conceptual framework was derived in Canada in the 2000's to describe the process of change when moving knowledge into action carried out by interdisciplinary healthcare teams. To improve healthcare services and strengthen the healthcare system, it is essential to implement effective strategies such as synthesizing data, sharing information, and applying evidence ethically (Field et al., 2014). The review of literature revealed a lack of consistency in regard to postpartum discharge teaching by midwives that led to an increased risk of maternal morbidity and mortality in the postpartum period (Walker et al.,

2019). In the setting of this QI project, application of the KTA framework was beneficial when creating best practices for consistency in midwifery day-of-discharge postpartum education (Field et al., 2014).

Specific Aims

The handout utilized in the project (appendix E) aimed to provide information on routine postpartum course, as well as supplementary education based on patient risk profile and conditions that predated the pregnancy or unfolded throughout the prenatal, intrapartum, or postpartum periods (i.e. gestational diabetes or hypertensive disorders). This project took place over two, four-week long PDSA cycles between October 1st and November 30th, 2024.

Six specific aims were developed:

1. By September 13th, 2024, the DNP student leader will conduct chart review on midwifery postpartum discharges from July and August 2024 to collect baseline data for analysis.
2. By September 16th, 2024, 100% of the midwives, including faculty and per diem, and student midwives working inpatient during October and November (hereafter referred to as “midwives”), will have received a voice-over PowerPoint sent by email, which will include the efficacy of using consistent postpartum patient education and instructions about the proposed intervention for project workflow.
3. By September 30, 2024, 80% of the midwives will document that they watched the slide set by responding “yes” or “no” to a poll embedded in the email.
4. By October 31st, 2024, for PDSA Cycle 1, 75% of patients discharged during this cycle will have documentation of the educational handout’s use in their discharge summary, based on the project workflow.
5. By November 30th, 2024, for PDSA cycle 2, 90% of patients discharged during this cycle will have documentation of the educational handout’s use in their discharge summary, based on the project workflow.

6. By December 15th, 2024, 75% of midwives will complete a survey with feedback about the intervention after using the educational handout to conduct consistent postpartum education.

Context

This quality improvement (QI) project was implemented at a faculty midwifery practice in a large urban academic hospital in the Pacific Northwest. There are 12 midwives in the faculty practice, comprising a total of 7.0 full-time equivalent (FTE). The midwives practice independently and care for low-to-moderate-risk individuals with consultation and referral to the obstetrician team when necessary as indicated by practice guidelines. The midwives work in both the ambulatory and inpatient settings, and some function as faculty in the academic setting in the Doctor of Nursing Practice (DNP) Nurse-Midwifery program. Due to an affiliation with a university, midwifery students are regularly involved in patient care. Additionally, there are seven per diem midwives working inpatient. There were three student midwives on site in their clinical rotations for the duration of the project. The hospital's labor and delivery unit has 12 beds, four triage rooms, and two operating rooms. Once patients are stable following delivery, they are moved to a 26-bed postpartum unit where they recover from birth and prepare for discharge. Within the postpartum unit, there is a level four neonatal intensive care unit (NICU).

In 2023, the year prior to this project's implementation, the patient population was 68.5% non-Hispanic white, 12.5% Hispanic, 5% are not Hispanic, Latino/A/X, or Spanish origin, 4.4% Mexican American, 3.4% identify as other Hispanic, Latino/A/X, or Spanish origin, and 5% of patients declined to disclose their ethnicity. There were 466 total births in the midwifery practice in 2023. Of those, 76.8% of all births were normal spontaneous vaginal deliveries (NSVD). Overlap in care between the midwives and obstetricians occurred when patients required operative vaginal deliveries (OVD) and cesarean births; in those cases, intrapartum care was transferred to the OB practice. Operative vaginal deliveries, with a vacuum or forceps, accounted for 3.2% of cases and cesarean births accounted for 17.8% of all

births within the midwifery practice. In patients who had a NSVD or OVD, the midwifery team continued or resumed responsibility for patient care postpartum. In patients who had a cesarean birth, the obstetrics team managed the inpatient postpartum course, with the patient given the option to return to the midwife service for outpatient postpartum care if no medical or surgical complications were noted.

Before this project was initiated, there were inconsistencies in the education provided by the midwives to patients on the postpartum unit prior to discharge from the hospital. This was made clear by interviewing a sample of the nurses and midwives regarding the topics they covered at discharge. Patients received a wide range of educational material and information from various members of the interdisciplinary team which could include nurses, midwives or OBs, pediatricians, consultants and social workers. Patients typically recover on the postpartum unit for 24-48 hours following a vaginal birth and 48-72 hours following a cesarean depending on comfort level, and complications. Low-risk patients were offered outpatient follow-up visits with the midwives at two and six weeks postpartum. Patients at higher risk for complications, such as those with a hypertensive disorder of pregnancy (HDP) or who developed hypertension (HTN) during the intrapartum period, were seen sooner and/or at more frequent intervals in the postpartum period. After the project was completed, it became standard for patients with HDP or HTN to be scheduled for an outpatient blood pressure check at 72 hours postpartum.

Interventions

The intervention for this quality improvement project was the development of a patient education handout (appendix E) that the midwives used to guide their postpartum discharge teaching. The midwives were instructed to use the handout as a guide to ensure they covered all necessary topics during discharge education. This provided consistency in the information given to patients on the day-of-discharge from the hospital. In addition to being offered a paper copy, the handout was to be given

electronically in the after-visit summary (AVS). This educational handout was created for this intervention through meetings with stakeholders such as midwives, obstetricians, postpartum nurses, lactation consultants, nurse educators, and a women's health registered dietitian. An extensive review of the literature explored current best practices and cross-over between midwifery and nurse-led postpartum discharge education, as well as research from the patient perspective of the most effective methods for teaching and retention of information provided to them. The front of the handout provided foundational postpartum education including topics such as maternal warning signs and when to contact a provider, physical healing and care, postpartum mood, and breastfeeding tips and resources. The backside of the handout included information on specific diagnoses that may or may not be relevant to all patients. Patients with a diagnosis of thyroid disorder (preexisting or diagnosed in pregnancy), GDM, HDP, mental health conditions, or those diagnosed with a postpartum anemia were to receive additional teaching tailored to their specific diagnosis, alongside the foundational postpartum education given to all patients as the standard of care. For further details, the handout is shown in appendix E.

There was a commercially developed booklet that was in use by the postpartum nurses at this hospital to provide education prior to postpartum discharge, titled "Understanding Postpartum Health & Baby Care Book" (InJoy, n.d.). This comprehensive booklet and web app covered postpartum health, baby care and feeding, and was developed by an external agency with collaboration from nurses, managers, and parents. The booklet was available in paper form in English and Spanish, as well as an electronic publication on the web app available in seven additional languages. There were resources in the back of the book such as a breastfeeding log, an EPDS questionnaire, and maternal and baby warning signs. There were QR codes printed throughout the book to aid in teaching, if the patient preferred to watch a video from a registered nurse instead of reading the content. A stakeholder interview with a postpartum nurse educator revealed that the inpatient pediatricians referenced the baby care information in this booklet to provide education during discharge of the infant. Pages four-13

and 48-49 in the InJoy booklet covered a range of basic postpartum education and maternal warning signs. While midwives could choose to endorse this content as a trusted resource for new parents, midwives were instructed not to use this resource in the workflow for this project. The rationale behind this approach was that the educational handout designed for this project featured the foundational postpartum information on the front, with the specialized follow-up for specific diagnoses on the back. Research indicates that individuals often feel overwhelmed when faced with excessive information dispersed across multiple sources (McCarter et al., 2022). Therefore, this streamlined and consistent, double-sided document developed for this project aimed to provide a reliable resource for trusted advice from the midwives.

A voice-over PowerPoint was developed to educate the midwives about the project overview, the research surrounding the gap in teaching, the intervention and new workflow. The presentation was distributed to those who were involved in care during the months of October and November 2024, which included faculty, per diem, and student midwives. The midwives were sent the voice-over PowerPoint on September 16th, and they received two additional reminder emails to view the presentation before September 30th, with one email that arrived on September 22nd and a second, final reminder email on September 26th. The midwives documented that they viewed the presentation by answering “yes” or “no” to a poll embedded in the email. A chart review was done for all postpartum patients discharged home from midwifery care from July and August 2024 to assess the current topics being discussed and documented by the midwives prior to PDSA cycle 1.

Before the start of the first PDSA cycle, the midwife call room was stocked with a folder of printed copies of the educational handout and a poster of the project workflow (Appendix D). The folder included step-by-step instructions and workflow for how to use the educational handout with patients. Prior to the start of the project, the midwives used a standardized Discharge Summary Smart Phrase created by the practice manager for documenting the encounter as shown in appendix H

(.CNMDISCHARGE). This Smart Phrase was updated to include two additional sections within the template, with the changes reflected in appendix I. The first change featured a dropdown menu to prompt the midwife to select the postpartum discharge education topics that they covered on the handout. These topics included maternal warning signs and when to contact a provider, physical recovery and care, expected mood changes, and breastfeeding resources. The second section was changed to include a dropdown menu designed to document any follow-up instructions provided based on the patient's diagnoses. The additional educational topics included postpartum anemia, hypertensive disorders, gestational diabetes mellitus (GDM), thyroid issues, and mood disorders. Throughout the intervention time frame, the midwife on-call received a reminder via the paging system around 0700 as a reminder to complete the intervention with any patients being discharged that day. Lastly, a post-survey was distributed to the midwives to elicit feedback on the project, with a completion date of December 15th, 2024.

Study of the Interventions

The study of the intervention included the implementation of the educational handout at discharge by the midwives. It took place over the course of two four-week-long PDSA cycles, from October 1st to October 31st, 2024, and November 1st to November 30th, 2024. During both PDSA cycles, weekly patient chart reviews were performed on each eligible midwife patient. The chart reviews assessed the percentage of discharge summaries that used the standardized Discharge Summary Smart Phrase and documented which educational topics were covered. Patients eligible for midwifery discharge included those who had a spontaneous vaginal delivery (SVD), or a vacuum or forceps-assisted vaginal delivery (V/FAVD) and were discharged home by the midwifery practice. Changes were made between cycles to the implementation workflow and improvements to the educational handout based on the quantitative data collected from chart review and qualitative data from stakeholders' feedback.

Measures

This quality improvement project used a variety of measures to assess improvement throughout the PDSA cycles. The primary outcome for the project was the percentage of patient charts that had corresponding documentation of the use of the postpartum discharge handout and education provided by the midwife. This was evaluated through chart review during the two PDSA cycles by assessing the percentage of discharge summaries that included documentation on the topics reviewed from the handout. Process measures for the project included: 1) The percentage of midwives, including faculty, students, and per-diem, who received and viewed the voice-over PowerPoint; 2) Post-survey feedback elicited from the midwives regarding project content, workflow, and sustainability for longevity in the practice. Balancing measures are those not directly related to the aim of the project and are often unforeseen changes. The pertinent balancing measures to consider for the project were an increased burden on the midwives' workflow due to the time commitment of familiarizing themselves with the new educational handout, and gauging patient comprehension with the postpartum discharge education being presented.

Analysis

Data for this project were collected through the two, four-week PDSA cycles. Objective chart review was conducted over an eight-week period before the start of the first PDSA cycle to gather baseline data for the project, which was later compared to data during the PDSA cycles (Appendix F and G). Weekly chart reviews were completed during each PDSA cycle in order to measure the primary and secondary outcomes. The objective chart review assessed the percentage of patient charts that had documentation of the topics addressed from the educational handout per the project workflow. Data were collected on each content area of the handout. The front side covered the basic education side (i.e. postpartum warning signs, physical recovery and care, postpartum mood, and breastfeeding) and the backside covered the specific diagnoses (i.e. postpartum anemia, GDM, HTN disorders, mental health

and thyroid disorder follow up). Secondary data were collected for such as type of provider (faculty midwife, per diem midwife, student midwife), patient age, parity, gestational age at birth, primary language, and insurance type. Stratified tables were then compiled based on findings using percentage as the primary statistical measure. Additionally, the post-survey that followed the two PDSA cycles provided quantitative and qualitative data that were analyzed through narrative and content analysis techniques, enabling the identification of recurring themes and the drawing of conclusions.

Ethical Considerations

The acknowledgment of systemic racism and inequalities in maternal healthcare is crucial, as they contribute to increasingly vast health disparities and maternal mortality. Marginalized groups are more likely to experience discriminatory treatment, unequal access to care, and higher rates of maternal death (Chinn et al., 2020). Unfortunately, as structural racism and inequalities are at the core of maternal health, providers have an ethical responsibility to provide equitable access and education to all patients in order to decrease gaps across racial and ethnic groups (Chinn et al., 2020). In addition, research often refrains from conducting randomized controlled trials (RCTs) and other types of studies with pregnant and postpartum patients due to ethical considerations. Consequently, healthcare providers may rely on anecdotal evidence to inform their practice and may partially explain the lack of evidence on many subjects within this field.

There are many clinical and ethical considerations to explore with the use of preset templated-documentation in the Electronic Medical Record (EMR). Advantages to using templates in documentation include more detailed documentation of physical exam findings, more efficient chart completion, and increased provider satisfaction when compared to non-templated documentation (Avendano et al., 2022). The ethical concerns with templated-documentation consist of increased cases of inaccurate clinical documentation and discrepancies between documentation and specific clinical picture (Avendano et al., 2022). To streamline and improve the accuracy of clinical documentation while

reducing the burden on the midwives, this project used check boxes in the Discharge Summary SmartPhrase template. The concept was that the midwife would have to consciously select the topics to discuss based on the handout by simply clicking the appropriate and corresponding boxes. This approach aimed to reduce inaccuracies in documentation that might occur when using templated documentation.

Accessibility was a primary focus throughout the formation of this quality improvement project and development of its interventions. To ensure this, guidelines and recommendations from the University of California, Los Angeles (UCLA) Tarjan Center (2015) were referred to, which provided valuable insights into appropriate reading levels, color on the document, and accessibility standards for printed documents. Although this project did not include translation into Spanish or other languages, the importance of such translations is acknowledged for accessibility and plan to be addressed in future projects.

Ethical considerations for implementing and evaluating interventions aimed at improving consistency in midwifery-led postpartum education involved determination of the non-research design by the Institutional Review Board (IRB). This initiative, a quality improvement project, focused on enhancing consistency among midwives within a specific postpartum unit rather than addressing a broader systemic issue across multiple hospitals. Confidentiality for both patients and midwives was upheld for the duration of the project, and no identifying personal information was collected. The doctoral student that conducted the project had no conflicts or disclosures.

Results

Aligned with the specific aims of the quality improvement project, 19 out of 19 (100%) of faculty, per diem, and student midwives received the informational voice-over PowerPoint to educate about the project and intervention to be used. Of the 19 respondents, 14 of the faculty and student midwives (74%) reported watching the video in response to a poll, while none (0%) of the per diem

midwives had viewed the informational video before the intervention began. The results of the poll were counted before the start of the project, therefore it's possible that the per diem midwives viewed the voice-over PowerPoint later and were thus not counted in the final results once the poll closed. There was little variation in provider type between PDSA cycles 1 and 2, with faculty comprising 71.6% and 71.8%, per diem midwives 3.7% and 2.6%, and student midwives being 24.7% and 25.6%, respectively. It's important to note that student midwives always work under the supervision of faculty and do not practice independently. Maternal demographics and characteristics including patient age, parity, gestational age at delivery, race, ethnicity, language, insurance, or type of birth are outlined in the table in appendix F. They did not reveal a notable impact on the data.

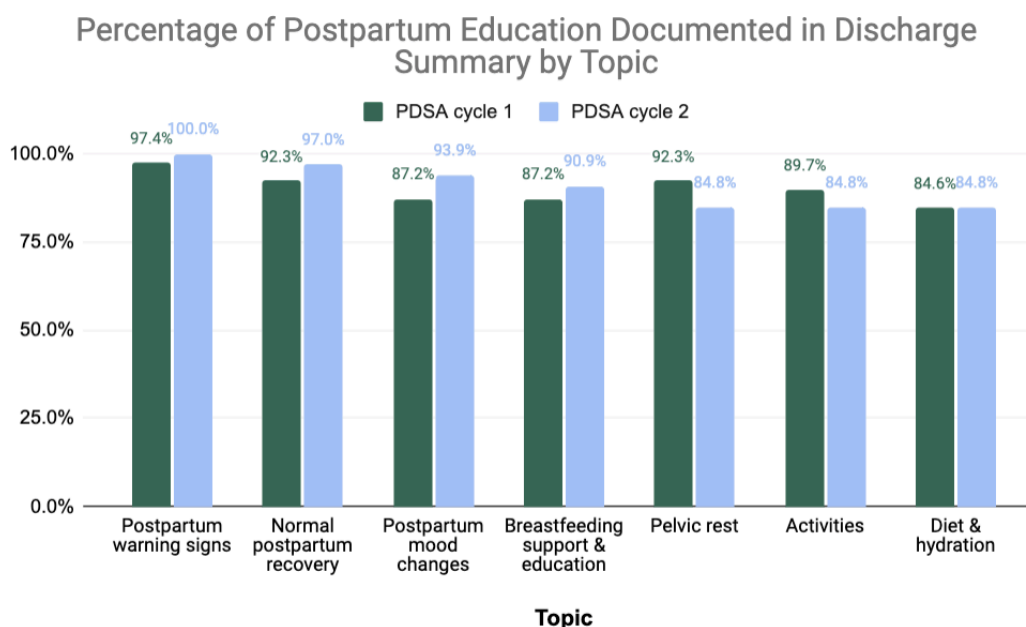
Basic Postpartum Education Documentation

A total of 72 midwife patients were discharged from the unit between October 1, 2024, through November 30, 2024 (39 during PDSA cycle 1, and 33 during PDSA cycle 2). Throughout both PDSA cycles, the midwives used the standardized template for discharge summary documentation 100% of the time, exceeding the specific aims of the quality improvement project, which targeted 75% usage in PDSA cycle 1 and 90% in PDSA cycle 2. The template included basic postpartum discharge education, corresponding with the handout that every patient should have received, as well as an additional dropdown option to document education related to any other diagnoses pertinent to each patient.

In PDSA cycle 1, the following percentages reflect occurrences of the basic education documented in the 39 patient charts: postpartum warning signs (97.4%), normal postpartum recovery (92.3%), postpartum mood changes (87.2%), breastfeeding support and education (87.2%), pelvic rest (92.3%), activities (89.7%), and diet and hydration (84.6%). In PDSA cycle 2, the corresponding percentages in the 33 patient charts were as follows: postpartum warning signs (100%), normal postpartum recovery (97.0%), postpartum mood changes (93.9%), breastfeeding support and education

(90.9%), pelvic rest (84.4%), activities (84.4%), and diet and hydration (84.4%). These data are outlined in figure 1.

Figure 1



Documentation of Additional Diagnoses

The main outcome measure of this project was the percentage of charts that included documentation of the postpartum discharge handout and the education provided by the midwife in both the discharge summary (DS) and the after-visit summary (AVS). Figures 2 and 3 highlight the number of patients with an additional diagnosis of a hypertensive disorder of pregnancy, gestational diabetes, hypothyroidism, a mental health diagnosis, and/or postpartum anemia across the two PDSA cycles. For each patient with one or more of these diagnoses, the figures show whether the appropriate documentation of the handout was included in the discharge summary (DS) and whether the corresponding education was reflected in the after-visit summary (AVS). For example, if a patient had gestational diabetes, the midwife was expected to then document the pertinent education in the DS using the standardized template that reflected their diagnosis using the handout. Secondly, the midwife

was to provide corresponding discharge education regarding gestational diabetes follow-up in the patient's AVS (or highlight it on the paper handout per patient preference).

In PDSA cycle 1, 53.8% of charts (14/26, excluding the 13 patients without additional diagnoses [39-13] to avoid skewing the data for this section) had correct documentation in the discharge summary and education in the AVS via the handout, whereas the rest had partial or no documentation. In PDSA cycle 2, 37.9% of charts (11/29, excluding the 4 patients without additional diagnoses [33-4] to avoid skewing the data for this section) had correct documentation in the discharge summary and education in the AVS via the handout, whereas the rest had partial or no documentation. See additional data outlined in appendix G.

Figure 2

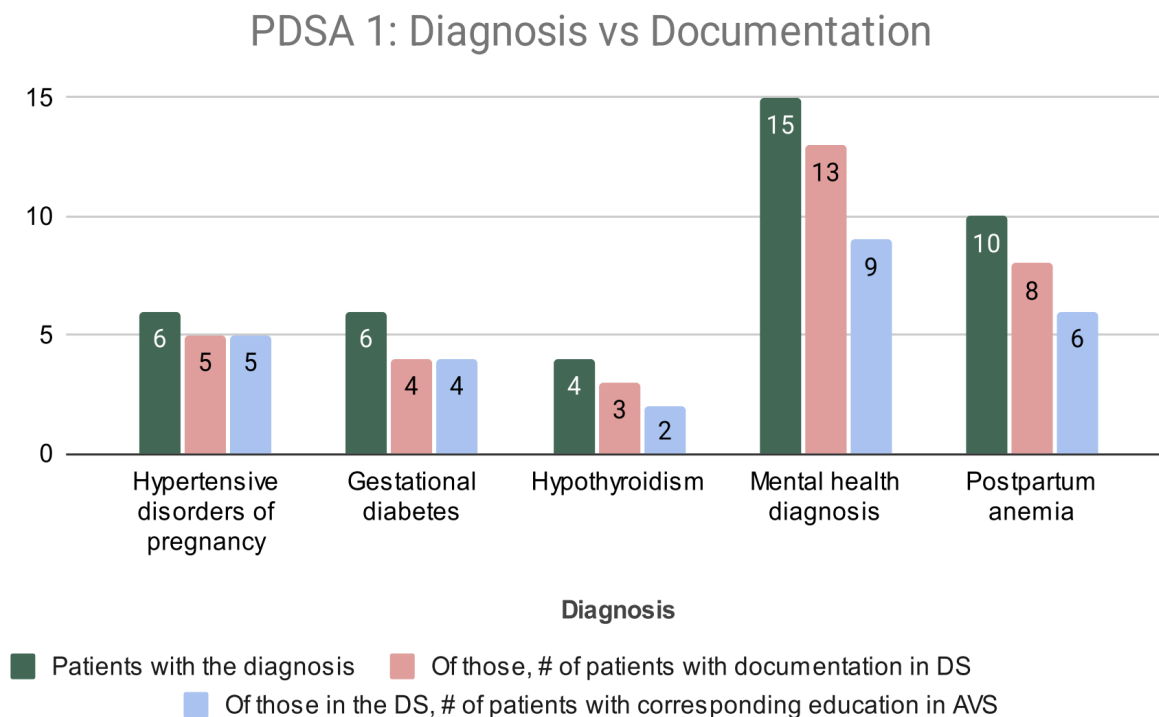
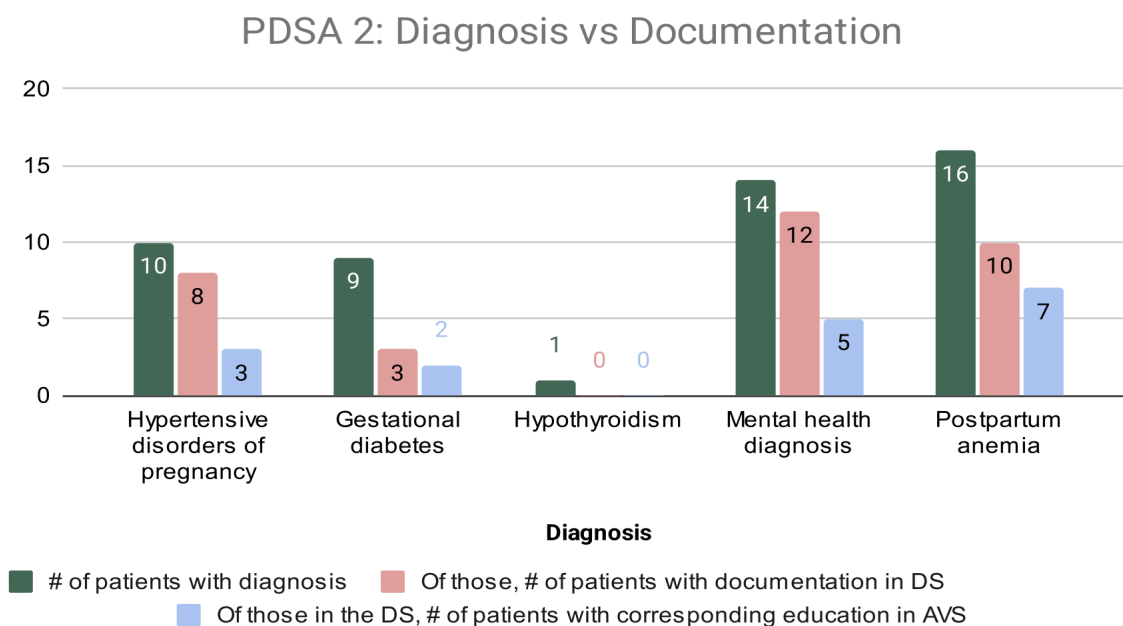


Figure 3



A change was made to the SmartPhrase template for PDSA Cycle 2 to better track how the postpartum education handout was being provided to patients, as a physical paper copy, a digital version in the after-visit summary (AVS), or both, based on patient preference. The results were consistent with existing data, which show patients prefer multiple sources along with simple paper handouts (DeSai, et al., 2021; Wright et al., 2021): 12.1% received a paper handout, 27.3% received a digital copy in their AVS, and 60.6% received both formats. The second revision to the intervention for PDSA cycle 2 was to update the electronic version of the handout for the AVS to incorporate a concurrent DNP project. The focus of the other DNP project was on postpartum anemia interventions and education. The use of the electronic handout in the AVS increased significantly between PDSA Cycle 1 and Cycle 2, from 64.1% to 87.9%, respectively. While the postpartum anemia education in the AVS from the concurrent DNP project had not been utilized as frequently, it was then decided to incorporate the anemia content into this project's handout to consolidate and simplify workflow for the midwives.

This revision was made to increase adherence and usability, by improving the handout's overall utility when indicated for patients with a diagnosis of postpartum anemia.

Discussion

Summary

The specific aims of the project were overall successful. The first aim of the project was to have 75% of patients discharged during PDSA cycle 1 with documentation of the handout's use in their discharge summary by October 31, 2024. This goal was achieved at 100%. Similarly, the second aim, to have 90% of patients discharged during PDSA cycle 2 with documentation of the handout's use in their discharge summary by November 30, 2024, was also achieved by 100%. While the results of these specific aims suggest overall success and acceptance of the project, there are notable gaps in the documentation and education provided in the AVS for certain patients across the sample size, potentially putting them at risk with a lack of education and instructions for follow-up as needed. In particular, one patient in this dataset with a hypertensive disorder of pregnancy did not receive any documentation in their discharge summary or follow-up instructions for a postpartum blood pressure check or additional education in the AVS, despite the need and indication for both. This is just one example of several instances where essential information was overlooked, highlighting a gap in the workflow.

Interpretation

Data collection for the project intervention is outlined in the table found in appendix G. Baseline data showed that midwives used the standardized discharge summary SmartPhrase, created by the practice manager prior to the project 98.8% of the time. The decision to edit the existing SmartPhrase to reflect the handout improved both the likelihood of midwife usability and long-term sustainability, as it was already embedded in the midwives' pre-existing workflow. Results from this intervention revealed that midwives used the revised SmartPhrase 100% of the time in both PDSA cycles, increased from

98.8% at baseline. This demonstrates the sustainability of the change within the practice and supports its continued use moving forward.

Although the DS and AVS documentation indicate that the patient received education on various topics covered in the handout, it is not possible to fully verify what was actually discussed during in-person counseling on the day of discharge. There is inherent trust in the midwives to deliver the appropriate education to patients and document it accurately. The use of this handout helps ensure consistent patient education by serving as a guide for conversation, reducing the risk of important topics being overlooked before discharge, and the SmartPhrase is aligned with the handout in order to document appropriately. However, a notable discrepancy was observed with the per diem providers. While they documented that they gave the handout via the AVS, in chart review it wasn't provided. This likely led to inflated data, making it appear that education was given more consistently than it actually was. This may be due to 0% of per diem midwives having watched the informational video on the workflow of the intervention.

Post-intervention survey

A pre-intervention survey was not conducted, as it was deemed unnecessary for the purposes of this project. As a result, there are no baseline data to compare against, although the feedback from the post-intervention survey was overwhelmingly positive regarding the postpartum education handout. The post-intervention survey was sent out to all midwives, including students, and responses were kept anonymous, making it impossible to distinguish which type of provider submitted each response. Overall, the midwives consistently rated it highly across key areas, such as clarity of the content, usability and simplicity, and effectiveness for teaching. The six Likert-scale questions (Q1-Q6, see appendix J for details) evoked responses that revealed strong satisfaction with the postpartum handout across all areas measured. For overall satisfaction with the tool (Q1 & Q2), the average score was 5.0, with no variation in responses. In terms of effectiveness (Q3), the mean score was 4.6, with scores

ranging from 4 to 5. Respondents expressed high content satisfaction (Q4) with a mean score of 4.7, as most gave a 5, with only a few rating it as 4. For template usability (Q5), the mean score was 4.6. Finally, the likelihood of continued use (Q6) scored an average of 4.7, showing high consensus on its value for being implemented in the future.

The open-ended responses at the end of the survey reinforced the ratings in the Likert-scale. Suggestions for improvement were minimal but included adding visual elements, such as infographics or QR codes linking to additional resources. There were also a few recommendations to expand the topics to include mental health, specific postpartum care practices, like breastfeeding support, third degree laceration management, and cesarean scar management. Overall, the feedback highlights the postpartum education handout's value in improving discharge workflows and improving the consistency in education given.

Limitations

While this project was conducted at one specific postpartum unit and is likely not generalizable across other practice settings, it demonstrates the potential to increase consistency in postpartum education at other facilities. What is more broadly applicable, however, is the concept of using a condensed handout to increase consistency in postpartum education across many providers in a practice. This approach can enhance equity and access to important education for patients to help reduce rates of maternal morbidity and mortality by ensuring that essential topics are not overlooked prior to discharge from the hospital.

Additionally, this project did not account for the various types of mental health diagnoses—such as Generalized Anxiety Disorder (GAD), Major Depressive Disorder (MDD), or bipolar disorder—which may require more specialized counseling around the specific diagnosis, rather than a general overview of mental health follow-up with a known diagnosis. Future iterations of this project could include assessing which conditions require more focused counseling and identifying where midwives feel more

comfortable or need additional support in delivering such education. A similar limitation was noted regarding the different types of postpartum anemia, such as iron deficiency anemia, low ferritin, or acute blood loss anemia. While the specific interventions and education about these topics are important, they were addressed more generally through postpartum anemia education and follow-up. However, the specifics and nuances were covered more extensively in a separate DNP project that took place concurrently with the same patient population and sample size.

Lastly, a barrier of this project is the time constraint that midwives often face in the inpatient setting, which can make it challenging to provide comprehensive postpartum education. This barrier is further compounded by the practice of midwives documenting that education was provided and handouts were given, without verifying that the information was fully covered. As shown in the results above, this could lead to inflated or inaccurate reporting of how thoroughly the education was actually delivered.

Next Steps

This quality improvement project successfully increased the consistency of postpartum patient education documentation and delivery among midwives. The midwifery practice has designated a champion to oversee the edits and/or changes to the workflow and handout. The essential components of the project will continue as planned and be propelled by the champion, however certain areas of the project require improvement, such as establishing a plan for educating the per diem midwives to ensure consistent implementation across types of midwives. In regard to the concurrent DNP project that addressed postpartum anemia, further exploration is needed for how to incorporate postpartum anemia education into the additional diagnoses section of this project. This recommendation is to increase accessibility and usability for the midwives and ensure the workflow is well-integrated together. While expanded topics were suggested in the post-survey, careful consideration should be given to avoid unnecessary complexity for retention of information. Lastly, the patient education

resource should also be reviewed and converted into an approved document to meet practice standards.

While templated documentation is designed to ensure consistency and reduce burnout among providers, it can still lead to errors in the electronic medical record (EMR) (Avendano et al., 2022). For example, a midwife may check the box indicating that education was provided in the DS, but then, if pulled away to handle other tasks on the unit, they might inadvertently forget to include the information in the AVS. This can create a disconnect between what was documented and what was actually provided, potentially leading to inaccuracies in the patient's chart. This is reflected in PDSA Cycle 1, where only 64.1% of patients received the appropriate education in their AVS. However, it was not documented whether they were provided with a paper copy at that time (refer to the improvement made for this issue in PDSA Cycle 2 above). To minimize this error in the EMR, the practice may consider implementing a required training for all staff, including per diem midwives in the training to ensure consistency over all provider types. The practice could also explore adding a secondary prompt or alert within the EMR that flags missing or incomplete documentation when finalizing a patient's AVS to ensure that it reflects what has been documented in their DS.

A key follow-up to this project would be to explore the potential long-term effects—whether beneficial or otherwise—of consistent postpartum education on maternal health outcomes. Although this project did not examine the post-discharge period into the postpartum period, it would be valuable to examine whether providing consistent education at discharge, such as the handout created for this project, leads to improved maternal outcomes in the postpartum period. Although longitudinal tracking of maternal health outcomes was not within the scope of this project, it could provide deeper insight into how this education influences longer-term recovery and well-being of the patients.

A potential change for the midwifery practice would be to start this education process earlier in the antepartum period, which could potentially enhance its effectiveness, as research shows that the intake and retention of information in the immediate postpartum time is limited (McCarter et al. 2022) . Introducing anticipatory guidance about a range of postpartum topics and follow-up during the pregnancy would allow patients to better absorb and engage with the information when they leave the hospital after birth.

Lastly, translating the handout into multiple languages with consideration for health literacy would increase accessibility and ensure that all patients, regardless of their primary language, receive the education they need to make informed decisions about postpartum care. This translation would aid in promoting equity and ensure that language barriers do not hinder important access to health education.

Conclusion

Ultimately, the findings underscore a critical need for more consistent implementation of information and accurate documentation of postpartum education. This project served as a foundational step in understanding the specific workflow surrounding postpartum discharge education provided by a group of hospital-based midwives on the day-of-discharge, as well as actions to improve consistency that ensure equitable education is being provided to all patients. The findings emphasize the importance of ensuring that all patients receive the critical education and follow-up they need before leaving the hospital after birth.

On a local scale, this project aimed to address a gap in postpartum education as noted by the practice. As a result, it sought to help bridge the gap and improve practice in the setting of this specific context. This gap contributes to inconsistencies in providing essential postpartum education and follow-up care for specific diagnoses, which, if not addressed, can have long-term consequences for maternal

health. Patient education, especially postpartum education, can be life-saving in the cases of rare but severe complications in the postpartum period. Midwives are often the ones on the frontlines, providing new parents with the tools and knowledge they need to navigate this delicate transition period in the critical weeks after birth. As such, the work midwives conduct during discharge counseling is not only important but essential for the health and well-being of both mother and baby.

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Appendix A

SAVE YOUR LIFE:

Get Care for These POST-BIRTH Warning Signs

Most women who give birth recover without problems. **But any woman can have complications after the birth of a baby.** Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.

POST-
BIRTH
WARNING
SIGNS

<p>Call 911 if you have:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Pain in chest <input type="checkbox"/> Obstructed breathing or shortness of breath <input type="checkbox"/> Seizures <input type="checkbox"/> Thoughts of hurting yourself or your baby
<p>Call your healthcare provider if you have:</p> <p>(If you can't reach your healthcare provider, call 911 or go to an emergency room)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger <input type="checkbox"/> Incision that is not healing <input type="checkbox"/> Red or swollen leg, that is painful or warm to touch <input type="checkbox"/> Temperature of 100.4°F or higher <input type="checkbox"/> Headache that does not get better, even after taking medicine, or bad headache with vision changes

Trust
your instincts.
ALWAYS get medical
care if you are not
feeling well or
have questions or
concerns.

**Tell 911
or your
healthcare
provider:**

"I had a baby on _____ and
(Date)
I am having _____"
(Specific warning signs)

These post-birth warning signs can become life-threatening if you don't receive medical care right away because:

- Pain in chest, obstructed breathing or shortness of breath (trouble catching your breath) may mean you have a blood clot in your lung or a heart problem
- Seizures may mean you have a condition called eclampsia
- Thoughts or feelings of wanting to hurt yourself or your baby may mean you have postpartum depression
- Bleeding (heavy), soaking more than one pad in an hour or passing an egg-sized clot or bigger may mean you have an obstetric hemorrhage
- Incision that is not healing, increased redness or any pus from episiotomy or C-section site may mean you have an infection
- Redness, swelling, warmth, or pain in the calf area of your leg may mean you have a blood clot
- Temperature of 100.4°F or higher, bad smelling vaginal blood or discharge may mean you have an infection
- Headache (very painful), vision changes, or pain in the upper right area of your belly may mean you have high blood pressure or post birth preeclampsia

**GET
HELP**

My Healthcare Provider/Clinic: _____ Phone Number: _____
Hospital Closest To Me: _____



This program is supported by funding from Merck, through Merck for Mothers, the company's 10-year, \$500 million initiative to help create a world where no woman dies giving life. Merck for Mothers is known as MSD for Mothers outside the United States and Canada.

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Appendix B



POST-BIRTH Warning Signs: Postpartum Discharge Education Checklist

Pulmonary Embolism	Essential Teaching for Women
What is Pulmonary Embolism?	Pulmonary embolism is a blood clot that has traveled to your lung.
Signs of Pulmonary Embolism	<ul style="list-style-type: none"> • Shortness of breath at rest (e.g., tachypneic shallow, rapid respirations) • Chest pain that worsens when coughing • Change in level of consciousness
Obtaining Immediate Care	Call 911 or go to nearest emergency room RIGHT AWAY .

RN initials _____ Date _____ Family/support person present? YES / NO

Cardiac (Heart) Disease	Essential Teaching for Women
What is Cardiac Disease?	Cardiac disease is when your heart is not working as well as it should and can include a number of disorders that may have different signs and symptoms.
Signs of Potential Cardiac Emergency	<ul style="list-style-type: none"> • Shortness of breath or difficulty breathing • Heart palpitations (feeling that your heart is racing) • Chest pain or pressure
Obtaining Immediate Care	Call 911 or go to nearest emergency room RIGHT AWAY .

RN initials _____ Date _____ Family/support person present? YES / NO

Hypertensive Disorders of Pregnancy	Essential Teaching for Women
What is Severe Hypertension?	Hypertension is when your blood pressure is much higher than it should be.
Signs of Severe Hypertension	<ul style="list-style-type: none"> • Severe constant headache that does not respond to over-the-counter pain medicine, rest, and/or hydration
What is Preeclampsia/Eclampsia?	Preeclampsia is a complication of pregnancy that includes high blood pressure and signs of damage to other organ systems. Eclampsia is the convulsive phase of preeclampsia, characterized by seizures.
Signs of Preeclampsia	<ul style="list-style-type: none"> • Severe constant headache that does not respond to pain medicine, rest, and/or hydration • Changes in vision, seeing spots, or flashing lights • Pain in the upper right abdominal area • Swelling of face, hands, and/or legs more than what you would expect • Change in level of consciousness
Signs of Eclampsia	<ul style="list-style-type: none"> • Seizures
Obtaining Immediate Care	Call 911 for seizures. Call healthcare provider immediately for any other signs. If symptoms worsen or no response from provider/clinic, call 911 or go to nearest emergency room.

RN initials _____ Date _____ Family/support person present? YES / NO

Obstetric Hemorrhage	Essential Teaching for Women
What is Obstetric Hemorrhage?	Obstetric hemorrhage is when you have an excess amount of bleeding after you have delivered your baby.
Signs of Obstetric Hemorrhage	<ul style="list-style-type: none"> • Bleeding through more than 1 sanitary pad/hour • Passing 1 or more clots the size of an egg or bigger • Character of clots/differentiation of bright red bleeding from dark with clots
Obtaining Immediate Care	Call healthcare provider immediately for signs of hemorrhage. If symptoms worsen or no response from provider/clinic, call 911 or go to nearest emergency room.

RN initials _____ Date _____ Family/support person present? YES / NO

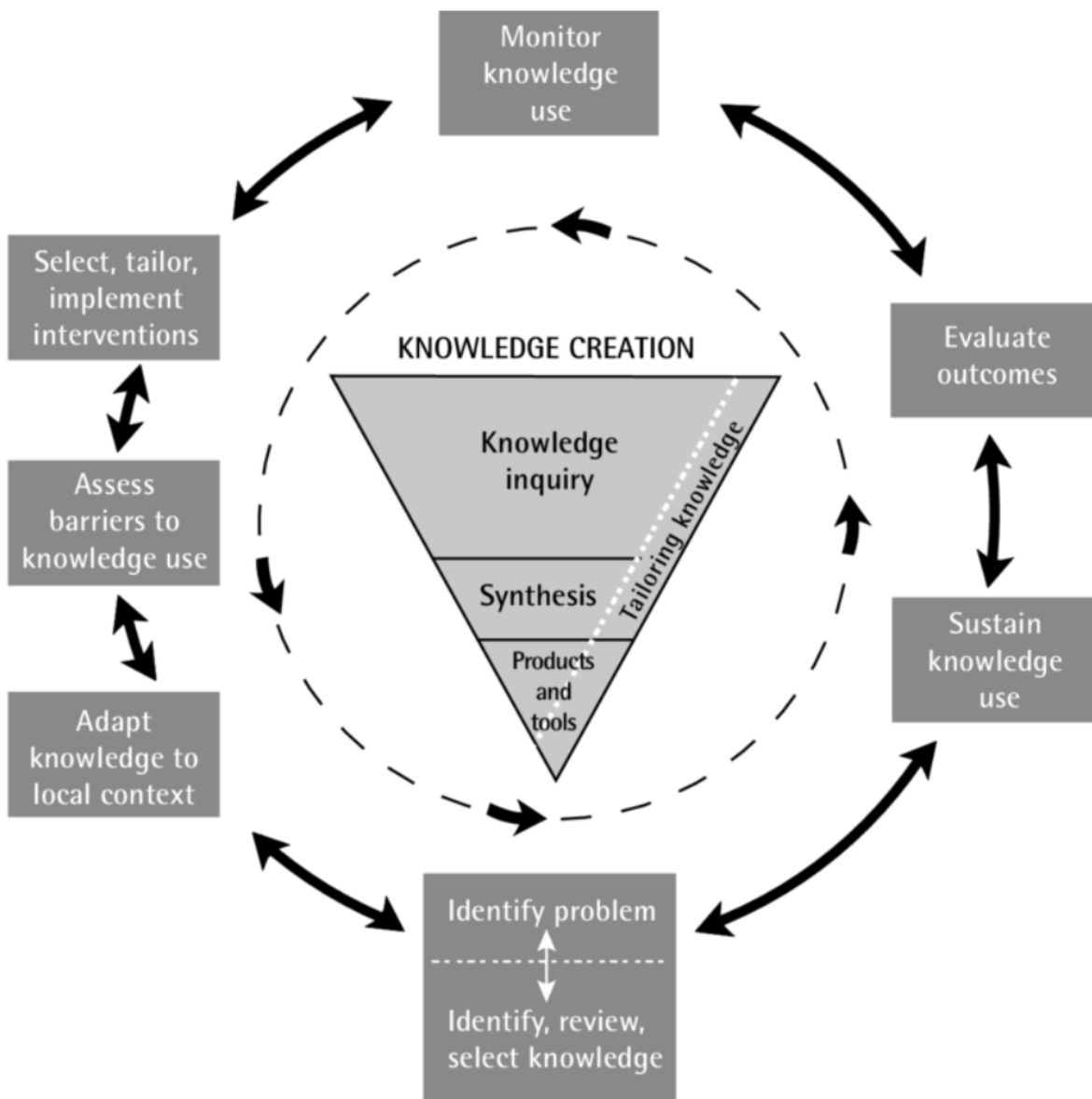


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Page 1 of 2
POST-BIRTH Warning Signs: AWHONN's Postpartum Discharge Education Project

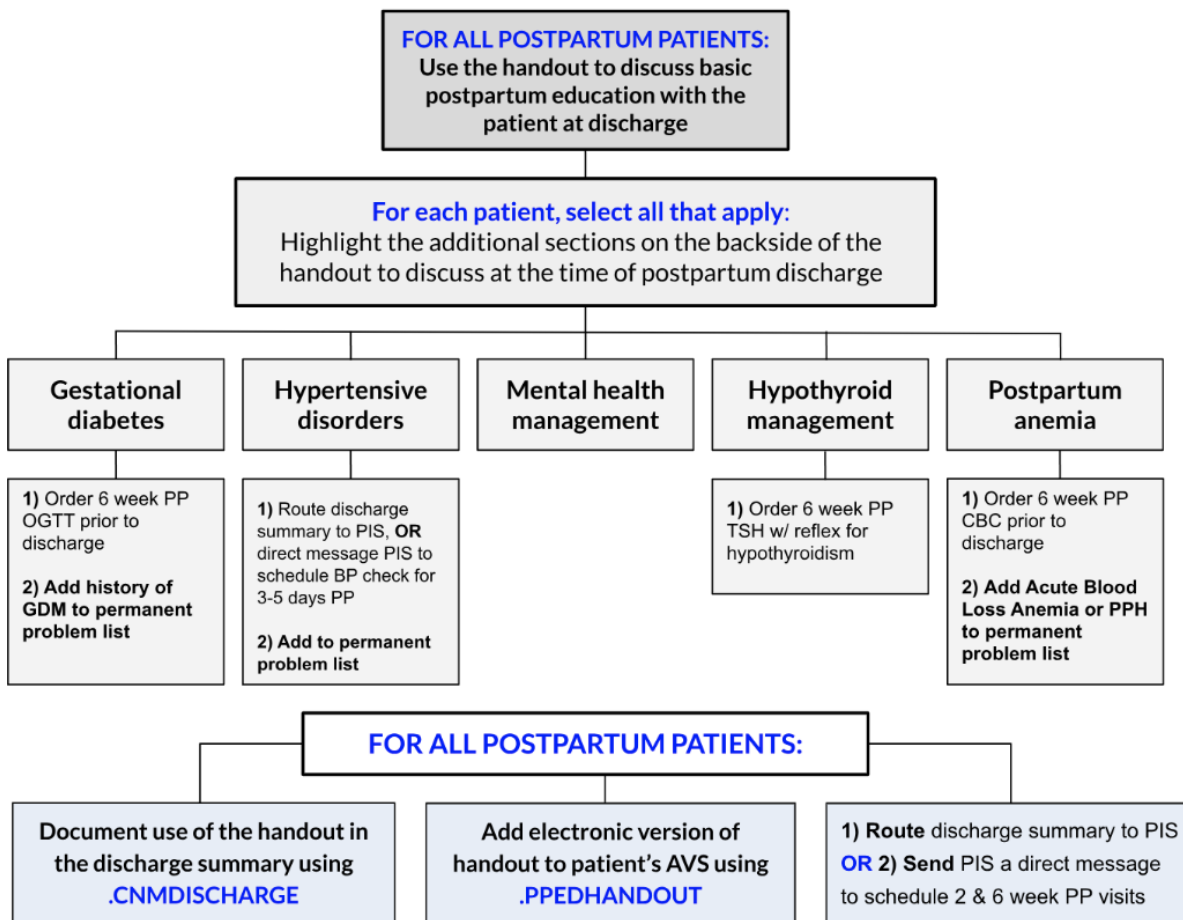
Appendix C

Knowledge to Action Framework (Field et al., 2014)



Appendix D

Midwife Postpartum Discharge Education Workflow



Appendix E

Midwife Postpartum Discharge Education

Call (xxx) xxx-xxxx to schedule your 2 & 6 week postpartum appointments

Postpartum warning signs (unexpected)

CALL 911 FOR:	<ul style="list-style-type: none"> • Chest pain, trouble breathing, feeling dizzy or faint • Seizures (when your body shakes uncontrollably) • Thoughts of hurting yourself or your baby, seeing or hearing things that aren't there • IF YOU GO TO THE EMERGENCY ROOM, tell them you've been pregnant in the last year
CALL YOUR MIDWIFE FOR:	<ul style="list-style-type: none"> • Heavy bleeding from the vagina, soaking 1 or more pads in an hour, or passing clots bigger than a golf ball • Signs of a blood clot in your leg – red, swollen, warm, and painful skin, usually only on one side, not both legs • Really bad headache that doesn't go away with medicine, rest, and drinking fluids • Changes in your vision, sudden swelling of your face, hands, or feet • Trouble peeing or pooping, or not being able to pass gas • Signs of infection: fever over 100.4°F (38°C), increased or worsening pain in pelvis or vagina, bad-smelling discharge or green/yellow pus where stitches are, or a warm and red lump on breast

Physical recovery & self-care (expected or normal to experience)

- **Perineal care** – Change your pad every 2-3 hours, use a peri-bottle, sitz baths, cold/hot packs. Avoid scented products in vagina, keep the area clean to lower the chance of infection. Over-the-counter 'Dermoplast' spray can help to decrease pain on your bottom.
- **Cramping (afterpains)** – Can be worse while nursing or pumping. Empty bladder often, use heating pads, take medications listed below.
- **Pain management** – You can take **acetaminophen** (ex: Tylenol 325-1000 mg) every 4-6 hours, but don't take more than 4,000 mg in a day. You can take **ibuprofen** (ex: Advil 200-800 mg) every 6-8 hours, but don't take more than 3,200 mg in a day.
- **Normal bleeding** – Light to medium bleeding in the first 6 weeks after birth. **Week 1:** bleeding is red or brown. **Week 2-3,** it turns pink-brown. **Weeks 3-6** it is yellow or white with very little blood. Bleeding should get lighter each week. If it gets worse, you might be doing too much activity or have an infection. Rest and see if it gets better. If you are worried about the bleeding, call your midwife.
- **Hemorrhoids** – Use Tucks pads, Preparation H, warm sitz baths, "donut" cushion, stool softener, increase fiber and hydration.
- **Pelvic rest** – Avoid putting anything in your vagina for at least 6 weeks after birth (like tampons or having sex).
- **Food, hydration** – Regular diet with attention to high iron foods, protein, fiber, nutrition and increased fluids for breastfeeding.
- **Activity** – Rest when the baby sleeps, slowly return to normal activities, avoid intense exercise until after 6-week postpartum visit.

Postpartum mood (blues vs depression)

Postpartum blues	You might feel sad, cry a lot, get upset easily, worry, have trouble sleeping, feel very tired, cranky, or struggle to focus, and have mood swings, but these usually go away within 2 weeks. If not, contact your midwife for help.
Postpartum depression	The symptoms of postpartum depression or anxiety may be similar to postpartum blues but the feelings don't go away on their own. They make it hard to enjoy daily life and time with your baby.
Postpartum anxiety	You might have constant worrying, racing thoughts, restlessness, sleep and appetite changes, fear of something bad happening, and physical symptoms like dizziness and nausea.
Resources	Baby Blues Connection helps people in Oregon who are feeling sad or worried after having a baby. They offer support, information, and resources. To learn more, visit their website at www.babybluesconnection.org Postpartum Support International (https://www.postpartum.net/) and 988 Suicide & Crisis Lifeline (https://988lifeline.org/)

Breastfeeding information & resources

- Some people stop breastfeeding because they think they don't have enough milk. If you're unsure about your milk supply or if your baby is getting enough, make an appointment with a lactation consultant. Continue to take your prenatal vitamin if you are breastfeeding.
- **Birth control** – Breastfeeding to prevent pregnancy is not a reliable option if you don't want to get pregnant soon. Talk to your midwife about what birth control is best for you.
- **Mastitis** – Swollen or sore breasts because of a blocked milk duct or infection. You might see a hard, red, and sore spot on one breast, have a fever, and feel achy, cold, and like you have the flu. Rest, use ice packs on the sore spot, keep breastfeeding your baby, and talk to your midwife for more individual advice and treatment options.
- **Lactation resources** – CWH Lactation Clinic (503)-418-4500, Providence Portland Mother and Baby Clinic (503)-215-6085
- **Websites** – *First Droplets* <https://firstdroplets.com/>, *La Leche League* <https://lille.org/>, *Kelly Mom* <https://kellymom.com/>

*** These conditions may not apply to you. Your midwife will highlight what you need to know on this page ***

Gestational diabetes follow-up (diabetes in pregnancy)

Screening & follow-up postpartum	<p>After having gestational diabetes, you have up to a 60% chance of getting Type 2 Diabetes later in life. It is important to get screened between 4-14 weeks postpartum, and every 1-3 years with your primary care provider.</p> <ul style="list-style-type: none"> Options for screening are an oral glucose tolerance test (OGTT) or a fasting plasma glucose (FPG) test between 4-12-weeks postpartum.
Nutrition	<p>These diet and lifestyle changes may help you from getting gestational diabetes in another pregnancy, and may also prevent or delay you getting type 2 diabetes in the future.</p> <ul style="list-style-type: none"> Eat a balanced diet: Choose whole grains, veggies, lean meats like turkey and chicken, healthy fats like avocado and nuts, and foods high in fiber. Try to avoid sugary and processed foods. Eat often: Have 3 meals and 2-3 snacks each day to keep your blood sugar stable Drink plenty of water: Drink half of your body weight in ounces of water each day. For example, if you weigh 200 pounds, drink 100 ounces of water.
Lifestyle	<ul style="list-style-type: none"> Try to exercise for 150 minutes of moderate exercise per week. Walk after meals to lower blood glucose levels.

Hypertensive disorder of pregnancy follow-up (high blood pressure)

Follow-up postpartum	<p>If you had high blood pressure or preeclampsia during pregnancy or labor:</p> <ul style="list-style-type: none"> Schedule a blood pressure check at the clinic for 72 hours after leaving the hospital If you have a blood pressure cuff at home, check your blood pressure as your midwife advised Call your midwife if the top number (systolic) is 140 or higher, or the bottom number (diastolic) is 90 or higher
Postpartum preeclampsia	<ul style="list-style-type: none"> Call your midwife if you notice any of the following symptoms within the first 6 weeks following birth: Headache, changes in vision, pain in your belly, or swelling of your face, hands, feet

Hypothyroid management

Diagnosed before pregnancy	<ul style="list-style-type: none"> After having your baby, decrease your thyroid medication to the amount you took before pregnancy Follow-up thyroid testing at 6-weeks postpartum
Diagnosed during the pregnancy	<ul style="list-style-type: none"> You may not need any medication postpartum, but talk to your midwife for specific recommendations Follow-up thyroid testing at 6-weeks postpartum

Mental health management

<p>If you have a mental health diagnosis, like depression or anxiety, and took medication during pregnancy:</p> <ul style="list-style-type: none"> Talk to your midwife or mental health provider about managing your medication. Contact your mental health provider to tell them you had your baby so they can help you manage your medications if needed It is usually best to keep taking the same amount of medication right after having your baby to help with hormone and mood changes in the early postpartum period, but talk to your provider to make the best choice for you. During your postpartum visits, you might be asked to fill out a questionnaire to see how you are feeling. If you have any concerns about your mood before your appointment, contact your midwife or your mental health provider.
--

Postpartum anemia follow-up

Follow-up postpartum	<p>Check with your midwife about any blood tests you might need at your 6-week check-up.</p> <p>Warning signs to get help for anemia:</p> <ul style="list-style-type: none"> Heavy bleeding, passing clots bigger than a golf ball, feeling dizzy, faint, very tired, fast or uneven heartbeat
Recommendations	<ul style="list-style-type: none"> Continue to take your prenatal vitamin Take iron pills as advised by your midwife (every other day, with vitamin C, and avoid dairy for 2 hours) Foods high in iron: beef, pork, turkey, chicken breast, eggs, tuna, sardines, shrimp, 100% fortified cereals and oatmeal, cream of wheat, grits, tofu, soybeans, lentils, beans, chickpeas, pumpkin seeds, almonds, pistachios, cashews, brussel sprouts, swiss chard, spinach
Complications of postpartum anemia	<p>Feeling very tired or depressed, trouble bonding with your baby, difficulty thinking clearly, low breastmilk supply, slower wound healing</p>

Appendix F

Patient Demographics & Characteristics	Baseline (June-July) (N = 81)	PDSA Cycle 1 & 2 (Oct-Nov) (N = 72)
Age (years)		
Median	31	32
Min	18	17
Max	45	45
Race (%)		
White	71.60%	72.20%
Black/African American	11.10%	9.70%
Asian Indian	2.50%	1.40%
American Indian/Alaska Native	2.50%	2.80%
Other Asian	3.70%	5.60%
Filipino	1.20%	0.00%
Guamanian or Chamorro	0.00%	1.40%
Other Pacific Islander	2.50%	1.40%
Chinese	0.00%	1.40%
Declined	4.90%	4.20%
Ethnicity		
Non Hispanic, Latinx, or Spanish Origin	80.20%	80.60%
Other Hispanic, Latinx, Spanish Origin	3.70%	5.60%
Mexican, Mexican American, or Chicano/a	9.90%	11.10%
Cuban	0.00%	0.00%
Puerto Rican	0.00%	0.00%
Declined	6.20%	2.80%
Language (primary)		
English	98.80%	97.22%
Spanish	0.00%	2.78%
Arabic	1.20%	0.00%
Insurance		
Public	53.1%	77.80%
Private	46.9%	22.20%
Gravida/Para		
Nulliparous	51.90%	61.10%
Multiparous	48.10%	38.90%
Mean Gestational Age at Delivery	39 weeks and 4 days	40 weeks and 2 days
Type of Delivery		
Land birth	95.1%	91.70%
Water birth	3.7%	6.90%
Forceps assisted	1.2%	1.40%
Vacuum assisted	0.0%	0.00%

*Eligible patients in this table include those that were discharged from the midwifery service including both land and water births, as well as forceps and vacuum-assisted deliveries. Patients who had a cesarean section or whose postpartum care and discharge were managed by the obstetrician team were excluded in this project.

Appendix G

Postpartum Discharge Education Documentation	Baseline (June-July) (n= 81)	PDSA Cycle 1 (Oct) (n= 39)	PDSA Cycle 2 (Nov) (n= 33)
Provider Type (midwife) (%)			
Faculty	71.6%	71.8%	42.4%
Per Diem	3.7%	2.6%	30.3%
Student	24.7%	25.6%	27.3%
Use of the Standardized Discharge Summary (DS)			
Yes	98.8% (80)	100% (39)	100% (33)
No	1.2% (1)	0.0%	0.0%
Percentage of postpartum education documented in DS by topic	Nothing beyond standardized template (appendix H)		
Postpartum warning signs	_____	97.4%	100.0%
Normal postpartum recovery	_____	92.3%	97.0%
Postpartum mood changes	_____	87.2%	93.9%
Breastfeeding support & education	_____	87.2%	90.9%
Pelvic rest	_____	92.3%	84.8%
Activities	_____	89.7%	84.8%
Diet & hydration	_____	84.6%	84.8%
Percentage of patients with an additional diagnosis			
Hypertensive disorders of pregnancy	19.4% (12)	15.4% (6)	30.3% (10)
Gestational diabetes	19.4% (12)	15.4% (6)	27.3% (9)
Hypothyroidism	9.7% (6)	10.3% (4)	3.0% (1)
Mental health diagnosis	66.1% (41)	38.5% (15)	42.4% (14)
Postpartum anemia	38.7% (24)	25.6% (10)	48.5% (16)
None	23.5% (19)	33.3% (13)	12.1% (4)
Of those with an additional diagnoses, percentage of charts had appropriate documentation in the DS			
Hypertensive disorders of pregnancy	66.7%	83.3%	80.0%
Gestational diabetes	0%	66.7%	66.7%
Hypothyroidism	16.7%	75.0%	0.0%
Mental health diagnosis	17.1%	86.7%	85.7%
Postpartum anemia	37.5%	80.0%	62.5%
Of those with a diagnosis and documentation in the DS, percentage of charts with corresponding after-visit summary (AVS)	Not evaluated for baseline data due to lack of consistent AVS document & variation across the midwives with no consistent AVS SmartPhrase		
Hypertensive disorders of pregnancy	_____	100.0%	37.50%
Gestational diabetes	_____	100.0%	66.7%
Hypothyroidism	_____	66.7%	0.0%
Mental health diagnosis	_____	69.2%	41.7%
Postpartum anemia	_____	75.0%	70.00%
Distribution Method for Handout	No handout prior to intervention		
Paper handout	_____	Not collected in PDSA 1	12.1%
Electronically in AVS	_____	64.1%	27.3%
Both	_____	Not collected in PDSA 1	60.6%

Appendix H

DISCHARGE INSTRUCTIONS:

Diet: Regular diet with attention to high iron foods, nutrition for breastfeeding, increased fluids

Activities: As tolerated with instructions to rest when baby sleeps, gradual return to normal activities, avoid strenuous exercise until after 6 week post partum visit

Pelvic rest x 6 weeks

Family planning: considering options

Education: danger signs (including post partum infection, DVT, excessive bleeding), normal post partum recovery, baby blues versus post natal depression, and infant feeding education, support and resources

HPV Vaccination: Not indicated

Return to OHSU CNMs per pt desire in 2 weeks and 6 weeks.

*SmartPhrase (.CNMDISCHARGE) *prior to intervention*

Appendix I

My Note

☆ | B | + | ? | + | Insert SmartText | ← | → | ↻ | ↓ | ↵ |

Postpartum education discussed at day-of-discharge
 PPBASIC ▾
 -- Contraception: ***
 -- HPV Vaccination: HPV Vaccination at Discharge ▾

Provided education and follow-up based on the following diagnoses per patient history (hypertensive disorder, mental health disorder, hypothyroidism, GDM, PP anemia)
 PPSPECIFIC ▾

Return to *** in 2 weeks (may be virtual) and 6 weeks.

My Note

☆ | B | + | ? | + | Insert SmartText | ← | → | ↻ | ↓ | ↵ |

Postpartum education discussed at day-of-discharge
 PPBASIC ▾

-- Postpartum warning signs reviewed including infection, DVT, excessive bleeding, preeclampsia symptoms.
 -- Education provided on normal postpartum recovery and care
 -- Postpartum mood changes discussed (baby blues vs postpartum depression and anxiety) and resources provided
 -- Breastfeeding support and education provided. Lactation resources and websites for breastfeeding support
 -- Pelvic rest for at least 6 weeks postpartum, nothing in the vagina (tampons, sex, douching)
 -- Activities: return as tolerated with instructions to rest when baby sleeps, gradual return to normal activities,

Provided education and follow-up based on the following diagnoses per patient history (hypertensive disorder, mental health disorder, hypothyroidism, GDM, PP anemia)
 PPSPECIFIC ▾

-- Not applicable to patient
 -- Patients with a known hypertensive disorder: Discussed follow up and recommend blood pressure check 7
 -- Discussed mental health management in the postpartum period. Recommended to follow-up with your midw
 -- Reviewed hypothyroidism management and follow-up in the postpartum period
 -- Discussed gestational diabetes follow up including postpartum screening options, lifestyle and nutrition reco
 -- Reviewed postpartum anemia treatment options and follow-up

*SmartPhrase (.CNMDISCHARGE) after intervention implementation

Appendix J



Likert Scale Questions

The postpartum discharge education handout was clear, easy to understand, and well-organized for delivering quality education to patients postpartum on the day-of-discharge.

- Strongly disagree (1)
 Somewhat disagree (2)
 Neither agree nor disagree (3)
 Somewhat agree (4)
 Strongly agree (5)

The handout provided relevant and practical information for managing postpartum recovery, including warning signs, self-care, mood changes, and breastfeeding resources.

- Strongly disagree (1)
 Somewhat disagree (2)
 Neither agree nor disagree (3)
 Somewhat agree (4)
 Strongly agree (5)

How effective was the handout in helping you provide education to patients about the five diagnoses (GDM, HTN, PP anemia, hypothyroidism, mental health management) and supporting them in following through with necessary postpartum care?

- Very ineffective (1)
 Somewhat ineffective (2)
 Neither effective nor ineffective (3)
 Somewhat effective (4)
 Very effective (5)

I am satisfied with the content and delivery of the postpartum discharge education handout, and I believe it meets the needs of my patients.

- Strongly disagree (1)
 Somewhat disagree (2)
 Neither agree nor disagree (3)
 Somewhat agree (4)
 Strongly agree (5)

The standardized template for the discharge summary improved the clarity and usability of the postpartum discharge education documentation.

- Strongly disagree (1)
 Somewhat disagree (2)
 Neither agree nor disagree (3)
 Somewhat agree (4)
 Strongly agree (5)

How likely are you to continue using this postpartum discharge education handout to improve the consistency of education provided to patients?

- Extremely Unlikely
 Somewhat Unlikely
 Neither likely nor unlikely
 Somewhat likely
 Extremely likely

Short Answer Reflection & Feedback Questions

What do you feel was the most useful part(s) of the postpartum discharge education handout and why?

Is there any aspect of the handout that you believe could be improved or clarified to better support patients' understanding and postpartum care?

Is there anything that you disliked about the handout or workflow?

Are there any topics that you would add to the handout about general postpartum education?

Are there any additional diagnoses (i.e. gestational diabetes, hypothyroidism, etc.) or special follow up care that you would add to the handout?

Any additional feedback about the handout and/or workflow is greatly appreciated:

*Post-intervention survey