

Running Head: POSTPARTUM EDUCATION REDESIGNED

Postpartum Education Redesigned: A Quality Improvement Project

By

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**Dedication**

I dedicate this project to all the mummies out there, especially Michaelena and Theresa.

I love you and miss you both.

### **Acknowledgments**

I would like to thank my husband Jesse, daughter Emersyn and the rest of my family for all of your love and constant support. I would not be where I am today without you all. I would also like to thank my project chair, Dr. Rita Nutt for all of her time, assistance and encouragement throughout this project.

### Abstract

The United States has the highest rates of maternal morbidity and mortality among all developed nations, and the majority of these cases have been deemed preventable. Many women who have just given birth are not aware of the complications that can occur during the postpartum period, making this a critical time for these patients to receive essential education. This project served to develop an evidence-based postpartum education program with the goals of increasing patient satisfaction and knowledge surrounding possible postpartum complications. A secondary goal of this project was to improve nurse satisfaction with patient education and discharge processes. The postpartum education process was restructured and included the use of a new education checklist designed by experts in postpartum nursing. Voluntary surveys were distributed to qualifying postpartum nurses and patients pre- and post-educational modification to ascertain for any changes in knowledge and/or satisfaction among the groups. Descriptive and inferential statistics were performed on all survey data. Post-implementation findings demonstrated statistically significant differences in the frequency that nurses reviewed possible complications, in patient confidence and knowledge regarding possible post-birth complications and in patient satisfaction with their current knowledge surrounding postpartum complications. The results of this pilot study justify continued use of the modified education checklist in order to increase postpartum patient knowledge of potential complications and assist in decreasing rates of preventable maternal morbidity and mortality.

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### **Project Overview**

The United States is often seen as superior when it comes to healthcare provision; however, the U.S. surprisingly has one of the highest rates of maternal morbidity and mortality among all developed nations (Bingham, et al., 2018). One specific intervention that is correlated with a reduction in maternal morbidity and mortality is postpartum education (Suplee et al., 2016). The current techniques utilized for hospital postpartum education in the United States are lacking in both evidence-based practice and uniformity (Suplee et al., 2017). Possible postpartum complications should be an essential aspect of hospital patient education for all new mothers (Suplee et al., 2016). Nurses are expected to provide the majority of this education to new moms; however, one study performed by Suplee et al. (2017) concluded that 67% of obstetric nurses admitted to spending less than ten minutes providing education on potential post birth warning signs. Another study, by Behal et al. (2018), found that postpartum patients surveyed had inadequate knowledge of postpartum warning signs requiring immediate medical attention. Nurses are expected to educate postpartum mothers, but the process is often inadequate and unpredictable (Suplee et al., 2016). This DNP quality improvement project intends to expand upon the postpartum education practices currently in place at a medical center in Maryland. In conjunction with the hospitals department of Women's and Children's Health Services, this project will serve to ensure that postpartum education provided includes comprehensive education on post-birth warning signs, is evidence-based, comprehensive and consistent for all patients.



**Problem Statement**

The United States currently has the highest rates of maternal morbidity and mortality among all developed nations (Bingham et al., 2018). According to the Centers for Disease Control and Prevention, sixty percent of all maternal deaths in 2018 were deemed preventable (2019). Maternal death is defined as the death of woman while pregnant or within 42 days of pregnancy termination from any cause related to the pregnancy (Behal et al., 2018). Studies show that hospital postpartum education provided by nurses is lacking in evidence-based practice recommendations and consistency (Suplee et al, 2016) (Suplee et al., 2017). Many patients are not fully aware of the possible postpartum complications that can occur after giving birth (D’Oria et al., 2016). A more strategic approach is needed to guide nurses in their practice of postpartum patient education in order to ensure that patients remain informed of evidence-based information, as well as, remain satisfied with the quantity and quality of education provided.

**Purpose of Project**

The purpose of the current DNP project was to develop a streamlined evidence-based education program for nurses to provide to postpartum patients with the goals of increasing patient satisfaction with the education provided, as well as, increasing patient awareness of possible postpartum complications and their accompanying post-birth warning signs. A secondary goal of the project was to improve nurse satisfaction with the patient education and discharge processes.

**Clinical Question PICOT**

The following clinical question was utilized to guide the project: In postpartum patients, does a redesigned comprehensive evidence-based discharge education program, improve patient knowledge about postpartum complications?

**Literature Review**

In the fall of 2019, before undertaking the preliminary search, a list of all possible search terms and related words was identified to answer the question formulated above.

Using the

Boolean search mode, the lists of search terms were combined with the phrase:

(postpartum education OR hospital postpartum education) AND (maternal mortality OR maternal morbidity) AND (essential knowledge for postpartum women OR POST-BRITH warning sign education). The publishing date limits were applied to only include articles published between 2014 and 2019 that were written in the English language, full text and had been peer reviewed. Cochrane Library, MEDLINE and PubMed produced a total of 42 articles (see Appendix A).

After assessing the 42 articles identified, 18 were removed due to duplication.

Both the titles and abstracts of the remaining 24 articles were examined to assess for their ability to answer the proposed PICOT question. Other inclusion criteria were articles written in the English language, those that were published by reliable peer-reviewed journals and those that made suggestions for the quality improvement of postpartum education. A total of 14 articles were removed due to their focus on other aspects of postpartum care. These included education on the newborn, breastfeeding and timing of the initial postpartum visit (see Appendix A).

Finally, a total of 10 articles were then eligible for further review. After reviewing the full-text versions of all 10 eligible articles 1 article was removed, as it was a review of another eligible article. As this was a review of another article already being considered, this article did not allow for any new information. Overall, the literature search process yielded 9 articles for further review and literature synthesis (see Appendix A).

### **Important Themes**

Hospital postpartum patient education can often be very overwhelming to new mothers. A new mother is expected to learn not only about the care of themselves post-birth, but also the care of their newborn baby (Wagner & Washington, 2016). New mothers are in the hospital for only a short time following birth, and this brief hospital stay leaves inadequate time for nurses to provide a thorough educational experience (D’Oria, 2016). When new mothers leave the hospital without knowing the essential aspects of postpartum care the consequences can be detrimental. It is extremely important that postpartum education be comprehensive and that all aspects of postpartum care are thoroughly discussed (Suplee et al., 2016). Studies indicate that more time must be spent focusing on postpartum complications and the warning signs that precede them (Suplee et al., 2016; Suplee et al., 2017). Postpartum education is often provided during discharge, which has been shown to be a distracting time for patients leaving the hospital (Wagner & Washington, 2016). According to Suplee et al., (2016) scripted postpartum education helps nurses to ensure that all essential aspects of postpartum care are covered. It has been suggested that postpartum education occur throughout a patient’s stay and include not only routine postpartum topics, but also reiteration of post-birth warning signs (Suplee et al., 2016).

Despite the massive amount of funds spent on healthcare annually, the United States has the highest rates of maternal morbidity and mortality (Bingham et al., 2018). According to the Centers for Disease Control and Prevention (2019), sixty percent of all maternal deaths in 2018 were deemed preventable. Pregnancy, as well as the postpartum period, is a complex time when a new mother's life and body must adapt to change. The last thing on any new mother's mind is the idea of a pregnancy related complication or maternal mortality. Although it may be a difficult topic, maternal morbidity and mortality must be discussed with postpartum women, as they relate to postpartum complications (Suplee et al., 2016). Consistent evidence-based patient education has been correlated with higher rates of patient satisfaction and better patient outcomes (Bingham et al., 2018).

The current system of postpartum education in the United States is lacking in both structure and consistency (Suplee et al., 2017). Possible postpartum complications are an essential piece of postpartum education for new mothers. Nurses are tasked with the job of providing the majority of hospital education to new moms, which should include such important topics as what to do if they experience chest pain, have thoughts of hurting oneself or develop a headache that is not relieved by medication (Suplee et al., 2016). One study performed by Suplee et al. (2017) found that only 54% of obstetric nurses are aware of the rising rates of maternal mortality in the United States, and that they admitted to spending a small amount of time educating patients on potential post-birth warning signs. More time is needed to fully educate patients on possible postpartum complications and post-birth warning signs. Registered nurses make up the largest healthcare workforce in the United States and provide the most one-on-one care and education to patients.

Knowing the nurse's significant role in patient education places them in a unique position to aid in the reduction of pregnancy related morbidity and mortality in the United States (Bingham & Cornell, 2016).

It is crucial that new mothers be informed about possible postpartum complications that may occur after birth. A study by Behal et al., (2018) found that women surveyed had inadequate knowledge of both postpartum and newborn warning signs, which required immediate medical intervention. There is also a massive “disconnect” between what medical signs and symptoms healthcare providers deem to be of concern and what symptoms worry new mothers (Behal et al., 2018). VanOtterloo et al., (2019) found that new mothers' lack of awareness of symptoms, such as those of possible life-threatening post-birth complications, significantly contributed to their delays in seeking care. Implementation of comprehensive postpartum education was found to yield the best results for women in the hopes of reducing maternal morbidity and mortality (Suplee et al., 2017). Patient education is key in teaching women to recognize the signs and symptoms of pregnancy related complications (D'Oria, 2016). It has become apparent that nurses are able to help prevent maternal morbidity and mortality through the thorough education of mothers before, during and after pregnancy.

### **Variations in Concept Definitions or Populations**

When considering maternal morbidity and mortality there a number of different definitions to capture these data. According to Behal et al. (2018) the World Health Organization defines maternal death as the death of a woman that occurs while she is pregnant, at birth or any time within forty-two days after birth. The most recent data show the maternal mortality rate in the United States is 17.4 per 100,000 live births

(Centers for Disease Control and Prevention, 2019). While the number of maternal deaths may seem small, it has been steadily rising since 1990 (Bingham & Cornell, 2016).

Morton et al. (2019) defines pregnancy related death as the death of a woman up to one year following pregnancy. In addition to maternal and pregnancy related death, pregnancy can also cause maternal morbidity. Maternal morbidity is defined by the Centers for Disease Control and Prevention as any unexpected health outcome occurring during or after childbirth causing the mother significant short- or long-term health consequences (Bingham & Cornell, 2016).

### **Variations in Methods Quality**

It is apparent that hospitals within the United States are lacking in many ways when it comes to the education of postpartum mothers (Suplee et al., 2018). It has been shown that, unfortunately, new mothers are not provided with enough information on the warning signs and complications that may occur during the postpartum period (Suplee et al., 2018). As a means to support the current DNP quality improvement project, a literature review was performed which yielded nine articles (see Appendix B). Using the Johns Hopkins Nursing Evidence-Based Practice Rating Scale the articles were appraised for their strength and quality of evidence (see Appendix B). Of the nine articles, three were deemed to be level II A, as they were quasi-experimental in nature and results were of high quality (see Appendix B). Four of the nine studies were assessed to be level III on strength of evidence and given a rating of A for quality (see Appendix B). All four of these articles were focused on quality improvement as it applies to postpartum education and the strength of evidence yielded was estimated to be high quality. The final two articles included in the review were rated Level V B as they included both the input of

experts in the field of postpartum education and literature reviews (see Appendix B). These articles were rated B for their quality of evidence because while they both included reasonably consistent recommendations, but the expertise of clinical opinion contributions was not clearly evident.

## **Theoretical Framework and Model Overview**

### **Conceptual Theoretical Framework**

According to Nilsen (2015) the three goals of using theoretical frameworks and models in research include guiding the transformation of research into action, understanding what may influence outcomes and assessing the overall implementation. This DNP project was designed based on the Self-Care Deficit theory by Dorthea Orem. According to Orem (1971) this theory states that it is the nurses' role to support patients in promoting their ability to be responsible for their own care. A major assumption of this theory is that patients must be knowledgeable about potential health problems in order to promote further self-care behavior (Orem, 1971). When a patient is aware of what to expect, they are better equipped to note changes in their status and seek care if needed. A patient unaware of possible postpartum complications may not know what to do if and when a potential warning sign begins. The current quality improvement project has been planned to make postpartum patients aware of possible postpartum complications and post-birth warning signs, as well as when to seek immediate care.

### **Quality Improvement Model**

As previously stated, a quality improvement model is employed to guide clinical improvement and assist in the implementation of practice changes (Nilsen, 2015). The

current DNP project will utilize the Plan Do Study Act (PDSA) model for improvement. The PDSA model provides a framework for the development, testing and implementation of healthcare practice changes leading to improvement (IHI, 2020). This model allows for the incorporation of evidence into practice by making changes in the manner that healthcare institutions provide care (Newcombe & Fry-Bowers, 2018). The PDSA process allows for the proposed change to occur on a small scale before widespread practice change is implemented (IHI, 2020). During the fall of 2019 time was spent examining the educational practices of postpartum nurses at PRMC and speaking with management on this topic. The observed postpartum education practices were unstructured, and many times lacking in mention of postpartum complications. Management was supportive of making the necessary changes as outlined in this current DNP quality improvement project.

The first step in the PDSA model is to plan for the practice change. This project began by planning for the restructuring of postpartum education provided to patients at the medical center. This project improved upon the current practices in place by incorporating evidence-based education, including a focus on possible postpartum complications and their preceding post-birth warning signs. The second step in the PDSA model is “do”, which includes the implementation portion of the project. The proposed improvements to postpartum education at the chosen medical center took place throughout the fall of 2020. These improvements included education for nurses on post-birth warning signs, as well as, the use of a scripted educational checklist and evidence-based post-birth warning sign information. The third portion of the PDSA model calls for a study of the implemented actions. The study portion of this specific project included



data collection through use of surveys and data examination. All collected data were analyzed using descriptive and inferential statistics to summarize findings, assess for trends and any possible improvements. At this point, decisions were made about the value of sustaining the practice change. The fourth, and final step, of the PDSA model is the action step. During this final phase in the cycle permanent widespread implementation of the practice change will take place assuming implementation has been successful.

### **Project Design**

#### **Setting**

The current DNP quality improvement project took place at a medical center in the Mid-Atlantic region of the United States. This 266-bed medical center offers a wide range of specialty and sub-specialty care services and serves populations residing in the hospitals neighboring tri-county area. In addition to its multitude of other medical services, the hospital provides maternity care including labor and delivery and mother/baby care on its postpartum unit. This medical center has an average of 2,000 live births per calendar year. The postpartum unit is family-centered and provides “couplet care” to both postpartum mothers and their newborn babies simultaneously. Registered nurses working on the postpartum unit are responsible for providing nursing care and education to the postpartum mothers. These registered nurses were responsible for the implementation of the newly designed, standardized, evidence-based education to all postpartum patients.

## Participants

The target population of this project consisted of a convenience voluntary sample of postpartum patients and postpartum registered nurses meeting inclusion criteria. All postpartum patients, regardless of their inclusion in the current project, received the redesigned evidence-based education during the implementation phase. The estimated sample size (n) was 50 patient participants and 25 registered nurses for each of the pre-implementation and post-implementation groups. Postpartum registered nurse inclusion criteria of both the pre- and post-intervention groups included:

- registered nurses that have worked (day or night shift) on the postpartum (mother/baby) unit for at least one year
- not in a supervisory role
- provide direct nursing care to patients

Postpartum registered nurse exclusion criteria of both the pre- and post-intervention groups included:

- registered nurses who have worked less than one year on the postpartum (mother/baby) unit
- work in a supervisory role
- do not provide direct patient care

Postpartum patient inclusion criteria of both the pre- and post-intervention groups included:

- adult females with a minimum age of eighteen
- who have the ability to read, write and understand the English language

- those who had a live (vaginal or cesarean) uncomplicated birth at PRMC during the specified interventional timeframe
- those whose newborn(s) are medically stable and did not require a higher level of care

The patient participant exclusion criteria included:

- patients who have given birth outside of the project hospital
- those under the age of eighteen
- patients with known cognitive impairment
- patients who are non-English speaking
- those who are unable to read or write
- postpartum patients who have experienced a complicated birth
- those whose baby was born needing a higher level of care
- and patients whose baby did not survive or was stillborn

### **Intervention**

The project's intervention included the education of postpartum nurses along with practice changes to the content taught and the manner in which nurses educated the postpartum patients. Nurse education included informational sessions, which outlined the current evidence-base best practice guidelines for educating postpartum patients. The informational sessions for nurses utilized pre-recorded educational lectures. These informational lectures were sent to postpartum nurses via their work email and were able to be saved and viewed at the nurse's convenience. Each nurse was able to review the session independently and viewing completion was mandatory for all nurses between October 18, 2020 and October 24, 2020. The improvements to the patient education

process also included use of the POST-BIRTH Warning Signs: Postpartum Discharge Education Checklist developed by The Association of Women's Health, Obstetric and Neonatal Nurses, (AWHONN) (See appendix C). The checklist was developed in 2017 with the intent of educating postpartum women on all possible post-birth complications. The checklist was established by a group of nurse experts to ensure that all essential content areas were included. Postpartum nurses utilized the educational checklist before and during discharge. Permission for use of this educational checklist tool during the current project was granted by AWHONN (See appendix D).

The proposed checklist topics were incorporated into the postpartum education outline for each patient. It was proposed that it become part of their permanent medical record to be accessed by the assigned registered nurse. Each shift nurses were responsible for completing the educational checklist to ensure every aspect of postpartum education was covered. The newly designed education incorporated evidence-based practice recommendations including a daily focus on possible post-birth complications and complication warning signs. Nurses were required to provide education once per shift and the education involved both verbal face-to-face education, as well as, distribution of printed educational material. The implementation of this education began on October 25, 2020 and lasted until December 11, 2020.

### **Data Collection**

The proposed DNP project utilized a post-test only design with a pre-intervention comparison group. Using this design the project employed the survey method and included a survey for patient participants and another survey for registered nurses. While all patients were provided with the newly redesigned education, only those meeting

criteria were offered voluntary surveys. Voluntary patient participants who meet inclusion criteria were surveyed on both their knowledge of possible postpartum complications, along with their satisfaction of the education provided and the discharge process. As a secondary analysis, registered nurses meeting inclusion criteria were surveyed on their satisfaction with the patient education and discharge process.

The pre-implementation nursing and patient surveys were given to consenting participants meeting inclusion criteria during the timeframe from August 31, 2020 to October 17, 2020. Implementation of the newly designed education began on October 25, 2020 and lasted until December 11, 2020. During the implementation period, consenting registered nurses and postpartum patients were given voluntary surveys to complete constituting the post-implementation group (see Appendix E). Nurse surveys were placed in the unit mailboxes of those nurses meeting criteria. The discharging nurse offered patient surveys to patients meeting criteria on the morning of the patient's day of discharge. Completed surveys were returned to separate secure locked collection boxes located in non-public areas of the postpartum unit and were later retrieved by the student investigator. The collection box for nursing surveys was located in the nurse locker room. The patient survey collection box was located behind the nurse's station at the front of the unit. All survey data was transferred to a spreadsheet on a password protected personal computer. Once data from collected surveys was transferred to the password-protected computer, the paper surveys were destroyed using a paper shredder.

All participants' surveys (pre- and post-implementation) included an attached statement of confidentiality and informed consent, as well as, a sealable envelope where the survey could be placed after completion to ensure participant anonymity and

confidentiality (see Appendix F). The patient survey (pre- and post-implementation) used a Likert scale and contained six demographic fill in the blank questions, eight Likert scale statements on the patients knowledge of postpartum complications, four Likert scale statements rating satisfaction with the education and discharge process and provided additional space for free-text comments (see Appendix E). The nurse survey (pre- and post-implementation) also utilized a Likert scale and contained five demographic fill in the blank questions, four Likert scale statements rating satisfaction with the education and discharge process, and provided for additional free-text comments (see Appendix F).

### **Data Analysis**

Inferential and descriptive statistics were used to analyze the collected data for comparison of the pre- and post-intervention groups. Both patient survey groups (pre and post-intervention) were compared to assess for any noted improvement of patient knowledge about postpartum complications and any changes in patient satisfaction with the discharge process. The nurse surveys, both pre and post-intervention, were compared to assess for any possible changes in satisfaction with the education and discharge process. All surveys were distributed as a means to determine if the redesigned postpartum education pilot should become standard practice and procedure within the hospital. Dissemination of findings included the completion and submission of a final written DNP project paper, a formal presentation and development of a submission-ready manuscript that was submitted for publication in a peer-reviewed journal.

### **Organizational System Analysis SWOT**

The SWOT analysis includes an investigation of the organizations (S) strengths, (W) weaknesses, (O) opportunities and (T) threats (Dunn, 2016) (see Appendix G). To

undertake the current SWOT analysis, an examination of the organization's strategic plan was examined. The current strategic plan for the medical center was posted on the hospital's website (Project Hospital, 2020). Time spent on the postpartum unit at the hospital also allowed for first-hand assessment of the unit itself. The first part of the SWOT analysis requires a consideration of the organizations strengths when compared to competitors (Dunn, 2016). The hospital center in the mid-Atlantic region has many strengths, which include but are not limited to: an established standard of high performance; a culture that embraces evidence-based practices; focused and motivated members of leadership; a highly advanced information technology system; and already established services and outpatient centers of care within the community (Project Hospital, 2020). This hospital houses the only obstetrical unit in the immediate region and serves a tri-county area. The postpartum unit offers "couplet care" providing simultaneous medical care to postpartum patients and their newborns at the same time. It is because of these strengths that this hospital has the capability to stay competitive on a local level when it comes to advances in healthcare performance, medical technology and serving the healthcare needs of the local community. As Dunn (2016) points out benchmarking allows other organizations to learn from the top performers, and as the local leader of healthcare in the region, this medical center serves as a benchmark in many ways for other healthcare organizations.

The second step of the SWOT analysis includes discussing weaknesses of the organization (Dunn, 2016). Current weaknesses noted within the strategic plan are discussed in terms of goals for improvement that facility administrators have outlined for the future. Weaknesses of the medical center include medical staff recruitment, staff

retention and limitations with proposals and resources for research (Project Hospital, 2020). The strategic plan noted that the health system has identified goals to improve employee retention, recruitment and engagement. The medical center has also set goals for supporting evidence-based practices and the development and support of a culture of inquiry and innovation (Project Hospital, 2020). The current patient education practices on the postpartum unit at the hospital are both inconsistent and lacking in evidence-based practice recommendations. This weakness can be detrimental to patients as they leave the hospital without essential knowledge.

The third aspect of the SWOT analysis looks for the future opportunities of the organization (Dunn, 2016). Two principal opportunities that the medical center has as a healthcare organization are the possibility of developing integrated healthcare services for the community it serves and the possible improvement of accessibility to healthcare for those local residents in the region (Project Hospital, 2020). As a local leading center of healthcare, this medical center is currently making use of these opportunities by expanding their provision of care beyond the walls of the hospital. New medical centers are being developed in surrounding counties to serve patients in the tri-county area. By expanding their area of care, this medical center has developed an organized health systems network of hospitals ensuring their high standard of care is provided to all local residents (Project Hospital, 2020). The postpartum unit at this medical facility has the opportunity to improve upon its current practices of patient care and education. Through implementing ongoing mandatory staff education, the hospital center is working to ensure that its nurses are practicing the most current up-to-date evidence-based care.



The fourth and final feature of the SWOT analysis includes an examination of the threats to the organization's success (Dunn, 2016). The threats to the hospital include other healthcare competitors and changes to the reimbursement rates for medical care (Project Hospital, 2020). Other healthcare organizations in this area pose a threat to the medical center by providing similar services. Constant changes in reimbursement rates and the factors affecting them also pose a threat to the organization and their financial situation. This medical center is working diligently to combat these threats through the process of developing goals of care. Current goals set to contest these threats include decreasing the re-admission rate of patients and increasing overall satisfaction rates of the patient experience (Project Hospital, 2020). Being the only organization in this area offering obstetrical services is an organizational strength as well as a threat. Many patients are unhappy with their lack of options and the fact that the only place conveniently located to birth in this area is at this specific medical center. The hospital in the mid-Atlantic area, along with other members of its healthcare system, must remain committed to upholding high standards of care as outlined within its strategic plan and ensure the provision of high-quality care to all residents in the tri-county area.

### **Implementation Timeline**

During the fall of 2019 exploration of current areas of improvement necessary within nursing practice was performed. After assessing these needed areas of improvement, a topic was identified for the current DNP project. Support was then gained by the proposed agency. Once support was gained, proposal development then began during the winter of 2020. In the spring of 2020 proposal development continued along with an exploration and appraisal of research related to the topic (see Appendices A

and B). During the spring of 2020 this project gained IRB approval from both Salisbury University and the project hospital (see Appendix H). Once IRB approval was granted, data collection began during the fall of 2020. During the first seven weeks from August 31, 2020 to October 17, 2020 pre-implementation data collection occurred. The collection of pre-implementation data transpired through the distribution of pre-implementation surveys to both postpartum patients and nurses. During the time period from October 18, 2020 to October 24, 2020 nurse education focused on the newly designed postpartum education process commenced. It was throughout this week that nurses were sent the educational power point for mandatory viewing via their work email. During the second half of the fall semester from October 25, 2020 to December 11, 2020 project implementation occurred. Implementation included the use of educational checklists for nurses, postpartum education required once per shift and a new focus on possible post-birth complications and their warning signs. During this time post-implementation data collection was collected through the dispersal of post-implementation surveys for both postpartum patients and nurses. Finally, during the spring of 2021 all collected data was analyzed using inferential and descriptive statistics. The data were assessed for trends and any improvement in patient knowledge of post-birth complications and their warning signs. The data were also evaluated for any improvement in patient or nursing satisfaction of education and discharge. Once the data were fully analyzed, conclusions were formulated and the information was disseminated through course deliverables. Deliverables for this DNP project include a formal project presentation, final written DNP project paper and a submission ready manuscript to be submitted to a yet to be determined peer reviewed journal (see Appendix I).

## **Project Implementation**

### **Barriers and Facilitators**

Since the beginning of this Doctor of Nursing Practice quality improvement project, there have been challenges with the project's development and implementation. Throughout all D.N.P. projects there are always some bumps along the way and red tape that must be cleared before the project can commence. With this project, the process of project development and gaining IRB approval was very lengthy, but small in comparison to the challenges that occurred due to the COVID-19 pandemic. This project specifically called for pre-implementation data collection via survey. While this specific project did not involve direct interaction with patients, the hospital felt that it was safer for all parties involved if they restricted hospital access. Due to COVID-19, the hospital restricted access to the nursing units during the originally planned pre-implementation and implementation time periods. This created a need to alter the project's timeline shortening both the pre- and post-implementation data collection periods. Initially pre-COVID-19 it was planned to provide in-person training to the nurses. Due to hospital restrictions, face-to-face training was altered and to be given online utilizing the facilities intranet. During this same time the project's medical facility was also in the process of completing a merger with other local medical centers, creating an even greater barrier with the technology at the hospital. Finally, rather than recording the projects presentation onto the medical facilities intranet, it was decided to relay the project training information to the nurses via their work email.

After critically thinking through this timeline barrier it was decided to examine the feasibility of the project. It was decided to reach out to the collaborating agency and

assess their status and plans for visitation and student limitations. While many students are still being withheld from the hospital, this project was fortunate enough to get the green light to commence. After clearing the project with all approving members of the agency, an adapted timeline was then created. Lastly, after being approved to re-enter the hospital, it was important to remain familiar with the hospital's COVID protocols. This ensured that the project could remain compliant throughout the implementation and data collection processes. A major barrier throughout the process was the lack of interaction with the nurses and other key project facilitators. It was difficult to assess the implementation of the practice change firsthand, as there was minimal interaction inside the hospital. It is difficult to ascertain if the project was implemented exactly as planned or if there were other aspects that may have affected the projects results.

The completion of a successful D.N.P. project would not be possible without the buy in and support of project facilitators. The main goal of this DNP project was to implement a quality improvement practice change within the healthcare setting. The project specifically called for mother/baby nurses to utilize an organized educational checklist when educating their postpartum patients. The ultimate goal of this practice change was to increase the new mother's awareness of possible postpartum complications and their preceding warning signs. It goes without saying that the registered nurses working directly with postpartum patients were an integral part of the project's facilitation. In order to gain buy-in from these nurses the first step was to gain approval from their supervisors, manager and the director of their nursing unit.

In the beginning of project development, a meeting was held with the Director of Women's and Children's Health at the facilitating healthcare agency. During this meeting

the project plans and a rough overview of the proposed timeline and objectives were discussed. After gaining approval from the agency, the process of applying for IRB approval from both the university and the healthcare agency began. After gaining IRB approval from both institutions members of hospital administration also become an integral part of the project's facilitation. The director was a wonderful strength of the project, as she was able to put me directly in touch with key facilitators, including the manager of the mother-baby unit. This project has been marketed as a quality improvement project that will enhance the educational practices already in place at the hospital. In knowing that enhancement of the educational process will be beneficial for patients, as well as possibly improve patient satisfaction, the stakeholders were on board and willing to assist in project facilitation.

### **Summative Evaluation of Implementation Process**

At the beginning of data collection a meeting was then held with a key group of project stakeholders including the director of women and children's health and the manager of the mother baby unit. During this meeting the project's goals and timeline were clarified. Other project facilitators, such as registered nurses on the mother baby unit, were also included. All nurses on the unit were sent an email through the hospital's email system. Among all nurses currently working on the mother/baby unit, those meeting inclusion criteria were asked to voluntarily complete surveys on their satisfaction with the education process. During this "pre-implementation" period all registered nurses on the mother-baby unit worked to distribute the "pre-implementation" surveys to postpartum patients meeting inclusion criteria. All project implementers were helpful in ensuring that the facilitation of the project continued as planned.

Patient and nursing surveys gauged knowledge of postpartum complications and warning signs, along with satisfaction of postpartum education provided. The nurses were provided with their voluntary surveys and surveys to distribute to the patients meeting inclusion criteria before discharge. The collection boxes for survey return were placed on the unit and specific times were set every other week to check the collection boxes and collect any returned surveys. Once the pre-implementation data collection was complete, all nurses were then sent the education on the importance of twice daily patient education, use of the educational checklist, post-birth warning signs and their importance within the postpartum education process. The second half of the semester consisted of the nurses utilizing the postpartum education checklist to guide their education of all postpartum patients.

Once the use of checklists began the post-implementation portion of data collection commenced. All eligible nurses and patients were once again offered an opportunity to complete post-implementation surveys. The pre/post implementation surveys were exactly the same and would serve as a comparison to assess for any possible changes. Due to the restrictions of access to the unit, it is difficult to determine if the implementation occurred exactly as planned because there was minimal interaction with the nurses and minimal time spent inside the hospital due to the pandemic. It is not possible to determine if the practice change was executed as planned and if the data were collected as outlined within the project's proposal. Overall, the collection of surveys did not yield the expected number; however, there was enough to successfully compare the two groups and draw conclusions from this data.

### Analysis and Discussion of Findings

The current quality improvement project made use of both descriptive and inferential statistics. There were a total of 26 postpartum registered nurses out of 32 currently employed on the unit who met eligibility criteria. This number remained the same during both the pre and post-implementation time periods. In the pre-implementation group there was a total of eight completed surveys collected making the completed survey collection rate 30.8%. This number is within the expected employee survey response rate of between 25% and 60%. According to Munn and Jones (2020) there are various ways to improve the response rate of in-hospital staffing surveys such as working more directly with key project facilitators. This was difficult to complete during this time as the COVID-19 pandemic created a barrier requiring minimal in-person contact with the projects in-hospital facilitators, the nurses of the mother-baby unit.

As illustrated in Table 1, the sample of pre-implementation nursing participants included 8 nurses and the post-implementation sample included 11 postpartum nurses. There were an equal proportion of the demographic characteristics of level of education among the pre and post implementation groups. For both the pre and post implementation groups, age was divided into the following ranges: 20-29, 30-39, 40-49 and 50 and over. Within the pre-implementation group of RN's the ages were 20-29 (37.5%), 30-39 (37.5%) and 40-49 (25.0 %) with a mean age of 33.5 years. The post-implementation group ages ranged as follows: 20-29 (36.36%), 30-39 (27.27%), 40-49 (27.27%) and 50> (9.10%) with a mean age of 35.9 years. The difference in age between the two groups ( $t=.540$ ,  $p=.596$ ) was not statistically significant. The largest percentage of nurses (62.5% and 63.64%) returning surveys had a bachelor's degree. When it came to years working

as a registered nurse there were no significant differences between groups ( $t=-.698$ ,  $p=.494$ ). When assessing years worked as a postpartum nurse ( $t=.645$ ,  $p=.528$ ) there were also no statistically significant differences found between the two groups (see Table 1). Finally, when the pre and post implementation nursing surveys were examined there were no statistically significant findings for any of the four survey statements: statement 1 ( $t=-1.951$ ,  $p=.079$ ), statement 2 ( $t=.156$ ,  $p=.878$ ), statement 3 ( $t=-1.951$ ,  $p=.079$ ) and statement 4 ( $t=-.915$ ,  $p=.373$ ) (see Table 2).



**Table 1: Registered Nurse Demographic Characteristics**

Characteristic Statistic	Pre-Implementation  Total (N=8)  N (%)	Post-implementation  Total (N=11)  N (%)	Test  of differences between means
<b>Age:</b>			
20-29	3 (37.5)	4 (36.6)	t= .550
30-39	3 (37.5)	3 (27.27)	p= .590
40-49	2 (25.0)	3 (27.27)	
50>	0 (0)	1 (9.10)	
<b>Level of EDU:</b>			
Associates	3 (37.5)	4 (36.36)	t= -.048
Bachelors	5 (62.5)	7 (63.64)	p= .962
Masters	0 (0)	0 (0)	
<b>Years as RN:</b>			
1-5	3 (37.5)	4 (36.36)	t= -.717
6-10	2 (25.0)	2 (18.18)	p= .483
11-15	2 (25.0)	1 (9.10)	
16-20	0 (0)	2 (18.18)	
21>	1 (12.5)	2 (18.18)	
<b>Years as PP RN:</b>			
1-5	4 (50.0)	5 (45.45)	t= .646
6-10	2 (25.0)	2 (18.18)	p= .528
11-15	1 (12.5)	0 (0)	
16-20	0 (0)	3 (27.27)	
21>	1 (12.5)	1 (9.10)	

**Table 2: Registered Nurse Independent Samples Test**

Survey Statement	F	Sig	t	df	Sig (2-tailed)
Satisfaction with:					
1. Patient education	14.495	.001	-1.951	10.231	.079
2. Discharge Process	.854	.368	.156	17	.878
3. Current knowledge	14.495	.001	-1.951	10.231	.079
4. Knowing what to do	2.960	.103	.915	17	.373

As outlined in Table 3, there were a total of 25 patient surveys completed during the pre-implementation period and 31 completed during post-implementation. There were no statistically significant differences between the groups within the demographic characteristics of parity, employment or marital status within the two groups (see Table 3). In the pre-implementation group age was divided between the four ranges as follows:  $\leq 19$  (4.0%), 20-29 (36.0%), 30-39 (36.0%),  $\geq 40$  (4.0%) and blank 5(20.0%) with a mean patient age of 29.3 years. Within the post-implementation patient group age was also divided between the four ranges as follows:  $\leq 19$  (12.9%), 20-29 (54.8%), 30-39 (22.6%),  $> 40$  (3.2%) and blank (6.5%) with a mean age of 27.0 years. A comparison of mean patient ages between the two groups ( $t=1.29$ ,  $p=.201$ ) was found to be insignificant (see Table 3). When comparing the two groups in terms of the pre- and post-implementation surveys collected it was found that there was a statistically significant difference between the two groups on statements two ( $t=-2.585$ ,  $p=.012$ ) and seven ( $t=-4.801$ ,  $p=.000$ ) of the

knowledge survey (See Table 4), as well as on statement three ( $t=-1.471$ ,  $p=.001$ ) and statement four ( $t=-5.499$ ,  $p=.000$ ) of the satisfaction survey (See Table 5).

Statement 2 in the knowledge survey regarded rating the patient's agreement with the declaration, "Throughout my hospital stay all of my nurses reviewed possible complications that can occur after giving birth". This statement was shown to have an increased mean between the pre and post implementation groups showing that there was some increased agreement with the statement. Statement 7 of the knowledge survey involved the patient rating their agreement with the statement, "I feel confident in my knowledge of post-birth warning signs and possible complications" (see Table 4). This statement was also shown to have an increased mean and was found to be statistically significant when the pre- and post-implementation surveys were compared. The second survey given to patients involved assessing their satisfaction with the discharge process and education provided. Illustrated in table 5 there was a statistically significant difference found in both statement 3 and statement 4 between the pre and post implementation groups. Statement 3 regarded satisfaction of patients' knowledge of possible complications they can experience after giving birth and statement 4 inquired about their satisfaction in knowing what to do if a complication were to occur (See Table 5). This information indicates that the project was able to make a difference and assisted in improving patient knowledge of possible postpartum complications, as well as, satisfaction with the education provided.

**Table 3: Patient Demographic Characteristics**

Characteristic statistics	Pre-implementation Total (N=25) N (%)	Post-implementation Total (N=31) N (%)	Test differences between means
<b>Age:</b>			
≤19	1 (4.0)	4 (12.9)	t= 1.2
20-29	9 (36.0)	17 (54.8)	p= .201
30-39	9 (36.0)	7 (22.6)	
≥40	1 (4.0)	1 (3.2)	
Blank	5 (20.0)	2 (6.5)	
<b>Level of EDU:</b>			
High school	9 (36.0)	13 (41.9)	t= .746
Associates	2 (8.0)	3 (9.7)	p= .459
Bachelors	9 (36.0)	12 (38.7)	
Masters	0 (0)	0 (0)	
Doctorate	2 (8.0)	0 (0)	
Blank	3 (12.0)	3 (9.7)	
<b>Parity:</b>			
Primigravida	10 (40.0)	14 (45.2)	t= .382
Multigravida	15 (60.0)	17 (54.8)	p= .704
<b>Employment status:</b>			
Unemployed	12 (48.0)	14 (45.2)	t= .239
Employed	12 (48.0)	16 (51.6)	p= .812
Blank	1 (4.0)	1 (3.2)	
<b>Marital status:</b>			
Married	13 (52.0)	15 (48.3)	t= .473
Single	11 (44.0)	14 (45.2)	p= .638
Blank	1 (4.0)	2 (6.5)	

**Table 4: Patient Independent Samples Test – Knowledge Survey**

Survey Statement	F	Sig	t	df	Sig (2-tailed)
Knowledge/agreement:					
1. Given EDU at DC	1.047	.311	-.492	54	.625
2. All RN's provided EDU	2.833	.098	-2.585	54	.012
3. Given reading material	.106	.746	-1.672	54	.100
4. Able to recall specifics	.014	.906	-1.599	54	.116
5. Complication in past	.568	.454	-.749	54	.457
6. If yes, knew what to do	.129	.712	-.558	54	.580
7. Confident in knowledge	.095	.759	-4.801	54	.000

**Table 5: Patient Independent Samples Test – Satisfaction Survey**

Survey Statement	F	Sig	t	df	Sig (2-tailed)
Satisfaction with:					
1. Education received	.173	.679	-1.471	48	.148
2. Discharge process	.088	.768	-1.167	48	.249
3. Knowledge of complications.	.683	.412	-3.718	48	.001
4. Knowing what to do	.052	.821	-5.499	48	.000

### Limitations

Major limitations of this study included the small sample size and the inability to ensure for a similar postpartum patient experience. There were many aspects of the project that could not be controlled. These included such extraneous variables as participant/person and situational effects. The COVID-19 pandemic, as well as the

impossibility of ensuring that each postpartum woman had the exact same postpartum experience, created major confines within this study. Due to the COVID-19 pandemic hospital access was restricted and created a need to alter the project's timeline.

Restructuring of the project's timeline limited the number of possible participants and lessened the number of surveys returned. Due to the restricted access at the hospital there was no way of knowing if the nurses fully viewed the educational PowerPoint sent via email or if they executed the project exactly as it was proposed. A comparison of demographic information for nurses and patients found no statistically significant differences between the two groups (see Tables 1 and 3). It is difficult to conclude that these results are generalizable to the broad population; however, there was no harm done within this study and only the addition of essential education provided to the postpartum patients. More research needs to be done with this specific topic to ensure for more reliable and generalizable results in the future. When the risks versus benefits of this project are examined, there is enough data to support the idea that the benefits far outweigh the risks when it comes to utilization of the educational checklists and the newly redesigned consistent postpartum patient education.

### **Recommendations**

#### **Economic Considerations**

The average cost of a "low-risk" hospital birth in the United States is between \$4,000 and \$10,000 depending on the specifics of the birth, in-hospital medications and care required (Pettker, 2015). With pregnancies whose postpartum periods come with complication, the price of re-admission and hospital stay can skyrocket up to \$50,000, even going over \$100,000 when intensive and critical care is required (Pettker, 2015).

While insurance takes on some of the burden, there is no price tag that can be placed on the value of a human life. Post-birth complications not only create significant medical debt for postpartum patients, but for those that survive, many are left with long lasting aftereffects. The current project has shown that for a low cost and a small change to the postpartum nursing workflow it is possible to educate postpartum mothers on possible post-birth complications. The current rate for purchasing the AWHONN Post-Birth warning signs tool-kit is between \$75.00 and \$99.00 per hospital depending on the hospitals AWHONN affiliation (AWHONN, 2021). This one-time fee includes POST-BIRTH audit logs, a magnet template, bulletin board announcements, a Save Your Life handout in multiple languages, a nursing educational checklist and finally, a POST-BIRTH warning signs reference (AWHONN, 2021). The goal of the AWHONN post-birth warning signs program is to save lives and decrease maternal morbidity and mortality (AWHONN, 2021). For a very small fee hospitals can incorporate years of evidence-based practice into their provision of care and work to improve the statistics of maternal morbidity and mortality.

### **Implications for Practice**

Despite the pandemic and the ever-increasing restrictions at the hospital, the project was completed. The final batch of surveys was collected on December 11, 2020. It was assumed that utilization of the educational checklist would organize and streamline the educational process allowing nurses to complete education faster and increase patient knowledge. It appears that the data support an increase in patient knowledge. The suggested practice change has created an improvement in nursing and patient knowledge; therefore, it is assumed that this was a successful evidence-based DNP project.

One of the main goals of the DNP degree is to harness leadership and the support of evidence-based nursing care. This DNP project has contributed to the utilization of evidence-based nursing care in the realm of postpartum education. This DNP project supported improved health outcomes for postpartum women through improvements in the education process. This enhancement supported the increase in nursing knowledge of postpartum complications and educated nurses on best practices for patient education. As Suplee et al. (2017) found many patients are not cognizant of possible health complications that can occur after giving birth. Postpartum complications can occur all the way up to one year after giving birth, making awareness of their possibility critical for all new mothers (Suplee et al., 2016). As evidenced by recent statistical trends, postpartum morbidity and mortality has been on the rise the last few decades and these statistics demand for an improvement in the postpartum care process (Suplee et al., 2016).

### **Process and Outcome Recommendations**

The DNP project gives nursing scholars an opportunity to transform their acquired evidence-based knowledge into practice (Vanderkooi et al., 2018). Through practice change, the nursing graduate student is to implement evidence-based knowledge to improve patient care in some capacity. This evidence-based practice change is intended to enhance one of many aspects surrounding nursing, such as patient care, patient health outcomes or the healthcare process in general (Vanderkooi et al., 2018). The DNP degree also calls for the integration of leadership in nursing and the reinforcement of utilizing evidence-based care. It is necessary that D.N.P. graduates are able to work in conjunction with other medical professionals, all while making use of



collaborative skills and effective communication (Vanderkooi et al., 2018). Taking on a leadership role by supporting improvements in the standards of care through implementation of a DNP scholarly project, allows students to practice their autonomy within the field of nursing (Vanderkooi et al., 2018). This project consisted of improving the postpartum education process and supports the DNP role through collaboration with nurses and other healthcare workers to improve the patient education process. The improvements made to patient education practices support the overall enhancement of immediate patient health outcomes and the patient's future health. The overall consensus from the projects facilitators who made use of the checklist was positive, and it is hopeful that this practice change will continue. This quality improvement project demonstrates that it is possible to increase postpartum patient knowledge regarding essential topics, such as post-birth complication and their preceding warning signs by ensuring to include mention of these topics within all educational conversations between the postpartum nurse and their patients. It has become apparent that all women who have just given birth must be made aware of possible complications so that they can seek the care they need if and when a complication occurs. This project has shown that it is worthwhile to have all postpartum nurses provide education each shift and that all topics are covered at least once per shift. Standardizing the education also helped to ensure that the same essential topics were covered for all patients regardless of their previous health status or co-morbidities. If these changes to education help to save one life then the value on them is priceless.

### **Plans for Dissemination**

It is planned that this completed project will be presented to the University as well as the facilitating medical center. A formal verbal presentation will be given to the DNP project chair, members of the DNP project committee and other interested parties from the surrounding community and university. A submission ready manuscript will be sent to the peer reviewed scholarly journal Nursing for Women's Health. Finally, the completed project will be presented to any inquiring staff members of the facilitating hospital so that they may better understand the results and possible impact future use of the reformed educational practices may have.

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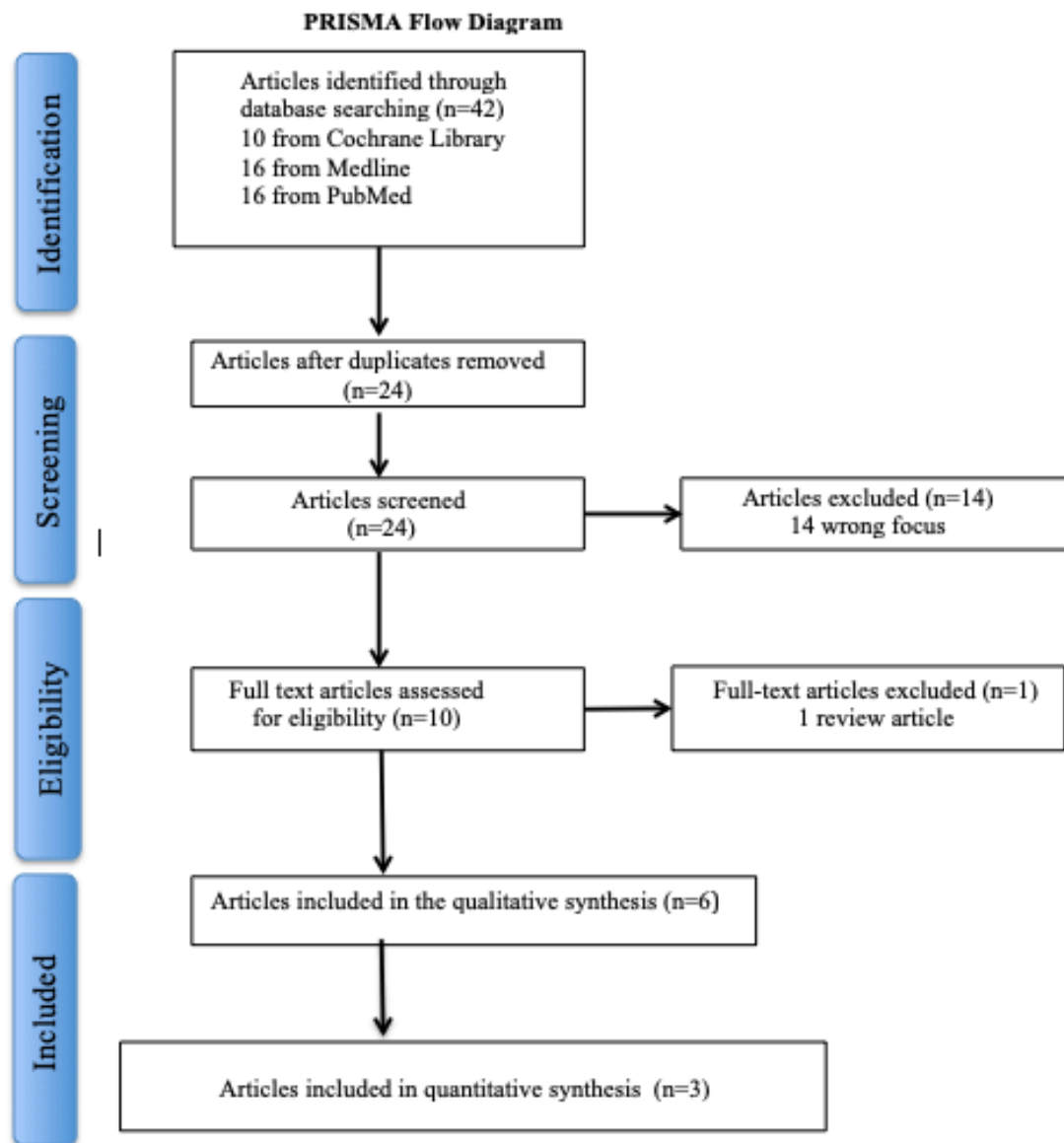
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## Appendices

## Appendix A

## PRISMA Flow Diagram



## Appendix B

Table of Evidence

Citation: Author(s), Date of Publication & Title	Purpose	Design/Method	Sample	Result	Level of Evidence / Clinical relevance
Behal, M., Vinayak, R., & Kumar, A. (2018). Assessment of mother's knowledge towards pregnancy, childbirth, postpartum and essential newborn care in district Solan, HP. <i>International Journal Of Community Medicine And Public Health</i> , 5(5), 2129-2137.	Assessment of knowledge of postnatal mothers about pregnancy, childbirth, PP and NB care; to determine if literacy and parity were associated with maternal KN of these topics	Hospital based descriptive analysis using multiple binary logistic regression method that included a 23 question questionnaire)	300 cases	<ul style="list-style-type: none"> <li>• Cut of 50% used to compare adequate and inadequate knowledge:</li> <li>• Pregnancy, childbirth and PP care: 59 mothers (19.6%) failed, 145 scored between 69-84%, 7 (2.3%) scored 100%</li> <li>• NB care: 71 mothers (23.7%) failed, 214 passed, and 15 scored 100%.</li> <li>• Higher levels of EDU were associated with pregnancy and PP KN but not with KN of NB care</li> </ul>	Level II A  Many mothers lack essential KN about PP care and that those with higher levels of EDU were more likely to have “good” KN showing the need for more EDU on PP care
Bingham, D., & Cornell, A. (2016). Expert panel to	The Association of Women's	QI initiative assessing RN's	Interdisciplinary panel of Experts	Expert panel developed 4 major objectives: <ul style="list-style-type: none"> <li>• Identify key RN practices</li> </ul>	Level III A

<p>track nurses' effect on maternal morbidity and mortality. <i>Journal of Obstetric, Gynecologic &amp; Neonatal Nursing</i>, 45(6), 861-864.</p>	<p>Health, Obstetric and Neonatal RN's and the Association of Maternal &amp; Child Health Programs utilized expert panel to develop tools for use by public health and clinical leaders to support the reduction of MD and MT.</p>	<p>effect on MB and MT</p>	<p>including: RN's, representatives from the American College of Obstetricians and Gynecologists, the CDC Division of Reproductive Health, National Council of State Boards of RN, and the states of CA and IL</p>	<p>affecting maternal health outcomes</p> <ul style="list-style-type: none"> <li>• Identify key RN practices that can be abstracted from a medical record</li> <li>• Identify data collection strategies and facility-based reviews to characterize RN influence on MT and MB</li> <li>• Propose effective strategies to improve quality of RN care mothers receive</li> </ul>	<p>This study shows that RN's have an effect on MB and MT showing a need for change in RN practice to support lower numbers of MB and MT</p>
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<p>Bingham, D., Suplee, P. D., Morris, M. H., &amp; Mride, M. (2018). Healthcare strategies for reducing pregnancy-related morbidity and mortality in the postpartum period. <i>The Journal of Perinatal &amp; Neonatal Nursing</i>, 32(3), 241-249.</p>	<p>To outline the leading causes of PP MB and MT and provide healthcare strategies for standardizing PP discharge EDU</p>	<p>QI literature review included key words: EDU, MM, MT, education, PP QI</p>	<p>6 strategies for improving postpartum discharge education developed by a team of healthcare experts</p>	<p>Described 6 healthcare strategies for reducing M MB and MT:</p> <ul style="list-style-type: none"> <li>• Improve and standardize PP DC EDU</li> <li>• Enhance timing of PP care services</li> <li>• Improve quality of PP care visit</li> <li>• Enhance social and mental health support</li> <li>• Reduce postoperative complications by decreasing rates of cesarean birth</li> <li>• Expand public health policies, advocacy and EDU outside of the obstetrical realm</li> </ul>	<p>Level V B It is recommended that all mothers receive quality, consistent and standardized PP EDU that includes mention of the PBWS. Any mother can experience a PB complication therefore standardized EDU must be given to all PT</p>
<p>D'Oria, R., Myers, J., &amp; Logsdon, M. C. (2016). Strategies to reduce maternal mortality during the first year after birth. <i>Journal of Obstetric, Gynecologic &amp;</i></p>	<p>To identify strategies that assist in the reduction of MT within the first year PB</p>	<p>Qualitative literature review Included key words: audit tool, MT and PT EDU, MT review data</p>	<p>2 Case studies</p>	<ul style="list-style-type: none"> <li>• PT should have someone with them during EDU</li> <li>• EDU needs to stress PBWS and when to contact a provider</li> <li>• EDU should include a variety of methods and should begin before</li> </ul>	<p>Level V B There is a need for improved EDU of PP PT's as well as a family member or significant other because mothers are often distracted with the NB.</p>

<i>Neonatal Nursing, 45(6), 885-893.</i>				<p>conception and continue PB in community setting</p> <ul style="list-style-type: none"> <li>• Support the need for improved EDU of PP PT's that should begin in the preconception period</li> <li>• Women of child-bearing age should always been asked if they are currently pregnant or have given birth in the last year</li> </ul>	
Suplee, P. D., Bingham, D., & Kleppel, L. (2017). Postpartum nurses' knowledge and teaching of possible postpartum complications. <i>MC N: The American Journal of Maternal/Child Nursing, 42(6), 338-344.</i>	To assess PP RN KN about MB and MT as well as discharge EDU given to PT's on PBWS	Quasi-experimental - Exploratory qualitative using the survey method with descriptive statistics and bivariate analysis to analyze data	Sample of 372 PP RN	<ul style="list-style-type: none"> <li>• 12% of RN's knew % of maternal deaths occurring in PP period</li> <li>• 93% incorrectly identify the leading causes of MT</li> <li>• 95% admitted a correlation between PP EDU and MT</li> <li>• 72% acknowledged RN responsibly to provide necessary EDU</li> <li>• 67% admitted spending &lt; 10 minutes EDU patients on PBWS</li> <li>• 54% not aware of rising rate of MM in U.S.</li> </ul>	Level II A This study shoes the immediate need for RN EDU on MT facts and the RN role in MT prevention as well as the need for consistent and comprehensive PP PT EDU focusing on PBWS prior to DC
Suplee, P. D., Kleppel, L., &	To assess the types of	Exploratory qualitative	Sample of 52 PP RN's	Themes distracted from focus groups included:	Level III A

<p>Bingham, D. (2016). Discharge education on maternal morbidity and mortality provided by nurses to women in the postpartum period. <i>Journal of Obstetric, Gynecologic &amp; Neonatal Nursing</i>, 45(6), 894-904.</p>	<p>DC EDU information and materials being used by PP RN's to EDU PT's on the PBWS and assessing for which messages are essential EDU for PP and before DC</p>	<p>descriptive study utilizing interviews with focus groups of PP RN's</p>	<p>broken into 6 focus groups</p>	<ul style="list-style-type: none"> <li>• RN not focusing on PBWS</li> <li>• Most of this EDU is done on day of DC</li> <li>• EDU provided not consistent across all RN's or PT</li> <li>• Primary means of EDU is providing PT with booklets, folders and reading material</li> </ul>	<p>This study showed that improvement is needed on how and when RN's EDU mothers on PBWS and that the RN's themselves need more EDU on how to best EDU their PT's on PBWS</p>
<p>Suplee, P. D., Kleppel, L., Santa-Donato, A., &amp; Bingham, D. (2016). Improving postpartum education about warning signs of maternal morbidity and mortality. <i>Nursing for Women's Health</i>, 20(6), 552-567.</p>	<p>To increase PP PT access to quality EDU about possible PBC before discharge from the hospital.</p>	<p>QI pilot project utilizing RN surveys and descriptive statistics</p>	<p>150 PP RN's at 4 hospitals</p>	<ul style="list-style-type: none"> <li>• Most RN's surveyed that PP EDU checklist and PT EDU handouts were easy to use and they were satisfied with the amount of information</li> <li>• PP RN's reported PP mothers were able to understand the information given and were satisfied with the tools used</li> <li>• Main barrier to care reported was that the tools</li> </ul>	<p>Level III A This study shows the need to improve PP EDU on possible PBC as well as make the EDU evidence-based and consistent to all PT's</p>

				were only available in English	
VanOtterloo, L. R., Seacrist, M. J., Morton, C. H., & Main, E. K. (2019). Quality improvement opportunities identified through case review of pregnancy-related deaths from venous thromboembolism. <i>Journal of Obstetric, Gynecologic &amp; Neonatal Nursing</i> , 48(3), 300-310.	To analyze QIOs identified through M MB review caused by venous thromboembolism (VTE) by the California Pregnancy-Associated MT Review Committee	Qualitative descriptive study that organized QI opportunities using three of the four domains commonly applied in QI initiatives for M health care: Readiness, Recognition, and Response	108 QIOs from the CA Pregnancy-Associated MT Review	<ul style="list-style-type: none"> <li>• Readiness domain- mothers and their families lacked KN of significant symptoms,</li> <li>• Recognition- there was often a missed or delayed diagnosis</li> <li>• Response domain- the type and timing of treatment is important</li> </ul>	Level III A This showed the importance for PP PT's their families to be EDU on their risk of PBC and understand when and how to seek help

Wagner, D. L., & Washington, C. (2016). Patient satisfaction with postpartum teaching methods. <i>The Journal of Perinatal Education</i> , 25(2), 129-136.	To determine the relationship between RN method of PP EDU / interaction with new mother and the PT satisfaction of RN care	Quasi-experimental post-test only design	Convenience sample of 102 PP mothers split into two groups: 1:1 EDU and group class methods	1:1 EDU and EDU at DC: <ul style="list-style-type: none"> <li>• More likely to be satisfied with the care they had received</li> <li>• Felt they had more decisional control in the discharge EDU process and more health information.</li> </ul> Group education: <ul style="list-style-type: none"> <li>• Did not allow for personalization of EDU and created confusion among PT's who received conflicting information from RN's</li> </ul>	Level II A PP PT discharge EDU must be consistent. One to one EDU is preferred over the group method allowing for EDU to be personalized to the PT, focus on areas needed and provided higher PT satisfaction.
--	--	--	---	---	--

## \*\*Abbreviation key\*\*

EDU= Education/ Educated

KN= Knowledge

MB= Maternal Morbidity

MT= Maternal mortality

NB= Newborn

PT= Patient

PB= Post-birth

PBC= Post-birth complications

PBWS= Post-birth warning signs

PP= Postpartum

QI= Quality Improvement

RN= Registered nurse


Appendix C

AWHONN Education Checklist


# 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 giving birth. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.



<p><b>Call 911</b> if you have:</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Pain in chest</b></li> <li><input type="checkbox"/> <b>Obstructed breathing or shortness of breath</b></li> <li><input type="checkbox"/> <b>Seizures</b></li> <li><input type="checkbox"/> <b>Thoughts of hurting yourself or someone else</b></li> </ul>
<p><b>Call your healthcare provider</b> if you have:</p> <p style="font-size: 0.8em; color: gray;">(If you can't reach your healthcare provider, call 911 or go to an emergency room)</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger</b></li> <li><input type="checkbox"/> <b>Incision that is not healing</b></li> <li><input type="checkbox"/> <b>Red or swollen leg, that is painful or warm to touch</b></li> <li><input type="checkbox"/> <b>Temperature of 100.4°F or higher</b></li> <li><input type="checkbox"/> <b>Headache that does not get better, even after taking medicine, or bad headache with vision changes</b></li> </ul>



**Tell 911 or your healthcare provider:**

"I gave birth on \_\_\_\_\_ and \_\_\_\_\_"  
(Date)

I am having \_\_\_\_\_"  
(Specify a warning sign)


**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 someone else** 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: \_\_\_\_\_



This program is supported by funding from Merck, through Merck for Mothers, the company's 10-year, \$80 million initiative to help create a world where no woman dies giving life. Merck for Mothers is known as MMD for Mothers outside the United States and Canada.

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**POST-BIRTH Warning Signs:  
Postpartum Discharge  
Education Checklist**

<b>Pulmonary Embolism</b>	<b>Essential Teaching for Women</b>
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"> <li>• Shortness of breath at rest (e.g., tachypneic shallow, rapid respirations)</li> <li>• Chest pain that worsens when coughing</li> <li>• Change in level of consciousness</li> </ul>
Obtaining Immediate Care	Call 911 or go to nearest emergency room <b>RIGHT AWAY.</b>

RN initials \_\_\_\_\_ Date \_\_\_\_\_ Family/support person present? YES / NO

<b>Cardiac (Heart) Disease</b>	<b>Essential Teaching for Women</b>
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"> <li>• Shortness of breath or difficulty breathing</li> <li>• Heart palpitations (feeling that your heart is racing)</li> <li>• Chest pain or pressure</li> </ul>
Obtaining Immediate Care	Call 911 or go to nearest emergency room <b>RIGHT AWAY.</b>

RN initials \_\_\_\_\_ Date \_\_\_\_\_ Family/support person present? YES / NO

<b>Hypertensive Disorders of Pregnancy</b>	<b>Essential Teaching for Women</b>
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"> <li>• Severe constant headache that does not respond to over-the-counter pain medicine, rest, and/or hydration</li> </ul>
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"> <li>• Severe constant headache that does not respond to pain medicine, rest, and/or hydration</li> <li>• Changes in vision, seeing spots, or flashing lights</li> <li>• Pain in the upper right abdominal area</li> <li>• Swelling of face, hands, and/or legs more than what you would expect</li> <li>• Change in level of consciousness</li> </ul>
Signs of Eclampsia	<ul style="list-style-type: none"> <li>• Seizures</li> </ul>
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

<b>Obstetric Hemorrhage</b>	<b>Essential Teaching for Women</b>
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"> <li>• Bleeding through more than 1 sanitary pad/hour</li> <li>• Passing 1 or more clots the size of an egg or bigger</li> <li>• Character of clots/differentiation of bright red bleeding from dark with clots</li> </ul>
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





**POST-BIRTH Warning Signs:  
Postpartum Discharge  
Education Checklist**

Venous Thromboembolism	Essential Teaching for Women
What is Venous Thromboembolism?	Venous thromboembolism is when you develop a blood clot usually in your leg (calf area).
Signs of Venous Thromboembolism	<ul style="list-style-type: none"> <li>• Leg pain, tender to touch, burning, or redness, particularly in the calf area</li> <li>• Swelling of one leg more than the other</li> </ul>
Obtaining Immediate Care	Call healthcare provider immediately for above signs of venous thromboembolism. 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

Infection	Essential Teaching for Women
What is Infection?	An infection is an invasion of bacteria or viruses that enter and spread through your body, making you ill.
Signs of Infection	<ul style="list-style-type: none"> <li>• Temp is <math>\geq 100.4^{\circ}\text{F}</math> (<math>\geq 38^{\circ}\text{C}</math>)</li> <li>• Bad smelling blood or discharge from the vagina</li> <li>• Increase in redness or discharge from episiotomy or C-Section site or open wound not healing</li> </ul>
Obtaining Immediate Care	Call healthcare provider immediately for above 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

Postpartum Depression	Essential Teaching for Women
What is Postpartum Depression (PPD)?	Postpartum depression is a type of depression that occurs after childbirth. PPD can occur as early as one week up to one year after giving birth.
Signs of Postpartum Depression	<ul style="list-style-type: none"> <li>• Thinking of hurting yourself or your baby</li> <li>• Feeling out of control, unable to care for self or baby</li> <li>• Feeling depressed or sad most of the day every day</li> <li>• Having trouble sleeping or sleeping too much</li> <li>• Having trouble bonding with your baby</li> </ul>
Obtaining Immediate Care	Call 911 or go to nearest emergency room if you feel you might harm yourself or your baby. Call healthcare provider immediately for other signs of depression (sadness, withdrawn, difficulty coping with parenting).

RN initials \_\_\_\_\_ Date \_\_\_\_\_ Family/support person present? YES / NO

Follow-Up Appointment	Essential Teaching for Women
	<ul style="list-style-type: none"> <li>• Discuss importance of follow-up visit with doctor, nurse practitioner or midwife in 4–6 weeks (or sooner if health status warrants it)</li> <li>• Provide correct phone number for appointment</li> <li>• Emphasize importance to notifying all healthcare providers of delivery date up to one year after birth of baby</li> <li>• Confirm date for postpartum appointment prior to discharge</li> </ul>

RN initials \_\_\_\_\_ Date \_\_\_\_\_ Family/support person present? YES / NO

I have received and understand the POST-BIRTH Warning Signs education and handout.

Patient Signature: \_\_\_\_\_ Date/Time: \_\_\_\_\_

The patient received the POST-BIRTH Warning Signs education and a copy of the "Save Your Life" handout.

Nurse Initials and Signature: \_\_\_\_\_ Date/Time: \_\_\_\_\_





## Appendix D

### AWHONN Permission for Use

**From:** permissions <permissions@awhonn.org>  
**Sent:** Thursday, August 13, 2020 1:21 PM  
**To:** Nicole McGrath <nm01826@gulls.salisbury.edu>  
**Subject:** RE: Permission to use AWHONN Documents

CAUTION: This email originated from outside of Salisbury University. Please exercise caution when clicking links or opening attachments from external sources.

Nicole,

Thank you for writing to AWHONN! Yes, you may use them for your doctoral project. If after the project the hospital seeks to continue to use them in their policies, then the following requirements for purchase of educational seats applies:

The *Save Your Life* handout for patients and the *POST-BIRTH Warning Signs Checklist* for nurses were developed as part of a larger comprehensive program to address rising rates of maternal morbidity and mortality. AWHONN's quality improvement initiative found that integrating consistent messages about potential warning signs of postpartum complications was influenced by nurses receiving background education on the trends in preventable maternal mortality and the role they can play in reversing these trends.

AWHONN offers an online Postpartum Discharge Education (PDE) course called *POST-BIRTH Warning Signs: The Nurses' Role in Preventing Maternal Morbidity and Mortality*. <https://awhonn.org/education/hospital-products/post-birth-warning-signs-education-program/>

Course Seats can be purchased individually or in bulk for a reduced rate and nurses can receive CNE contact hours for completion of the education. Purchasing a minimum of 10 seats also allows your hospital the opportunity to purchase the new **POST-BIRTH Warning Signs Toolkit!** This toolkit contains valuable information that supports a hospital's successful implementation of the POST-BIRTH Warning Signs.

Note: Permissions to disseminate or reproduce materials for any other purpose than described in the above terms of use must be approved by AWHONN. In addition, no edits, alterations, adaptations, or translations to AWHONN products, figures, or documents are permitted without prior permission from AWHONN. Requests should be sent to [permissions@awhonn.org](mailto:permissions@awhonn.org).

You can learn more about purchasing multiple seats by contacting our staff member Mitty Songer, Associate Director of Product Sales at (304) 550-3984 or via email at [msonger@awhonn.org](mailto:msonger@awhonn.org)

Thank you for using AWHONN products!

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t 202-261-2457 f 202-728-0575 e [jleonard@awhonn.org](mailto:jleonard@awhonn.org) w [www.awhonn.org](http://www.awhonn.org)

## Appendix E

### Patient and Nurse Surveys

Patient Survey:

Age: \_\_\_\_\_

Highest level of education:

How many times have you given birth?

Are you currently employed?  
YES|NO

Are you currently married? YES|NO

Circle the Correct Response to Each  
Question

#	Question	Survey Scale: 1= Highly disagree 2= Somewhat disagree 3= Neutral 4= Somewhat agree 5= Highly agree
1	Before leaving the hospital my nurse educated me on post-birth complications that could possibly occur to me after giving birth.	1 2 3 4 5
2	Throughout my hospital stay all of my nurses reviewed possible complications that can occur after giving birth.	1 2 3 4 5
3	I received reading material about post-birth complications during my hospital stay.	1 2 3 4 5
4	I am able to recall specific information about Post-birth complications without referring to written information.	1 2 3 4 5
5	I have experienced a birth related warning sign or symptom in the past.	1 2 3 4 5
6	If, yes, I knew what to do about the problem I was experiencing.	1 2 3 4 5
7	I feel confident in my knowledge of post-birth warning signs and possible complications.	1 2 3 4 5

Circle the Correct Response to Each Question

#	Question	Survey Scale:
		1= Not satisfied
		2 = Slightly satisfied
		3= Neutral
		4= Very satisfied
		5= Extremely satisfied
1	How satisfied are you with the patient education you received during your hospital stay?	1 2 3 4 5
2	How satisfied are you with the overall postpartum discharge process?	1 2 3 4 5
3	How satisfied are you with your knowledge of possible complications that can occur after giving birth?	1 2 3 4 5
4	How satisfied are you that you would know what to do if you experienced a birth related complication?	1 2 3 4 5

Please list any additional comments:

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RN survey:

Age: \_\_\_\_\_

Highest level of education:

# of years as an RN:

# of years as a postpartum RN:

Circle the Correct Response to Each Question

#	Question	Survey Scale: 1= Satisfied 2 = Slightly satisfied 3= Neutral 4= Very satisfied 5= Extremely satisfied
1	How satisfied are you with the patient education you provide to your patients during their hospital stay and at discharge?	1 2 3 4 5
2	How satisfied are you with the overall postpartum discharge process?	1 2 3 4 5
3	How satisfied are you with your current knowledge of post-birth warning signs?	1 2 3 4 5
4	How satisfied are you with your knowledge of what to do if one of your patients experienced a post-birth warning sign(s) while in your care?	1 2 3 4 5

Please list any additional comments:

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## Appendix F

### Informed Consent Forms

#### Informed Consent & Disclosure Form (Patient)

Dr. Rita Nutt and Nicole Jarman, a student at Salisbury University, are doing a project to make sure patients know about health problems that can happen after having a baby. This project will also look at how happy patients are with the education and discharge process at PRMC. You are being asked to fill out this survey to help make our education for new moms better.

Filling out this survey is voluntary; you do not have to be a part of this project if you do not want to be. Filling out this survey will not change any relationship you have or may have in the future with Salisbury University or PRMC. The survey will take about 5 minutes. When taking this survey, you will be asked to answer questions about yourself, about what you learned about problems that can happen after birth and about how happy you are with what was taught. Once this project is over the results will be looked at to see what patients think.

The main risk of this project is that it may make you worry after learning that it is possible to have health problems after having a baby. The benefits of being part of this project include knowing that you have been taught about how to make sure you are healthy after having a baby. You will also know that you are helping us make patient education at PRMC better.

We ask that you try to answer all questions but if any items make you uncomfortable please leave them blank. You can change your mind if you don't want to be part of the project. Please be as open as possible even if you were unhappy with the teaching you got. No nurses or staff will be punished if you are unhappy about the teaching. Your answers will not be shared with anyone and all survey answers are anonymous. **Please do not put your name on this survey.**

Any information taken from this survey will be used to help us do a better job of teaching patients after they have given birth.

If you have any questions or concerns feel free to contact Nicole Jarman at: 410-726-7515

**If you have any bad effects or concerns about the research, please contact Dr. Rita Nutt at 410-548-4786 or the Office of Graduate Studies and Research at Salisbury University at 410-548-3549 or toll free 1-888-543-0148. This research is approved by the Salisbury University's IRB under number 42.**

**If you do not want to participate, please do not fill out a survey.**

### **Informed Consent & Disclosure Form (Nurse)**

Dr. Rita Nutt, and DNP student Nicole Jarman, at Salisbury University are conducting a research study to assess patient's knowledge of possible postpartum complications, as well as, patient and nurse satisfaction with the education and discharge process at Peninsula Regional Medical Center. You are being asked to complete this survey because, as a postpartum nurse, you are key in helping to improve the postpartum education process.

Participation is voluntary. Participation in this survey will not impact any relationship you have or may have in the future with Salisbury and Peninsula Regional Medical Center. The survey will take about 2 minutes to complete. When taking this survey you will be asked to rate your satisfaction with the postpartum patient education and discharge process. Once this study has taken place the data will be assessed for overall trends.

This study involves the possible discomfort that may occur in acknowledging that there are complications that can occur in your patients following discharge. It may also be uncomfortable to learn that current postpartum teaching isn't as effective as it could be. The benefits of this study include supporting the ongoing improvement of postpartum patient education at Peninsula Regional Medical Center.

We ask that you try to answer all questions; however, if there are any items that make you uncomfortable or that you would prefer to skip, please leave them blank. All survey information is anonymous so your answers will remain confidential.

Any information obtained from this survey will be used to assist in improving the process of educating postpartum patients.

If you have any questions or concerns feel free to contact the student co-investigator Nicole Jarman at: 410-726-7515

**If you have any adverse effects or concerns about the research, please contact the primary investigator Dr. Rita Nutt at 410-548-4786 or the Office of Graduate Studies and Research at Salisbury University at 410-548-3549 or toll free 1-888-543-0148. This research is approved by the Salisbury University's IRB under protocol number 42.**

If you would prefer not to participate, please do not fill out a survey.

**COMPLETING THIS SURVEY INDICATES YOUR WILLINGNESS TO PARTICIPATE**

## Appendix G

## SWOT Analysis Table

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Established standard of high performance</li> <li>• Culture that supports the use of evidence-based practice in healthcare</li> <li>• Motivated leadership</li> <li>• Highly advanced system of technology</li> <li>• Many outpatient centers within the community</li> <li>• Only obstetrical service in large area</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Recruitment of medical staff</li> <li>• Retention of currently employed staff</li> <li>• Limitations of proposals and resources for future research</li> <li>• Postpartum education is inconsistent and lacks evidence-base recommendations</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Developing integrated healthcare services for the local community</li> <li>• Possibility of improvement healthcare accessibility for local residents of the Eastern Shore of Maryland</li> <li>• Expanding the use of evidence-based care and education</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Local healthcare competitors</li> <li>• Constant changes in the reimbursement rates of healthcare</li> <li>• Only obstetrical service in large area</li> </ul>

## Appendix H

### IRB Approval

#### IRB Research Protocol Approval Notification

---

Date: 5/20/2020

To: R. Nutt  
N. Jarman  
RE: Protocol #42  
Type of Submission: Exempt  
Type of IRB Review: Exempt  
Protocol is scheduled to begin 6/2020 end 12/2020

**Approval for this project is valid from 5/20/2020 to 12/18/2020.**

---

This letter serves to notify Dr. Rita Nutt that the Salisbury University (SU) Institutional Review Board (IRB) approved the above referenced protocol entitled, Postpartum Education: A Quality Improvement Pilot Study on May 20, 2020.

Pursuant to Federal regulations 21 CFR 56.109, the IRB has determined that this protocol qualifies for Exempt review.

Federal regulation 45 CFR 46.103 (b)(4)(iii) requires Primary Investigators (PI), except when a subject is in immediate danger, to assure any change to an approved protocol is not initiated prior to IRB review and approval. Additionally, the PI must also inform the IRB of unanticipated problems involving risks to participants.

These same federal regulations require continuing review of research be conducted by the IRB at intervals appropriate to the degree of risk. Your research is scheduled to begin 6/2020 and end 12/2020. It is the PI's responsibility to submit continuing review reports in a timely manner (at least 3 weeks prior to scheduled end date on the protocol approval).

The SU IRB is organized and operated according to guidelines of the United States Office for Human Research Protections and the United States Code of Federal Regulations and under Federal Wide Assurance No. FWA00020237.

If you have any questions about this review or questions, concerns, and/or suggestions regarding this process, please do not hesitate to contact the Office of Graduate Studies and Research at 410-548-3549 or [humanresearch@salisbury.edu](mailto:humanresearch@salisbury.edu).

*Kimberly van Kesteren, Ph.D., LCSWC*

Co-Chair, IRB Committee on Human Research





## MEMORANDUM

DATE: July 15, 2020

TO: Rita Nutt, DNP., RN  
Assistant Professor of Nursing at Salisbury University  
Principal Investigator

FROM: Timothy L. Feist  
Research Review Committee

ACTION: Approved

APPROVAL DATE: July 15, 2019

REVIEW TYPE: Full Review

SUBJECT: *Endorsement of Clinical Research Study at Peninsula Regional Medical Center*

STUDY #: P20-013

STUDY NAME: Postpartum Education: A Quality Improvement Pilot Study

The Research Review Committee has completed its review of the study request you submitted to determine fit and feasibility with Peninsula Regional's mission, values, and strategic focus.

After review, it was determined that this study would be of value to the institution and the costs associated with the study do not appear to be prohibitive with regards to the resources available.

Therefore, this study has been endorsed, and it was the opinion of the Committee that this study meets the requirements for Waiver of Jurisdiction to Salisbury University's Institutional Review Board, pending final approval by Western Institutional Review Board (WIRB), Peninsula Regional's IRB of record.

A Waiver of Jurisdiction request has been submitted to Western IRB on your behalf. Before this study can commence at Peninsula Regional, confirmation of unconditional approval from Western IRB must be received by the Research Review Committee.

If you have any questions, or should need additional information, please contact Robert Joyner, Jr., PhD, RRT, RRT-ACCS, FAARC, Director, Richard A. Henson Research Institute at 410-543-7017. When referencing this study, please include the assigned reference number and project title.



Timothy L. Feist  
Research Review Committee



July 20, 2020

Mary Chance, CCRC  
Peninsula Regional Medical Center  
100 East Carroll Street  
Salisbury, MD 21801-5493

Dear Ms. Chance:


**SUBJECT: WAIVER OF IRB JURISDICTION**  
Investigator: Rita Nutt, DNP, RN  
Protocol Title: Protocol for Postpartum Education: A Quality Improvement Pilot Study

This is in regard to your request for waiver of jurisdiction by Western Institutional Review Board (WIRB) for approval to conduct the above-referenced research project.

WIRB agrees to waive jurisdiction for the IRB review and continuing oversight of the above-referenced research study to **Salisbury University IRB**, as allowed under 21 CFR 56.114 and 45 CFR 46.114.

If you have any questions, please contact me at (360) 252-2578.

Sincerely,

DocuSigned by:  
  
KELLY FITZGERALD  
Kelly FitzGerald, PhD  
Vice President, IRB Affairs

KAF:dao

cc: Monika Naegeli, Peninsula Regional Medical Center (via email: monika.naegeli@peninsula.org)  
David Borasky, MPH, CIP, Vice President IRB Compliance  
Elaine J. Azarenko, C.I.P., Director, Institutions  
Company File #160853  
WIRB Follow-Up #498134

## Appendix I

### Project Timeline

- Fall 2019 - August 26, 2019 to December 13, 2019: Topic exploration and identification: Redesigning of Postpartum Education, gain support from medical center.
- Spring 2020/ Summer 2020- January 27, 2020 to August 15, 2020: Proposal Development: Evaluation and appraisal of acquired research on the topic, writing project proposal, writing to gain IRB approval from both educational institution and collaborating medical agency.
- Fall 2020 August 31, 2020 to October 17, 2020: Data collection –Pre-implementation data collection (via survey of patient satisfaction with current postpartum education and knowledge of post birth warning signs as well as nurses’ opinions on current methods of postpartum education)
- Fall 2020 October 18, 2020 to October 24, 2020: Nurse education on topic, redesigned educational process and use of AWHONN educational checklist.
- Fall 2020- October 25, 2020 to December 11, 2020: Implementation of newly reformed nursing postpartum patient education and post-implementation data collection (via survey of patient satisfaction with postpartum education and knowledge of post birth warning signs as well as nurses’ opinions of newly reformed postpartum education).

- Spring 2021- January 25, 2021 to May 7, 2021: Evaluation and dissemination of results: Evaluate and compare data from pre and post-implementation using descriptive and inferential statistics, formulate conclusions and disseminate information gained through deliverables (writing and presentation).

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