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Coping With Labor Education for Nurses

Donna Vo

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Coping with Labor Education for Nurses

Clinical Leadership Theme

Clinical nurse leader (CNL) is a recent role created by the American Association of Colleges of Nursing (AACN) to prepare nurses to respond to the current changes and challenges in healthcare (Harris, Roussel, & Thomas, 2014). The CNL uses evidence-based information to design, implement, and evaluate processes and models of care delivery to help improve patient care and outcomes (AACN Competencies and Curricular Expectations for CNL, 2013). The CNL project titled "Coping With Labor Education for Nurses" for the labor and delivery department at El Camino Hospital Los Gatos (ECHLG) aims to decrease the inconsistency in labor support knowledge among labor and delivery nurses. This will be accomplished through the use of in-service training and an online HealthStream module, thus improving how labor support is offered at bedside for the laboring patient. All patients who are in the labor and delivery department will be supported with different methods to help women cope during labor. Care and support will be respectful of individual patient preferences, birth plans, needs, and values. The process begins when the patient is in labor and ends with delivery of the newborn. With this process, there will be 1) an increase in patient satisfaction scores with more patient-centered care, 2) improved nurse satisfaction with more understanding of labor support knowledge, and 3) a decreased in overall cesarean rates (Appendix A for process map).

Effective communication, leadership skills, data collection, research, risk anticipation, clinical decision-making, and development of plans of care to help promote positive patient outcomes are all necessary for the success of this education plan. This quality improvement project requires the CNL to be an educator, leader, and facilitator as they must collaborate with team members to implement in-service training for staff. Effective communication is the

underlying clinical leadership theme for this project, as communication skills are an essential key factor for positive team motivation that will result in the successful implementation of a project that will improve patient care and satisfaction (Sacred Heart University, 2017).

Statement of the Problem

The purpose of this labor support education plan is to decrease the inconsistency in labor support knowledge among labor and delivery nurses through the use of in-service training and a HealthStream module. Improving how labor support is offered at the bedside for the laboring patient will potentially decrease cesarean rates, reduce expenses, and increase savings at ECHLG. The California Maternal Quality Care Collaborative (CMQCC) recommends labor support for all women in active labor as research showed that the use of different coping methods can positively impact labor and birth outcomes (Smith, Peterson, Lagrew, & Main, 2016). Evidence-based data suggests that continuous labor support that offers emotional and physical comfort to the laboring patient; position changes, massage, accupressure, and advocacy for the patient's needs and requests reduces the need for analgesia (Akbarzadeh, Masoudi, Hadianfard, Kasraeian, & Zare, 2014). It also shortens labor, and decreases the risk of cesarean delivery and operative vaginal delivery (Bohren, Hofmeyr, Sakala, Fukuzawa, & Cuthbert, 2017). Therefore, the nurse plays a vital role as the supportive personnel for the laboring woman which can impact the delivery outcome, and the overall labor process of the patient. As the nurses' awareness of their influences on patients' mode of delivery increases, it can inspire their effort to prevent cesarean birth (Edmonds & Jones, 2013). Moreover, nurses who received a standardized professional labor support education substantiated by evidence, felt that the information they learned was relevant to their job, reported more self-efficiency, and that they were more likely to be more involved at bedside and use the support interventions learned (Bagley, 2015). This

project primarily focuses on labor support education that should be introduced to nurses as they are more likely to offer support if they are aware of the various useful methods and the potential impact that they can have on the patient's birthing experience.

The issue of knowledge inconsistency in labor support and the degree offerred to patients varying among nurses had never been addressed at El Camino Hospital. With effective communication, leadership, and collaboration among the department educator and other team members; the implementation of this labor support education plan for nurses can potentially improve patient and nurse satisfaction, decrease overall cesarean rates and reduce hospital expenses.

Project Overview

The American College of Obstetrics and Gynecology (ACOG) and Society for Maternal-Fetal Medicine (SFMFM) (2014) discussed in their "Obstetric Care Consenus No. 1: Safe prevention of the the primary cesarean delivery" article that many evidence suggested that continuous labor support offered by a support personnel is one of the most effective and safe tool available to improve labor and delivery outcomes (Caughey, Cahill, Guise, & Rouse, 2014). This labor support education quality improvement project was initiated based on the extensive data that labor support offered at the bedside is essential in promoting a faster, safer, labor process and delivery for the woman in labor. It aims to improve labor support at the bedside and is motivated by the CMQCC new proposal and recommendation, "The Implementation Guide for The Toolkit to Support Vaginal Birth and Reduce Primary Cesareans" which was introduced to decrease primary cesarean rates, improve labor and birth outcomes and patient birthing experience. (Smith, Peterson, Lagrew, & Main, 2016).

This project is expected to improve patient satisfaction scores, communication, and cesarean rates by at least five percent within the first year of implementation. Nurses are also likely to report an increase in self-efficacy, labor support knowledge, and involvement at bedside. In April of 2017, 71% of the primary cesarean cases occurred in primigravida who were induced for a variety of medical reasons. It is expected that primary cesarean sections in primigravida will be decreased below 23.9% consistently each month after the labor support education is implemented. This amounts to two less cesarean cases every month.

The first step of this quality improvement project require all labor and delivery nurses to complete a thirty minutes in-service education as part of the yearly mandatory skills simulation lab. Nurses will be taught the different labor coping methods such as position changes, massages, and accupressure. The second part of this education plan require nurses to complete a HealthStream module and quiz on labor support. This section will consist of a short PowerPoint presentation of less than twenty slides. To evaluate the efficiency of the education plan after the mandatory labor support in-service training is completed, all nurses will be offered a brief evaluation questionnaire to assess the content and learning outcomes, as well as the usefulness of the information reviewed (Finkelman, 2016). Questionnaires will also be given again to at least 90% of nurses a month after the labor support education to assess whether there are changes in how labor support is offered at bedside. Data from these questionnaires will be used to evaluate the effectiveness of the teaching plan. Monthly patient satisfaction scores will be obtained from the department manager to assess whether or not there has been improvements in nursing communication, responsiveness, and patient satisfaction.

This “Coping With Labor Education for Nurses” project aims to improve the level of support labor and delivery nurses provide for patients through physical comfort such (position

changes, massages, acupressure, emotional support, instructional/informational,) and advocacy to improve patient satisfaction score above 80%, decrease or maintain cesarean rates below 24.9%, and improve patient communication and satisfaction score by 5% by January 2018. The specific aim statement reflects the global aim statement because it states the objective, intervention, measures, and time frame for set goals so that readers will be able to comprehend the purpose of the project.

Rationale

The CMQCC recommended in their initiative to promote vaginal births and decrease cesarean rates that providers should improve the support infrastructure and supportive care for women during labor as this could help reduce cesarean section rates (Smith, Peterson, Lagrew, & Main, 2016). Data collection, surveys, and interviews conducted at ECHLG indicated that nurses do not frequently stay at the patient's bedside to provide continuous labor support and that there are no labor support education program for nurses, labor support policy, and lack of tools necessary to implement labor support (See Appendix B for fishbone diagram). This creates an unfavorable environment for promoting labor support and inconsistency in labor support knowledge among nurses. How often labor support is offered to patients remain an issue.

The birth outcomes data collected from the delivery log from ECHLG labor and delivery department indicated that elective labor inductions when women's cervices are not favorable, and early admission of patients who were not in active labor accounted for a significant percentage of primary cesareans. From January 2017 to April 2017, 30% to 70% of primary cesarean cases were related to primigravida inductions, with unplanned cesarean sections accounting for 13% of the cases and failed inductions accounting for 31.4%. From December 2015 to November 2016, 31.4% of primary cesarean cases were among induced primigravida

with 21.3% of the cases diagnosed as failure to progress or cephalopelvic disproportion (CPD), and 9.8% due to fetal concern or fetal intolerance to labor. In January of 2017, unplanned cesarean sections accounted for 13% of the deliveries; and the total rates of cesarean sections which included repeated and primary cesarean cases surpassed 24% with 30% of all primary cesarean cases attributed to primigravida who were induced. Overall, the data collected from the delivery record indicated that a significant proportion of the primary cesarean cases were because of failure to progress or fetal intolerance to labor related to a failed induction. Some women had developed chorioamnionitis in concurrent with the diagnosis of failure to progress, fetal intolerance to labor, and primary cesarean section. As a result, they were hospitalized longer because they required antibiotics, and their newborn was more likely to be admitted into the neonatal intensive care unit.

Patients who delivered vaginally were hospitalized on average from one to two days on average, while postoperative cesarean patients stayed for three to four days. Besides longer hospitalization for cesarean sections, data revealed that on average, each cesarean cost $5000 to $10,000 more than a vaginal birth (Pacific Business Group on Health, 2015). Subsequently, primary cesarean sections result in more costs to the insurers, taxpayers, and government. The consumer will have to pay the deductibles and other out-of-pocket costs (Declercq, Sakala, Applebaum, & Herrlich, 2013). Cesarean birth is costly for many reasons and may be the ultimate barrier for hospitals across the nation to provide high-value, high-quality maternity care. The aim to reduce primary and repeat cesarean rates could potentially decrease overall healthcare cost at ECHLG.

To decrease cesarean rates, healthcare costs, improve patient outcomes, and quality of care, the “Coping With Labor Education for Nurses” education plan based on evidence supported

by the CMQCC was implemented at ECHLG. Twenty-three labor and delivery nurses at El Camino Los Gatos will have to complete the labor support HealthStream module and in-service training. The total education time for the HealthStream assignment and the in-service training will be approximately one hour per labor and delivery nurse. Considering that the majority of the nurses in the department are Clinical Nurse III, and make roughly $80 hourly, the total education cost for just staff nurses for this project will be approximately $2,576 (See Appendix C for financial analysis). The CNL is expected to spend approximately 267 hours on planning and implementing this project; the estimated cost for this will be approximately $33,642. The department educator is expected to spendaround eight hours collaborating with the CNL to organize and plan the education and training; the estimated cost for the time spent will be approximately $918.40. In addition to the HealthStream module and the in-service training, each labor and delivery room, and the labor and delivery nurses' station will have a laminated poster of different position changes for coping with labor. This is intended to be a labor support tool for the nurses and the patients. The seven laminated posters are estimated to cost approximately $260. The HealthStream labor support module will have to be uploaded and formatted so that nurses can access and complete the module and quiz. The estimated cost for this process will be a capital budget of $5,000. The operating costs which consist of the required education hours for the staff, CNL, department educator, cost of supplies, and HealthStream module totaled to an expense of approximately $47,396.40.

The secondary benefits of this project should also be taken into consideration because most women who had a primary cesarean section will opt for a repeat surgery for subsequent births, accruing more healthcare costs in the future (Declercq, Sakala, Applebaum, & Herrlich, 2013). Women who have cesarean sections are also more likely to have surgery related

complications such as deep vein thrombosis, infections, ileus, hemorrhage and uterine rupture in subsequent pregnancies (WebMD, 2015). An analysis of the average total maternal care costs for women in California with employer-provided health insurance in 2010 were $15,259 for vaginal births and $21,307 for cesarean births, averaging to about $6,048 more for a cesarean delivery (Corry, 2013).

If the goal of two less cesarean cases per month for a year was met, an astounding $72,576 will be saved per year in healthcare costs (See Appendix C). The necessary HPPD and additional postpartum staff will both be decreased because a patient who delivered vaginally will only be hospitalized for two days, versus the postoperative cesarean section patient who will be hospitalized for at least four days. If there is one less nurse staffed in 24 hours, and the average nurse's hourly salary is $80, then approximately $2,000 can be saved per day in personnel expenses. Furthermore, if there is one less nurse required per shift for two days in a week per month because the length of service (LOS) required for the patient who delivered vaginally is two days shorter than a cesarean delivery; then there will be 576 fewer HPPD needed in twelve months, resulting in a saving of $1,152,000 cost saved on personnel expenses alone in a year. The cost-benefit analysis for this quality improvement project is estimated to be $1,177,180 in revenue and overeall health care costs saving with the inclusion of total expenses necessary to implement this education plan; therefore, it is very profitable.

Before implementation of the "Coping with Labor Support Education Plan," the strenghts, weaknesses, opportunites, and threats (SWOT) of the project was assessed by the CNL (See Appendix D). This assessment was necessary and crucial for sucessful planning and implementation of the project (King & Gerald, 2016). This project strengths include an increase in nurses understanding of on labor support techniques in a short amount of time, and

promotion of labor support at the bedside with minimal expected expenses. One of the major weaknesses of this quality improvement project is that there is a large amount of pertinent information, but the in-service training can only be approximately thirty minutes. A short amount of allocated time will make it impossible for the in-service education to address all labor support methods in specifics and details. Consequently, this may affect the quality of the education intended for this project. As a result, the completion of the mandatory labor support module online is included in the second part of the plan. Another weakness is the limited amount of supportive tools available such as only one jacuzzi tub and two peanut balls for the whole department. Despite the mentioned weaknesses, opportunities are not limited in this project. This education plan aims to decrease knowledge discrepancy of labor coping methods among nurses and promote continuous labor support offered at the bedside. This will result in improved patient care and satisfaction, communication, and collaboration among interdisciplinary teams, as well as lowered primary cesarean rates. RN satisfaction will increase due to patients having better birth experiences and outcomes. Despite the many strengths and opportunities of this project, threats do exist to compromise the success of this project. The most common threat in any quality improvement project is staff resistant to the change. Some nurses protested against the education and stated that they believed they already knew everything about labor support. These nurses may need additional education on the importance of labor support. Another proposed threat involves staffing and an adequate nurse to patient ratio. To potentially curb this threat, the education can include information on how to involve the patient's partner or support person to perform some of the labor support methods when the nurse is unavailable.

Methodology

As an educator, leader, and facilitator the CNL will be required to initiate steps and action plans that will help staff embrace the anticipated changes expected with this project. For the labor support education plan to be successful, all staff members must be able to change the way they feel toward the new process of labor support education, and how labor support should be offered (Kaminski, 2011). To accomplish this, the CNL must use effective communication skills to highlight the driving forces for this project and convince nurses that knowledge of different labor support techniques is valuable.

The plan-do-study-act (PDSA) is a model for process improvement that is used to test and implement changes so that the intended change will be successful (King & Gerald, 2016). This model was used by the CNL to ensure that the labor support education plan will be implemented smoothly and universally. The Lewin's Force-Field Model of Change and Force-Field Analysis, which includes the unfreezing, moving, and refreezing stage was also applied to this project to facilitate the change process and success of the project (Finkelman, 2016). Unfreezing is the first step in the process, and it focuses on the concept that nurses must be motivated for change and they must be aware of the problem before change can take place. The problem must be acknowledged, understood, and there should be a possibility of improving the problem (Finkelman,2016; Kaminski, 2011). A change or new process is introduced in this stage and termination of the old process takes place (Kaminski, 2011). The moving stage is the second step in the process, in which the problem or issue is clearly recognized, and goals are developed (Finkelman,2016). Strategies for change are developed and implemented. Staff are required to change the way they think, feel, and behave toward the process undergoing change, thus, new values, attitudes, and behaviors are encouraged (Kaminski,2011). The last stage, the refreezing

phase, occurs when the change has already been incorporated and is now a "standard procedure" (Finkelman,2016). The goal for this step is to prevent staff from regressing back to processes before the change implementation. If this stage is not accomplished, any change implemented will be only temporary (Kaminski, 2011). In the theory of force-field analysis the change agent (coach or manager), and staff must identify the restraining factors that may keep the change from occurring and the driving factors that will move the situation toward the expected goal and desired outcome (Finkelman, 2016). The CNL, as the team lead in this project, will be the one to identify driving and restraining forces. After these forces are determined, strategies to increase or decrease the number or strength of the driving forces, are used to help the new process move forward.

The successful implementation of this project requires staff to understand the importance for a change in how labor support is currently offered to patients. This will be achieved through the presentation of evidence-based information to staff during the in-service training. The goal is for all labor and delivery nurses to be more active in promoting continuous bedside labor support for their patients. Once attitude toward the change is positive, and a common goal of offering more labor support to patients is established, the transition will more likely be successful. The driving forces for this project will be staff education on the benefits of the change; improved patient and nurse's satisfaction, communication between nurses and patients, and better patient outcomes such as lowered cesarean rates. Also, because the thirty-minute in-service training will be part of the mandatory yearly obstetric skills simulation training, it is convenient for nurses. Restraining forces must also be identified. The restraining forces in this process would lack of tools/equipment for labor support, lack of staff interest in labor support education, and time constraints of the allocated labor support in-service training time. Once the driving and

restraining forces are identified, and labor support education is completed, then strategies to maintain how labor support is offered can be implemented.

To initiate the first step in the process, the unfreezing stage, the CNL enlists the support of the nurse educator, Unit Council, and manager to help implement this change. Flyers or handouts based on evidenced-based information that supports the benefits of active continuous labor support for patients will be provided to all nurses. A poster with different position changes, non-pharmacological coping methods, and various support methods will be placed at the nurses station so that all nurses will be reminded of their potential impact and role in the patient's labor process. A similar poster geared toward patient education will also be placed in each patient room. Other educational materials will be displayed throughout the unit as a strategy to help the staff embrace the new change. At the monthly team and Unit Council meeting, the proposed change for more active support for women in labor will be discussed, and concerns about any arising issues with the new change will be addressed. In the moving stage, nurses will be required to complete a mandatory in-service training education and a HealthStream module with a quiz on labor support. The in-service education will last approximately half an hour and will be led by the department educator and the CNL. As recommended by the CMQCC toolkit to support vaginal birth and reduce primary cesareans. It education will include 1) information on continuous labor support and how to promote a calm and peaceful environment, 2) provide emotional support that would help women cope in the active labor phase, e.g., massages, acupressure, hydrotherapy, and different position changes with the use of different tools to facilitate the labor process (Smith, Peterson, Lagrew, & Main, 2016). After 90% of nurses have attended the mandatory education; a "go live" date for more active bedside labor support for patients will be set and announced at the monthly meeting.

It is expected that after implementation of the labor support education plan for nurses, patient satisfaction scores will be improved above 80%, patient communication score by 5%, and cesarean rates will be decreased or maintained below 24.9% by January 2018. The monthly score card for the patient satisfaction and communication score will be updated monthly by the department manager, and cesarean deliveries data will be collected from the delivery log. To evaluate the effectiveness of the education program, a questionnaire will be given to all nurses after the in-service training and again a month later. In the last stage, or the refreezing phase, interviews along with questionnaires will be performed and given to nurses once every month for two months to evaluate the impact of the in-service education and whether there were successful changes in the culture of supportive care for the laboring patient. The questionnaire will be a key tool used to evaluate whether nurses feel they are more involved at bedside and whether they think the education has impacted how they provide labor support for the patient. Patient satisfaction score and cesarean rates will also be monitored to evaluate the effectiveness of the labor support education plan.

Data Soure/Literature Review

El Camino Hospital is a Magnet accredited, non-profit, locally governed acute care hospital located in the Silicon Valley with a campus in Mountain View and Los Gatos (El Camino Hospital, 2017). It is nationally recognized as an organization that provides excellent care and holds a variety of awards and honors for high-quality care such as The Women's Choice Award, Aetna Institute of Quality, and the ANCC Magnet Designation for Nursing Excellence. The site for the project is at the Los Gatos campus, a facility with 143 beds. The labor and delivery department has six labor rooms, eight post-partum rooms, and a jacuzzi room. There are approximately 50-60 deliveries per month for mostly low-risk patients.

Like many other women's hospitals in California, this facility has collaborated with the CMQCC to initiate and implement changes that will decrease primary cesarean rates and promote vaginal births. The CMQCC recommended in their vaginal births initiative toolkit that providers should improve the support infrastructure and supportive care for women during labor as this could help prevent labor dystocia and fetal descent related cesarean deliveries because women who do not change positions often throughout labor have a higher risk for these diagnoses. Subsequently they are more likely to have cesarean deliveries, vaginal births, and worsening neonatal and maternal outcomes (Smith, Peterson, Lagrew, & Main, 2016; Bohren, Hofmeyr, Sakala, Fukuzawa, Cuthbert, 2017). An interview was performed at a unit council meeting to assess the need and evaluate how knowledgeable nurses felt about different labor support methods and position changes during labor; 70% of the nurses stated they would like to learn more about labor support. Labor support education was never offered to labor and delivery nurses and was never prioritized as an essential part of care for the woman in active labor. Thus, a labor support education plan that includes in-service training with hands-on demonstration of different labor support methods, and an online healthstream assignment that reviews the techniques taught will address the knowledge inconsistency of labor support among nurses (see Appendix E for labor support teaching plan).

The first part of the project require the labor and delivery nurses to participate in the thirty minute in-service training where hands-on labor support methods (massages, accupressure, counterpressure, aromatherapy, emotional support, and positions changes with the peanut ball and birthing ball) are demonstrated and discussed. To gather baseline data and efficiency of the education, after completion of the mandatory training, a Likert scale questionaiire with questions to evaluate the content, presentation, and likelihood that the support methods learned will be

applied to patient care are given to all nurses (see Appendix F for the labor support questionnaire). The second part of the project requires all labor and delivery nurses to complete a HealthStream assignment and quiz. The same questionnaire and an oral interview will be given and performed with at least 90% of the nurses a month later to evaluate whether the education was successful in promoting more labor support for patients in labor. Additionally, the CNL as the team leader and facilitator will have to be a mentor and resource to nurses who have concerns or questions.

To find evidence-based data, the PICO research question used was, " For patients in labor, does continous labor support or lack of labor support offered at the bedside affect cesarean rates and delivery outcomes?". The PICO statement used to review literature was, (1) P: Patients in active labor, (2) I: labor support offered at bedside, (3) C: no or limited labor support /more active nurse's presence and labor support offered at bedside, (4) O: cesarean rates decreased. Many articles that were related to labor support offered by nurse midwives, RNs, and doula and its effect on the birthing process were found. To find additional literature reviews about labor support education for nurses, keywords such as "nurse's labor support knowledge," "perception," "labor outcomes," "cesarean rates," "nurse satisfaction," and "birthing experiences" were used in the search field. Many recent, peer-reviewed articles were found on the labor support subject.

Evidence-based data and literature support the importance and need for this project. Continous labor support offered at the bedside for a woman in labor is recommended and endorsed by nationally recognized organizations such as ACOG and the CMQCC. ACOG in conjunction with the Society of Maternal-Fetal Medicine published and introduced the "Obstetric Care Consensus" from which one of the recommendations of how to safely prevent primary cesarean delivery included continous labor and delivery support for the laboring woman

(Caughey, Cahill, Guise, & Rouse, 2014). This article used data from a meta-analysis of twelve studies to support that continual presence of a support personnel such as a doula or a nurse, and the availability of different nonmedical labor support interventions. The authors of this document are members of ACOG and the SMFM, two premiere professional organizations that are forerunners and leaders in promoting research and applying and supporting evidence-based data for women's health (Caughey, Cahill, Guise, & Rouse, 2014). This further highlights the importance of labor support and its potential positive impacts for women who are in labor. This in turn emphasizes the need for the labor support education for nurses.

While most of the United States' maternal mortality rates has increased over the years, California rates decreased over the year due to the CMQCC and the quality improvement initiatives implemented at the many facilities in California (CMQCC, 2013). In 2016, the CMQCC, a state-funded organization that provides quality improvement projects to prevent morbidity, mortality and racial disparities in California (CA) maternity care, released a best practice guideline that was designed to help improve clinicians' response to a rise in cesarean rates (CMQCC, 2015). The new guideline from the "Toolkit to Support Vaginal Birth and Reduce Primary Cesareans" includes four major domains (1) Readiness (improving the culture of care, awareness, and education), (2) Recognition (supporting intended vaginal birth of which the aim is to improve the support infrastructure and supportive care during labor), (3) Response (managing labor abnormalities), and (4) Reporting (using data to drive improvement) (Smith, Peterson, Lagrew, & Main, 2016). This toolkit is the result of a collaborative effort of more than fifty diverse experts, including obstetricians, labor nurses, anesthesiologists, nurse midwives, doulas, patient advocates, childbirth education professionals, public health professionals, policymakers, and health care purchases.

The quality improvement initiatives recommended to be implemented for this toolkit are based on a variety of evidence-based data founded on reduction of primary cesarean births and tools to support vaginal births. The majority of the content is based on evidence from the *Safe Reduction of Primary Cesarean Births Bundle* published in 2015 by the Alliance for Innovation on Maternal Health (AIM), a program of the National Partnership for Maternal Safety. Additionally, guidelines recommended in the toolkit draws primarily from the *Obsteric Care Consensus on Safe Prevention of the Primary Cesarean Delivery* published jointly by the ACOG and the SMFM in 2014 (Smith, Peterson, Lagrew, & Main, 2016). The "Coping With Labor Education for Nurses" project is based on the second domain of the toolkit; recognition and improvement of how labor support is offered to the woman in active labor. This domain recommends that education on non-pharmacologic comfort measures should include: continuous labor support, breathing and relaxation techniques, touch techniques and massage, positions to promote comfort, heat and cold therapy, hydrotherapy, sterile water injections, and transcutaneous electrical nerve stimulation (TENS) (Smith, Peterson, Lagrew, & Main, 2016). It also recommends that education on methods to support labor progress and prevent dysfunction labor should include: freedom to move during labor, upright and different ambulatory positioning, and use of the peanut and birthing ball for position changes that will facilitate fetal descent and rotation. The labor support education project was designed with the guidelines and recommendations from the CMQCC and was based on the evidence supported in the vaginal birth initiative toolkit.

The level of labor support provided to patients in active labor is directly correlated to lowered ceserean rates, better birth outcomes, and better patient birthing experiences. It is also supported by many meta-analysis studies. A recent systematic review of 27 studies from the

Cochrane Library analyzed by Bohren, Hofmeyr, Sakala, Fukuzawa, and Cuthberth (2017) found that continous labor support offered to women in labor by a nurse, nurse midwife, or other non-related hospital personnel such as a doula may improve outcomes for women and their newborns. Women who received continous labor support were more likely to have any or all of the following; spontaneous vaginal delivery, shorter labor processes, decreased risk of cesarean birth and/or instrumental vaginal birth, less use of any analgesia, higher five minute Apgar scores, and better overall birthing experiences.

Similar to the CMQCC labor support techniques recommended, labor support methods included in this study consisted of a continous personnel presence at bedside, reassurance, praise, education provided on the labor progress, and comfort measures such as touch, massage, showers/baths, encoruagment of mobility, and advocacy for the patient (Bohren, Hofmeyr, Sakala, Fukuzawa, & Cuthberth, 2017) . No evidence of harm in relation to labor support was found. This systematic-review study collected and analyzed 27 trials from 17 different countries, involving 15,858 women from high and middle-income families who had usuable outcome data reported for analysis. However, there are some limitations to this study. No women of low-income families were included in the study, the participants were not blind, the study did not differentiate between women who were considered low or high-risk in labor, and the differences in the effectiveness of continous labor support offered from personnel that did or did not have training was not addressed. Further research on longer-term outcomes such as breastfeeding, postpartum depression, self-esteem, and mother and infant bonding in the future should be considered. Nevertheless, it is worth mentioning that this review consisted of updated synthesizes of the highest quality evidence currently available on labor support and underwent extensive peer and consumer reviews. This recent meta-analysis confirmed the importance of

more nurses' involvement at bedside as active support for the women in labor, and ratify the reasons that labor support should be more available.

Upon additional research, a randomized clinical trial study that condoned supportive care for the women in labor was found for the labor support education project. The study was conducted by Akbarzadeh, Masoudi, Hadianfard, Kasraeian, and Zare in 2014 on 150 pregnant women in a delivery ward with similar age, number of pregnancies, cervical dilation at admission, gestational age, educational level, and occupation were randomly assigned into three different groups: supportive care, acupressure, or the control group. The supportive care group received both physical comfort techniques (massage, acupressure, position changes), and emotional support (reassurance, and educational support with information and updates on the labor process). The acupressure group received only pressure in the BL32 accupoint or the acupoint located in the second hole of the sacral bone. The control group did not receive any labor support interventions, and care was provided in accordance to the department's typical routine. Ethical approval was obtained for the study, and the authors declared no conflict of interests.

The labor outcome data was analyzed with descriptive and inferential statistics indicating that there were significant differences among the three groups of women in pain intensity perception and percentages of natural vaginal delivery (Akbarzadeh, Masoudi, Hadianfard, Kasraeian, and Zare, 2014). The supportive care and acupressure group reported less intense pain and had better delivery outcomes. The highest rate of non-operative vaginal delivery at 94% was reported in the supportive group, followed by 92% for the acupressure group, and 60% in the control group (Akbarzadeh, Masoudi, Hadianfard, Kasraeian, and Zare, 2014). One limitation stood out in this study because the sample population consisted exclusively of Iranian women

who were similar in demographics and criteria, generalizability is decreased in this study. This study validates the purpose of the labor support education project because it confirms that the labor interventions discussed in the in-service training and Healthstream module can help the patient cope better, decrease pain sensation experienced during labor, and improved the overall birthing experiences and labor outcome.

Data suggests that a variety of factors are directly related to the increased cesarean rates and that clinician practice patterns influence the woman's delivery outcome (Edmonds & Jones, 2012). Edmonds and Jones (2012) conducted a cross-sectional, descriptive, qualitative study on 13 registered nurses with at least two years of experience in obstetrics to examine the role of the labor and delivery nurses in a nurse-managed practice model, and how the patient outcomes and delivery methods are related to how they perceived their ability to influence patient care. The nurses in this study were employed at a community-based hospital in the labor and delivery department in the United States. Participants all volunteered and consented to an audio-recorded in-depth interview that was conducted either face-to-face or over the phone by two coinvestigators. Narrative data revealed that nurses perceived their role to be influential in the patient delivery outcome and that the allowance of necessary time needed to implement interventions that promote vaginal delivery was critical. Findings indicated that further research needed to be performed to explore how individual nursing practice can influence delivery outcome. The convenient small sample size and the vast differences in years of nursing experiences (10-40 years) limits the transferability of the study to other populations outside of the studied group. Still, because the nurse is constantly at the patient's bedside, the amount of labor support offered to the patient is a significant independent factor in predictor of the patient delivery outcome (Edmonds & Jones, 2012). Thus, this study highlights how nurses' perception

of labor support, its benefits, and the time allocated for support interventions influences the patient delivery outcomes.

In addition to Edmond and Jones' qualitative study, Bagley (2015) found that data in a pretest/posttest descriptive study performed to evaluate an evidence-based educational program on professional labor support (PLS) indicated that there was an increased in self-efficacy, learner satisfaction, and high value perception of information learned. The convenience population sample consisted of 31 labor and delivery nurses from a tertiary medical center in the Midwest of the United States. The nurses were given evaluation forms before and after they attended the four-hour PLS course designed with content information from the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). Data revealed that 90.3% of nurses perceived the content learned as clinically relevant, 80.6% reported they learned something new, 64.5% stated that the material learned will most likely improved or changed the way they practice, 80.6% will apply the information learned to modify patient management, 83.9% felt they had increased patient knowledge, and 83.9% planned to implement position changes at the bedside (Bagley, 2015). Although the majority of nurses reported that they intended to implement the labor support knowledge learned, it is unknown if they will actually apply PLS to clinical practice. Therefore, further evaluation to measure how often PLS is used after the educational program is required. Despite so, this study confirms the relevance of the labor support education plan project for nurses as it suggests that the availability of a PLS will result in more labor support knowledge among nurses and increases in confidence and self-efficacy which will lead to more likely application of the labor support interventions learned to the clinical setting.

Timeline

The project, "Coping With Labor Support Education Plan" began at the end of August 2017 and will be completed by the end of October 2017 (see Appendix G for Gantt Chart). Prior to the project, interview, surveys, and data collection were performed in April of 2017 in the department to identify baseline cesarean rates data, and patient satisfaction scores, and nurse perception and use of labor support interventions at the bedside. After a need for labor support education was identified, collaboration with the department manager, nurse educator, nurse midwives, Unit Council members, doulas, and nurses involved with the mandatory yearly obstetric skills lab developed and implemented a labor support education plan that was appropriate for the needs of the department. This occured from May to June 2017. From June to July 2017 the CNL with the assistance of the department educator, a nurse midwife, and a trained doula who was also a labor nurse developed and finalized the labor support content in the in-service training and Healthstream module. In August 2017 the thirty minute mandatory in-service training started as a part of the curriculum for the simulation lab and is expected to continue through October 2017. The assigned labor support Healthstream module and quiz will also be required to be completed during this time frame. A questionnaire will be given to all labor and delivery nurses after the on-site education to evaluate the efficiency of the in-service training and collect data on nurse's perception of labor support, self-efficacy, usefulness of content learned, and whether they will be more likely to apply labor interventions learned at bedside. Another questionnaire and an interview will be given and performed a month later in November 2017 to assess whether the labor support program made a difference in how often labor support is provided to patients who are in labor. The labor support in-service training and HealthStream module is scheduled to be completed by the end of October 2017.

Expected Results

Based on the research data collected and changes implemented with the use of the Lewin's Change Theory, an in-service education for nurses on how to provide different labor support strategies for comfort measures (position changes, massage, accupressure, counterpressure, hydrotherapy, advocacy, education, and emotional and physical support) will possibly improve the quality of care delivered for patients in labor. Moreover, it will also most likely decrease the risk for operative vaginal birth, maternal and newborn complications, and cesarean rates below 23.9% per the CMQCC vaginal birth initiative toolkit goal (Smith, Peterson, Lagrew, & Main, 2016). Patient satisfaction is expected to be increased above 80%, and communication scores are expected to be improved by 5% by January 2018. Nurses are expected to report that they are more likely to be more involved at the bedside with the patient in labor, increased satisfaction, and to apply labor interventions learned as self-efficacy is expected to be increased along with labor support knowledge. In conclusion, with the completion of this labor support education program, nurses will have more self-efficacy, confidence, knowledge, competence and increased job satisfaction. In turn patients will also report a positive labor process experience, have less birth complications, and lowered risk for cesarean delivery.

Nursing Relevance

Labor support knowledge among nurses remain inconsistent as most nurses do not routinely receive labor support technique education in their curriculum requirements. Hence, there is a lack of training and inconsistency in knowledge of nonpharmacologic coping methods among providers and nurses (Smith, Peterson, Lagrew, & Main, 2016). The implementation of this project that addresses the labor support methods knowledge inconsistency among nurses can potentially empower nurses to be more active at the bedside and give them the knowledge and

confidence they need to offer support. The birthing process and being in labor is one of the most intense, remarkable, and nervewracking periods a woman can experience; it is one of the times that she is very vulnerable and the nurse's support at the bedside can dramatically impact how she experiences labor and birth.

Extensive research suggest that labor support offered to the woman at the bedside helps improve birth outcomes, labor processes, decreases labor complications, risk of ceserean sections, and are positively correlated to better maternal and newborn outcomes (Smith, Peterson, Lagrew, & Main, 2016). Furthermore, this clinical nurse leader project that involves education for labor and delivery nurses on the many different labor support methods to help women cope with labor will also be beneficial to the department, hospital, patients, and nurses financially. The cost-benefit analysis for this quality improvement project is estimated to be $1,177,180 that ECHLG can save over the year on staff, HPPD, and healthcare. It is worth mentioning that this does not include the costs of a repeat cesarean section that most women opt for after their initial one; thus, the amount saved by initiating for this education plan is tremendous.

Summary Report

This "Coping With Labor Education for Nurses" education plan aims to improve patient advocacy and the level of labor support interventions labor and delivery nurses will provide for patients in labor to improve patient satisfaction score above 80%, decrease or maintain cesarean rates below 24.9%, and improve patient communication and satisfaction scores by 5% by January 2018 in the labor and delivery department at ECHLG. Before implementation of this project, face-to-face interviews with labor and delivery nurses were conducted to assess the needs of the department. Patient communication and satisfaction scores along with cesarean data

were collected and evaluated during the microsystem assessment. The following issues were identified: 1) from January-April 2017, 30% to 70% of cesarean cases were related to failure to progress or fetal intolerance to labor, 2) failed inductions accounted for 31.4% of the cases, 3) patient communication and satisfaction scores are below 80%, 4) and labor support interventions knowledge among nurses remained inconsistent, resulting in variation of level of support provided for patients.

The CMQCC toolkit for promoting vaginal births and decreasing cesarean rates was reviewed and research data from it was used to determine that labor support interventions for women in labor was one of the necessary components of promoting better birth outcomes and decreasing cesarean rates. The idea to educate nurses on labor support interventions to reduce knowledge inconsistency of support methods among nurses and improve nurses' confidence was proposed to the department manager. After this proposal was approved, the CNL met with the department educator and simulation team to put forward the plan to incorporate the labor support in-service training to be a part of the yearly simulation skills lab. Next consensus to add the labor support education to the simulation objectives was obtained. The CNL collaborated with the simulation team members and department educator to create a teaching plan that will cover all the essential information in thirty minutes. Posters with different massage techniques and positions changes were designed as a resource for the in-service training and the department. A Healthstream module that highlighted the various labor support interventions in details was created to reinforce the teaching from the in-service training. The module is a mandatory assignment that all labor and delivery nurses must complete by the end of October 2017.

The effectiveness of the labor support education plan was evaluated with a questionnaire after the in-service training and will also be given to nurses again a month later (See Appendix

F). The questionnaire used a Likert scale that rates answers from a scale of one (fair) to four (excellent). Questions that assessed whether the education was useful, practical, effective, will improved nurses' knowledge, and whether nurses will more likely used the methods taught were asked. Out of 12 questionnaires, only three nurses reported they did not learned any new labor support methods and two reported that the education will most likely not impact or change how they currently offer labor support to patients. A score of three or four from all 12 questionnaires were reported for content and presentation. As expected, the questionnaires collected indicated there are inconsistency in labor support knowledge among nurses, and that this project is useful in decreasing the knowledge gap between nurses. This project aimed to improve the level of labor support offered to patients by increasing nurses' knowledge and confidence in support methods, and the responses from the questionnaires indicated so. Most nurses reported that the new labor support methods they learned is useful and applicable to their practice; thus, they will most likely use it for patients in labor.

Research indicated that labor support interventions provided to a patient in active labor is one of the necessary components for ensuring better birth outcomes, increasing likelihood of non-operative vaginal births, and decreasing birthing complications and cesarean deliveries. Therefore, it is necessary that nurses continue to provide labor support to women. To ensure that there will be sustainability in the plan, an interview with the labor and delivery nurses at the ECHLG will be performed monthly for three months to evaluate whether the support methods learned are being used. Nurses will also receive the same questionnaire that was initially given to them after the in-service training during the interview. Reports will be monitored and provided to the department unit council. To motivate nurses and maintain the change, cesarean

data, patient communication, and satisfaction scores will be collected and shared with the department.

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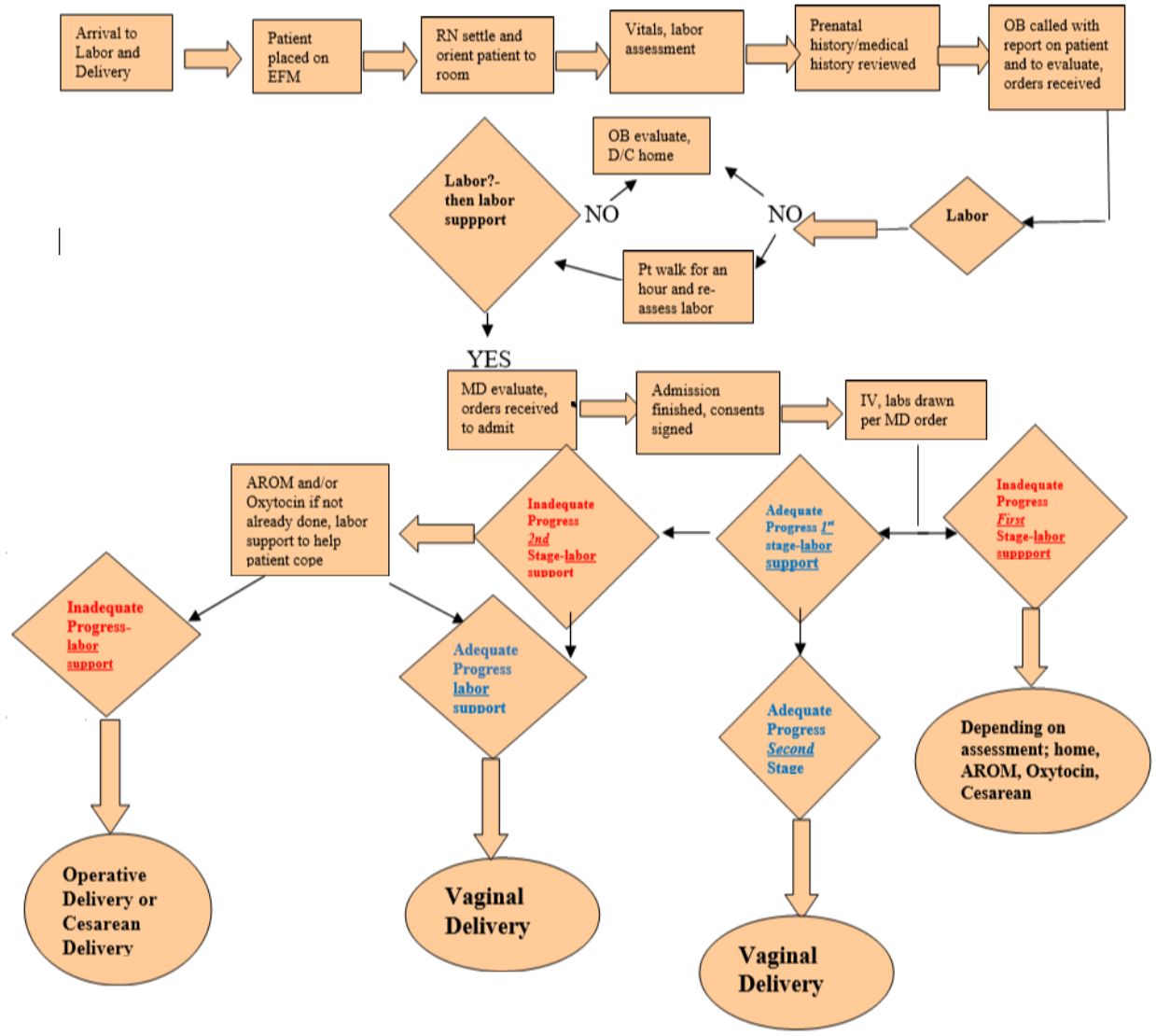
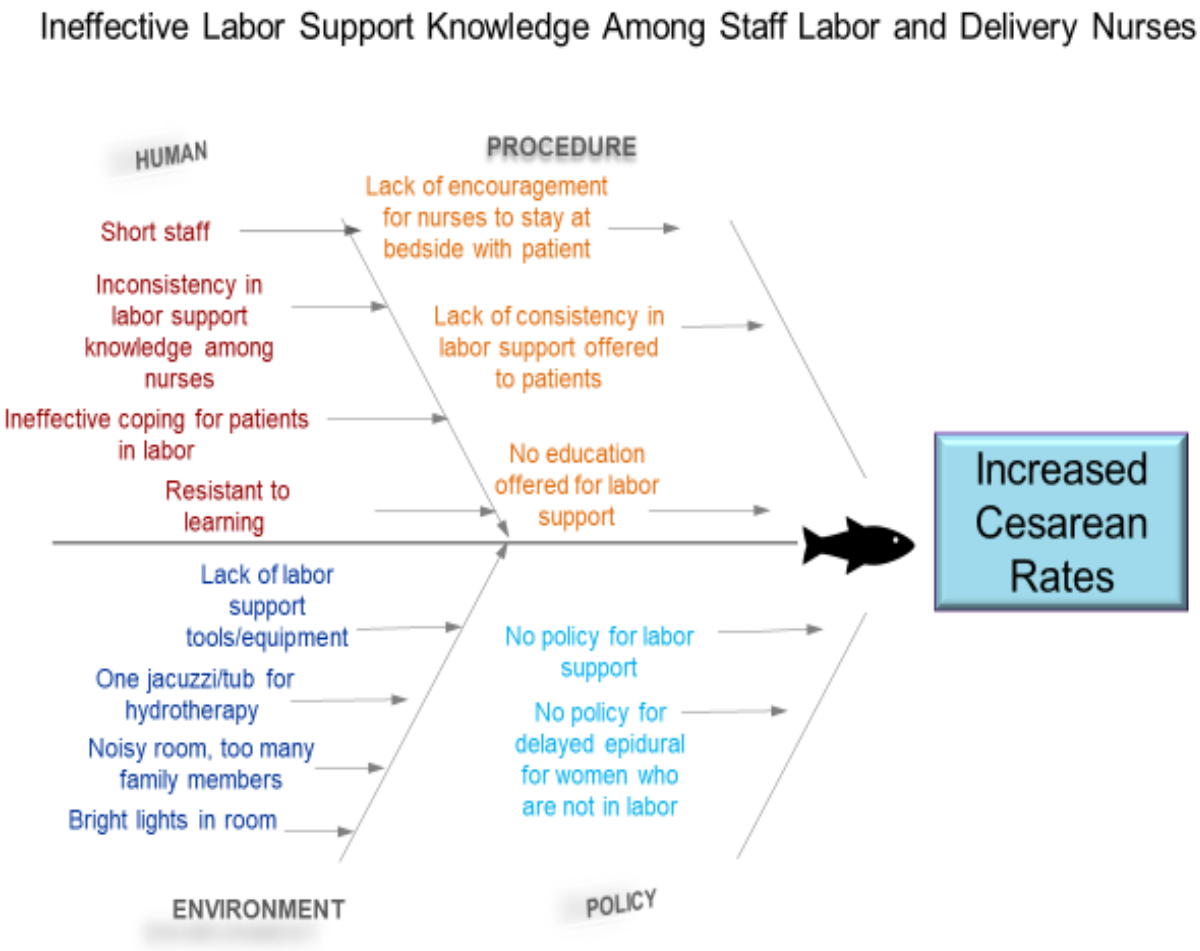
Appendix A

Process Map Flow Chart



Appendix B

Fishbone Diagram



Appendix C

Coping With Labor Education for Nurses Project

Coping With Labor Education in Labor and Delivery										
Staffing Needs										
	FTE	Number of staff	Edu Time	Total Hrs	Hrly Rate	Total Hourly Salary	Benefits	total		
Department Educator		1		8	$82.00	$656.00	1.4	$918.40		
Nurses		23	1	23	$ 80	$ 1,840.00	1.4	$ 2,576		
CNL	0.13			267	$ 90	$ 24,030.00	1.4	$ 33,642		
								$ 37,136		
Supplies (7 posters)								$ 260.00		
Capital										
HealthStream								$ 5,000.00		
Total Costs								**$47,396.40**		
Savings	savings/visit	Number of Staff	Decreased c-sect. /year	Decreased LOS hrs per wk	Total Hrs	Total cost/year				
Vaginal delivery vs C-sect.	$ 6,048.00		12			$ 72,576.00				
Hrs Per Patient Day (HPPD)	$2,000	1	12	48	576	$1,152,000				
Total Costs						**$ 1,224,576.00**				
Total expense						**$47,396.00**				
Cost-Benefit Analysis (CBA)						**$ 1,177,180.00**				

Appendix D

Swot Analysis

Appendix E

Labor Support Teaching Plan

Goal: To decrease inconsistency of labor support knowledge among nurses, encourage shared team knowledge of different labor support methods and positions, promote and encourage more labor support interventions at bedside, and educate nurses on the evidence-based data that reinforce necessary labor support interventions for patients in labor.
100% of the nurses will attend a mandatory in-service, hands-on training for different labor support techniques and positions demonstration, and by October 31, 2017 100% of labor and delivery nurses will complete the online labor support HealthStream module.

Learning objectives 1: Recall different labor support techniques.
Learning objectives 2: Demonstrate different labor positions.
Learning objectives 3: Understand the benefits of offering labor support to women in labor, and in seeking knowledge about labor support techniques and positions from co-workers.

Content outline:
Why is constant and active labor support is necessary for the laboring patient?
What does labor support include? What are the different methods and position changes to help facilitate labor progress and promote comfort?

Teaching strategies:
This teaching plan will be a blended education with a thirty minutes in-service training that will be held as a group session with discussion, demonstration, teach back, question-answer, and feedbacks. The second part of this education include a mandatory HealthStream labor support powerpoint module.

Learning Activities:

- The first part of this education include an in-service training that is part of the yearly mandatory skill's lab. Nurses will be expected to be able to listen attentively and understand the benefits of labor support, will be able to recall labor support techniques learned through a discussion, and demonstrate labor positions shown on each other.
- The second part, consist of an online learning tool with the labor support HealthStream module and will review and reinforce all the support methods learned.
- **Time required:**
- 30 minutes for the in-service training.
- At least 30 minutes for the completion of the HealthStream module and quiz.

Resources: Labor positions poster, unit specific resources and expertise.

Evaluation method: Questionnaire given to nurses at the end of the in-service training and a month later.

Appendix F

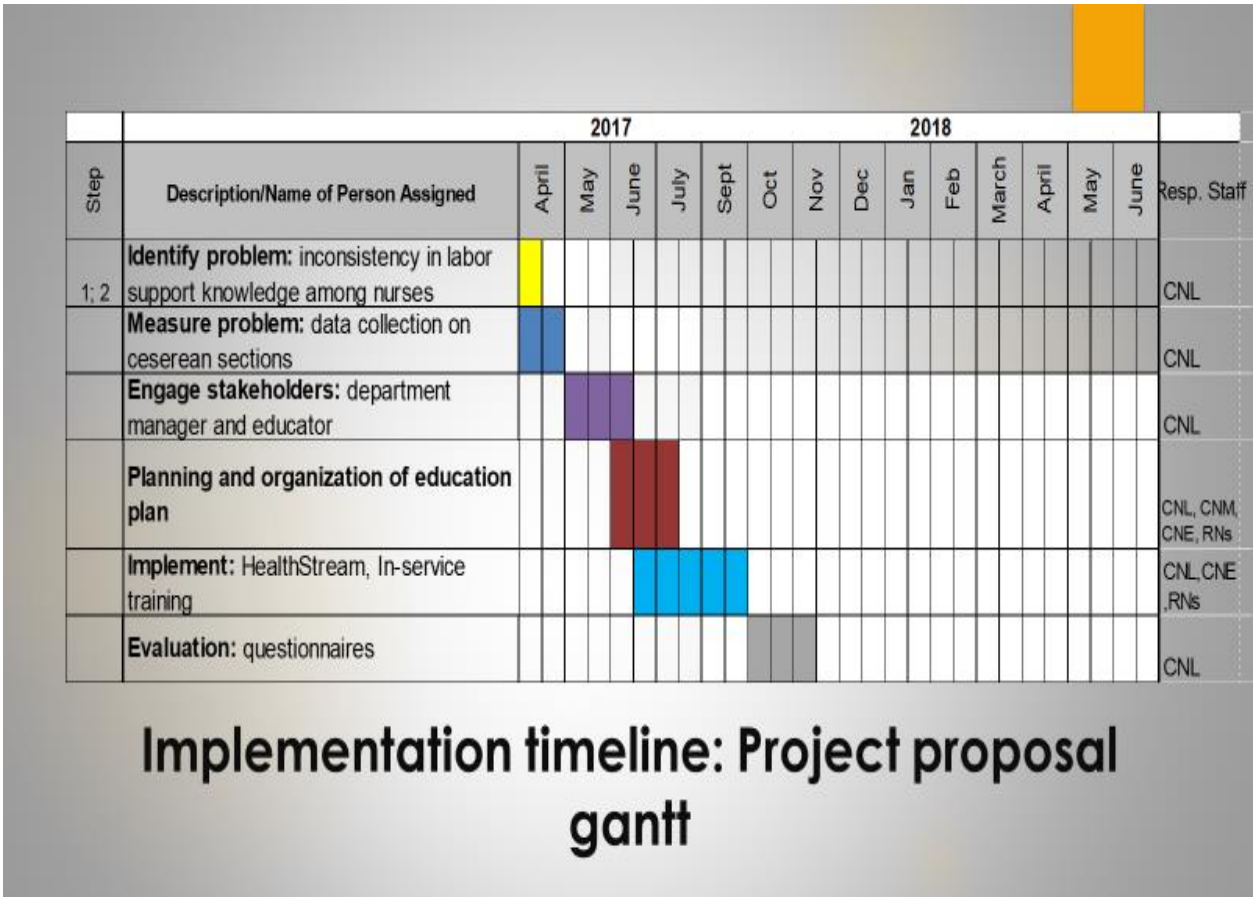
Labbor Support Questionnaire

Labor Support Education

Today's Date: _____ Name of Presenter/s: _____

A. Content	1 Fair ←	2	3 →	4 Excellent
Covered useful material				
Practical to my needs and interests				
Well organized				
Well paced				
Presented at the right level				
Effective activities				
Useful visual aids				
B. More confidence in offering labor support and implementing techniques learned at the bedside. (1-don't agree at all, 4-definitely)				
This education will help me do my job better.				
C. Presentation				
Instructor's knowledge				
Instructor's presentation style				
Instructor covered material clearly				
Instructor answered questions well				
Instructor facilitated interactions among participants well				

C. How could this workshop be improved?	
D. How likely will you offer more labor support to patients after this in-service training?	***Circle one (1-is least likely, 4 is most likely) 1, 2, 3, 4***
E. Did you learn new labor support methods, and positions you did not know before?	***Circle one (1- I did not learn anything new at all, 4 - I learned a lot) 1, 2, 3, 4***
E. Any other comments or suggestions? What additional information about labor support will you like to see?	

Appendix G

Gannt Chart