Creating A Flexible Nursing Staff Within An Urban Level III Perinatal Environment: Creating A Flexible Staffing Model

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Abstract

The purpose of this project is to establish a program that provides education, orientation, and ongoing support for nurses who are reallocated to an unfamiliar perinatal unit. Further intent of this strategy is to develop a competent perinatal adjunct staff to manage patient census and acuity fluctuations in a Level III urban perinatal unit. This project supports an environment of high quality and safe patient care aligned with the Association of Women's Health, Obstetrical and Neonatal Nursing's (AWHONN) Guidelines for Professional Nursing Staffing in Perinatal units.

A nursing theory Novice to Expert, by Patricia Benner is the underpinning of the project as proficient to expert nurses expand their nursing skills outside the boundaries of their current nursing expertise and become novice, beginner, and finally competent nurses within the parameters of perinatal nurses. In the process, the nurses achieve the project goal of providing competent flexible staffing support for the dedicated perinatal nursing staff.

Project design and methods begins with a needs assessment which identifies any gap in safe staffing. The need for a viable plan to support dedicated staff is evident. House registry (facility registry nursing staff) are offered the opportunity to gain education, skills and competence that will allow them to function competently as flexible staff when census and/or acuity on the perinatal unit presents the need (See Appendix A). A toolkit has been developed (refer to Appendices A-I, K and M). The participating nurse provides a recommendation from the nursing management team as endorsement that she/he is a reliable candidate for training. The nurse indicates intent to participate and completes the consent form (See Appendices C and J). Educational elements include self-study packets (See Appendices D and E) and face to face didactics (see Appendices F and G) with an expert clinician. Orientation will follow on the unit, when the participating nurse will follow a proficient to expert nurse. The assessment tool is administration of a pretest before the educational components are initiated and posttest (the same test) after the education and orientation are complete. Scoring of the posttest must exceed a score of 80% for the cross-trained nurse to proceed. In addition, the participating nurse must complete the orientation tool (See Appendix B) to indicate competent performance at the culmination of the orientation period. Over time, a gap analysis will be completed by the the charge nurse and participating nurse at the end of the shifts worked to identify any additional educational needs or clarity to support competency (See Appendix H).

This project will develop and outline an educational program that relies on commitment from In House Registry registered nursing staff (a pool of nurses within the facility) to work on the perinatal Mother-Baby Unit as a strategy to support safe and high quality care on a unit with high levels of patient volume and acuity variation from shift to shift.

In order to maximize staffing, nursing management has traditionally reallocated staff from one unit to another without regard for skill set, knowledge base, or need for a basic orientation. For example, nurses with no experience in caring for neonates are frequently assigned to the newborn nursery. There is an issue of patient safety at the root of these assignments. What interventions are adopted to protect patient and nurse safety? What metrics are used to illustrate success, safety and quality- from the patient perspective, the nurse perspective and the facility perspective?

Nurses without an established perinatal nursing competency need to have a basis in theory and application for the work and skills required in caring for the newborn during

transition to extra uterine life and for the maternal patient during the postpartum phased of recovery and adaptation to health (Beauleiu, 2009; McKinney, 2009; Simpson, 2011).

Currently, healthcare organizations are bombarded with the competing challenges of providing high quality nursing care with a focus on patient safety, and safe care that does not compromise the safety or integrity of the nurse. These challenges are further complicated by increasingly complex patients (comorbidities, increased acuity, obesity, and more), as well as challenging and shrinking financial resources, demands of regulatory expectations, and the confusion of government initiated healthcare reform (Hall, 2014; Orentlicher, 2014). In fact, Hall notes that "with so many components to this law (the Affordable Care Act), it is possible to make just about any case (or conclusion) one wants."

Healthcare financial constraints coupled with safety and risk management demand creative management of nursing staff to support a balanced budget and to sustain high quality, safe care. Nursing care represents a high cost item within any healthcare system. Estimates of the cost of nurse staffing within the hospital operating budget are significant, representing an estimated 30-32 % of a hospital's operating budget (Kane, 2006). Welton, Fischer, DeGrace, & Zone-Smith, (2006), suggest nursing costs are 25-44% within overall hospital operations. In 2011, Welton states that nursing labor represents 30.1% of all hospital expenditures annually (related to the cost of in-patient care) with an estimated cost of 216. 7 billion dollars annually. When the demand for specialized nursing services is variable from shift to shift, the need for innovative solutions that support flexibility in staffing is apparent. Floating expendable nursing staff has long been a plan used randomly to support nursing staffing without consideration of staff knowledge and educational needs.

In the past decade, the need to develop staffing plans that support safe and high quality nursing care has become evident. The groundbreaking work from the Institute of Medicine in 1999, To Err is Human: Building a safer health system underscores the need to identify what high quality, safe care is (Kohn, 1999). In addition, Emergency Medical Treatment and Labor Act regulations dictate the need for all facilities to care for any patient regardless of their means for payment, or original plans for care specifically related to emergency and/or active labor services. These factors have direct impact on perinatal staffing considerations (DHHS,

2003; Diamond, 2011).

Staffing guidelines have been outlined by the Association of Women's Health, Obstetric

and Newborn Nursing (AWHONN), the professional nursing organization responsible for developing policy and advising practice standards for perinatal nursing care in the United States. These guidelines provide a template for safe staffing ratios. Considerations of nurse staffing is an integral part of the discussion of safe and high quality patient care. Initiatives designed to conquer situations of "failure to rescue." Circumstances of patient mortality or morbidity following a complication - generally known as "failure to rescue," Aiken, 2002) have been published within many nursing subspecialties. The dominant themes of "failure to rescue" are tied to inadequacy of nurse staffing, or incompetency of nursing care (Beaulieu, 2009; Clarke and Aiken, et al, 2003; Aiken, 2010).

The real challenge in the process of developing flexible while competent staff is to identify the nursing staff that savors the challenge of learning new skills and caring for the Level III perinatal population. The question of what constitutes appropriate education and training for these experienced nurses must be investigated. The time required for that education and training to be successfully introduced and implemented must be explored and determined within meaningful, measurable parameters. The tools that identify gaps in competency for the individual nurse and evaluation plans for measuring staff competency need to be developed. The identification of a staffing mix of expert, proficient and competent nursing staff to support a safe and high performing team on the Mother Baby Unit is an additional key element to the support of an efficient, high functioning team.

LITERATURE SYNTHESIS AND EVALUATION OF THE EVIDENCE

A rigorous review of the literature was conducted using the keywords: cross-training, crosstraining (nursing), and staff flexibility. Search engines included Academic Search Premier, Academic Search Complete, Health Source: Nursing and academic edition, Military and government collections, Soc Index with full text, Consumer health complete (EBSCO Host), CINAHL plus with full text, Psych articles, PsycInfo, and Health and psychological instruments. Using the same keywords, the Cochrane Library and Joannna Briggs International databases were

investigated. The paucity of relevant and current literature to inform the topic demanded additional search strategies. Reference mining was used on relevant literature found from the original review of the literature. Several keywords and terms were entered during the initial steps toward literature review. Professional nursing prefers "education" rather than the term training. With the intent of this project it was determined "cross training" was a more appropriate term to capture the literature sought. Even so, a total of seven articles as listed in Table 1 provided support and direction for this project. None of the articles are current. No robust or high level research was uncovered, elucidating the need for additional and current inquiry and documentation of the common practice of "floating" and cross-training nurses throughout various healthcare venues.

Altimer & Sanders (1999) described a cross-training program across a hospital system that enabled perinatal nurses to work within three acute care facilities, with assignments dictated according to census needs and patient acuity. Perinatal services became a single team staffing three labor and delivery units, three mother-baby units, one special care obstetrical unit, one level III neonatal intensive care unit, and two level II special care nursery units. Equipment, policies, clinical pathways, documentation workflows and orientation competencies were standardized across the facilities. All perinatal nurses had a primary work unit, and were cross trained to work in a secondary unit, with an expectation for maintaining competencies documented annually. The new model, creating a flexible, competent and marketable nursing staff saw a decrease in overall perinatal nursing turnover rate, decreased nurse overtime, decreased mandatory nurse days off, boosted staff morale, eliminated the need for outside nursing agency use across the system. The intervention saved the system $919,200 in one year.

Gnanlet & Gilland (2009) explored the benefits and tradeoffs of employing different types of flexibility while coordinating bed spaces and available nursing staff. In addition, Gnanlet & Gilland compared centralized staffing decision making (determination of capacity, total staff and need for float nurses simultaneously) and decentralized staffing decision making (making capacity and staffing decisions separately) with a focus on two types of staffing flexibility within a healthcare facility: demand upgrades and staffing flexibility. The benefit of using staffing flexibility was greater than the benefit of using demand upgrades

(patients are upgraded to or remain in higher acuity unit than their acuity requires), measured in terms of cost savings.

Inman, Blumenfeld, & Ko (2005) used cross-training to compensate for random patient census and nurse absenteeism. Within the study, Inman, et al (2005) determined that cross trained nurses are more valuable to a facility because of their ability to provide competent nursing care in more than one unit of the facility. A strict criterion was implemented when determining which nurses should be cross trained, including acute nursing experience, nurses' attendance, and nurses who have a desire to extend their skill sets. Identified within the study was the value of linking a chain of cross training across units or in reciprocal pairs of expertise as a strategy to support more than one hospital acute care unit. Through data analysis, the authors determined an absent cross trained nurse causes the facility more harm than a nurse without skills acquired through reallocation of nursing staff. The cross trained nurse needs specific training to develop the skills to care for the patient population within the facility. If planned and managed strategically, Inman et al determined that cross training has the potential to improve quality of care, reduce turnover, improve morale, and reduce costs.

Li & King (1999) described a staff planning model that illustrated cost savings and benefits of staffing flexibility through cross-training for an ambulatory healthcare facility. Staff flexibility within the research was defined as a staff member who can perform procedures other than his/her designated job description. This staffing plan model provided a capacity cushion which served to help manage time varying demand while reducing the cost of hiring, orientating and sustaining additional staff through a cross training practice. Emphasis on the value of using registration, licensing, and regulatory measures to provide consumers with evidence that providers meet certain credentialing standards provided an underlying theme within the research.

Nichols & Palmer (1994) provided a literature review that alluded to the sparse return of literature devoted to cross training at that time though authors note that "the concept (of cross training) has been in practice since the late 1970s" (p. 34). The authors discussed the need for didactic content to give appropriate theoretical background to support the development of clinical competency, in addition to the development of knowledge integration and application of clinical learning unique to perinatal nursing. In an outline of

cross training implementation, the authors support the use of cost-benefit analysis, changes in length of stay and patient, staff and physician satisfaction surveys to provide outcome metrics for future projects.

Rudy & Sions (2003) implemented a program of floating staff nurses who could provide flexibility and support to established nursing staff within a university hospital setting. Through the implementation of focus groups, floating was identified as a nurse dis-satisfier within the system. Statistics indicated that floating nurses negatively impacted nursing retention. A shared decision making nursing team adopted floating guidelines with the intent to maximize the flexibility and minimize the staff dis-satisfaction associated with floating. Those guidelines included:

- Documentation of floating a nurse to a different unit, so that the practice was clearly done on a rotational basis to sustain the nurse's competency,
- Designation of a resource person assigned to each float nurse by the charge nurse when the floater arrived on the unit,
- Documentation of shift responsibilities that outline float nurse expectations on the unit assigned,
- Distribution of surveys to provide float nurse and charge nurse feedback and a gap analysis,

This program reduced the nurse vacancy rate and markedly increased nursing satisfaction within the institution. In addition, the cost of adding a pool of floating nurses with limited benefits (but with a float differential) was calculated to be cost effective for the healthcare facility to support adequate staffing throughout the facility.

Besides education, orientation was considered an important factor to Wheaton (1996) who described a program that successfully incorporated self -learning modules and clinical experience to cross train a pool of nursing, creating a flexible workforce to support established staff to meet staffing needs in a university hospital. A competency checklist served as the tool to measure success of the program.

In summary, this review of the literature revealed a paucity of current research related to cross training within an acute care facility. However, the existing literature supports cross training of nurses into a second acute care service unit with the implementation of education and orientation for the cross training nurses. Altimer & Saunders (1999) saw increased staff unity, flexibility, job satisfaction, and cost benefit savings. Gnanet & Gilland (2009) described a greater cost benefit for the facility when a strategy of cross training was

adopted, as opposed to the strategy of demand upgrade (demand upgrade is defined as allowing a patient to remain in or be transferred into a higher cost unit). Inman, Blumenthal and Ko (2005) determined that cross training has the potential to improve quality of care, reduce nurse turnover rates, improve morale and reduce costs. Li & King (1999) illustrated a cost savings reflective of reduction in hiring, orienting and sustaining nursing staff. Nichols and Palmer (1994) investigated benefits and barriers of cross training without offering conclusive data. Rudy and Sions (2003) noted that cross training decreased the nurse vacancy rate, improved job satisfaction for nurses, assisted in the managerial balance of nurse staffing dictated by fluctuating censuses, and demonstrated a cost effective pattern. Wheaton (1996) described an educational intervention that adequately trained a pool of intensive care nurses to function competently in the Neurological Critical Care Unit using a competency checklist to measure success of the program.

THEORY AND CONCEPTUAL FRAMEWORK

The novice to expert nursing theory proposed by Patricia Benner (1984) has origins in the Dreyfus model of Skill Acquisition (1980), with focus on how experiential learning affects nursing over time. Benner notes that with the acquisition of skill the participant actively evolves through five phases: novice, advanced beginner, competent, proficient and expert. These five levels of becoming a skilled practitioner reflect three aspects of skilled performance:

- movement in learning from a paradigm of reliance on abstract principles to association with past concrete experience;
- perception of skill acquisition from many constituents to a more holistic view of the activity or skill;
- culmination of skill acquisition- from detached observer to involved participant.

Benner (2009) posits that skilled nursing requires well planned education: Further, experience based skill acquisition is safer and quicker when it rests upon sound education. Advanced understanding of a situation allows orderly – learned- behavior, without strict rule following. The transition through skill acquisition of the practitioner occurs with the day to day experience of problem solving. Perceptual awareness is central to good judgment and allows perceptions to lead to confirming evidence with day to day exposure. A novel situation relies on conscious, deliberate, analytical problem solving that allows the practitioner to confront (or see) the situation in a holistic manner. Intrinsic

to the theory, knowledge is imbedded or imprinted in the nurse over time cognitively through experiential learning, and culminates in the evolution of the expert nurse. The expert nurse continues to evolve.

MOVEMENT IN LEARNING FROM A PARADIGM OF RELIANCE ON ABSTRACT PRINCIPLES TO ASSOCIATION WITH PAST CONCRETE EXPERIENCE

During this proposed project, incorporating the self-study modules allows the proficient medical-surgical nurse (cross train candidate) to identify norms as well as complications commonly found in the new service unit (for instance, orthostatic hypotension, hypovolemia, depression…) and can apply potential patient problems - including prevention and resolution- with problems the nurse has seen in the medical-surgical population where she is proficient/ expert in patient care. This activity allows the nurse to study complex and abstract principles of perinatal care and associate the care of the perinatal population with care rendered repetitively, over time, for medical-surgical patients who exhibit comparable problems (where the nurse practices as a proficient or expert nurse), illustrating Benner's first aspect of skilled performance: the movement in learning from a paradigm of reliance on abstract principles to association with past concrete experience.

PERCEPTION OF SKILL ACQUISITION FROM MANY CONSTITUENTS TO A MORE HOLISTIC VIEW OF THE ACTIVITY OR SKILL

During face to face didactics using PowerPoint presentation, case studies and discussion, alternative plans and outcomes are explored as they relate to patient-family, health-illness, nurse- healthcare resources, cultural needs, social and economic constraints that dictate a need to individual patient care plans. For instance, when is the primary care provider available for rounding and enhanced problem solving for the patient? What needs to be discussed and how are those needs prioritized? How does the patient learn best and when? Does the patient prefer for her significant other to be present? How independent is the patient in caring for herself and her newborn? What barriers can be addressed this shift to encourage independence? What sort of resources would be of benefit to this patient? And so on. This activity supports the resolution of Benner's second aspect of skilled performance: the perception of skill acquisition from many constituents to a more holistic view of the activity or skill.

CULMINATION OF SKILL ACQUISITION- FROM DETACHED OBSERVER TO INVOLVED PARTICIPANT

Working on the unit under the supervision and with the mentoring of an expert Mother Baby Unit nurse, the cross trained nurse is given the opportunity to actively "plan" the shift care for individual patients with similar basic needs, but with a variety of barriers, problems and educational needs that require resolution before the patient can successfully care for herself, her baby and her family- and go home. This process allows the participating nurse to adapt acquired skills and knowledge into practice with the support of her preceptors. This activity supports Benner's third aspect of skilled performance: the culmination of skill acquisition- from detached observer to involved participant.

The participating nurse's practice is evolving as the nurse is exposed to a variety of patient problems as well as expert staff members who can mentor the cross trained nurse and offer a variety of strategies to avoid or resolve problems and barriers encountered related to the patient, family, facility and other healthcare providers. These notions of mentoring support a team concept throughout the unit. Evidence that team work supports safe and high quality patient care is reported throughout nursing literature (Aiken, 2002; Aiken, 2003; Clarke, 2003; Shekelle, 2013; Spetz, 2013). Further, research suggests that improved registered nurse staffing has a beneficial effect on patient outcomes. Conversely, research shows that the likelihood of both overall patient mortality (i.e., in-hospital death) and mortality following a complication (known as failure to rescue) increases by 7% for each additional patient added to the average registered nurse workload (Aiken, 2002).; Aiken, 2003; Clarke, 2003; Shekelle, 2013; Spetz, 2013). In a study by Shekelle et al in 2013, multivariate analysis of nurse staffing and patient outcomes reported that when RN staffing is increased, there was a significant decrease in patient mortality/morbidity following a medical or surgical complication. Additional data showed a decrease in pulmonary embolism, deep vein thrombosis, and sepsis. Further data revealed that higher staffing was linked to shorter lengths of stay.

The Novice to Expert theory proposed by Patricia Benner supports the underpinnings of this project: an experienced nurse in medical-surgical nursing becomes a novice in the world of perinatal nursing, where newborn assessment, breast feeding and patient education become critical elements of a specialty nursing practice that includes care of

the adult post-partum patient. Considered a broad theoretical model (Chinn, 1999), Benner's Novice to Expert theory ties theory to practice as equally important, essential parts of nursing. As the nursing novice or student moves through the education of rules governing nursing practice, the reality of what nursing constitutes becomes clear within the practice of using those rules. With confounding elements provided by the environment, idiosyncrasies of the patient/family, health/wellness levels of the individual, family and community, and support/barriers present within the facility. The interplay of theory and practice become nursing "lessons learned." This process represents a valuable component of the development of a competent nurse within the nursing paradigm (Benner, 2009).

Nursing, as a practice discipline, is complex and situational. This theory allows the development of a staffing plan that considers nursing education, staffing issues, and environmental and situational components that vary in different facilities, as policy and practice is ever evolving. The theoretical model introduced by Benner focuses on the evolutional use of knowledge within situations that allows the clinician to consider changing relevance, patient response, and timeliness of practice intervention as knowledge is acquired and nursing is practiced over time. Good nursing judgment and reasoning is informed by scientific evidence and technological development (Benner, 2009; McEwen, 2007).

Historically, healthcare facilities including this Level III urban hospital have sent in house registry nurses to units those nurses were ill-equipped for. The practice has provided a "band-aid" approach to patient care, with the potential of placing the patient in peril and the nurse's professional licensure in jeopardy.

The Mother-Baby Unit (MBU) tends to be seen as an "easy" unit to work. In reality, these fragile, vulnerable populations (neonates and new mothers) need nurses with the skills to anticipate and support complex physical needs that cannot be requested by the patient. Nutrition, elimination, oxygenation needs and thermoregulation are but a few of the components that must be supported, for an optimal neonatal adjustment to extrauterine life.

The maternal patient is vulnerable as well. When the untrained nurse joins the MBU staff, there is a lack of knowledge that can precipitate accidents, illustrated when the nurse allows the post-partum patient to go to the

bathroom unattended when the patient had an epidural and full motor function has not returned. In another scenario, with the post-partum period of diuresis compounded by labor induced sleep deprivation, orthostatic hypotension may occur and fall risk is heightened. Further, the education required to send a mother and baby home and expect them to thrive is not acknowledged by an "any warm nurse/body will do" approach to staffing. As a result, the in house registry nurse would not be skilled to provide timely education for the patient and the oncoming staff nurse is asked to "catch up." Often the new mother is overwhelmed with adjustments to changes in her family dynamics, discomfort, getting to know her newborn, and so on: trying to "catch up" needed education to support the patient(s) and family is not always reasonable or optimal. The new mother needs the education and information when SHE is ready and engaged, using the format and venue that best supports her learning process.

Implementing this model to train a flexible and competent staff to provide a safe, higher quality care within a team they come to know will be successful on the platform of Benner's Theory of novice to expert. With the acquisition of specifically identified perinatal knowledge and skills, the expert/proficient Medical-Surgical or Psychiatric nurse has the opportunity to become a competent MBU nurse.

This theory provides structure for thinking about a flexible staff training project that offers opportunity to provide a comprehensive while creative evidence based approach to perinatal staffing. Such an approach has the potential to increase efficiency with a vision to the development of a collaborative workforce, while using available resources. This practice could be applied to any nursing unit.

NEEDS ASSESSMENT

Utilizing an acuity tool developed by Kathleen Rice-Simpson (2013) and originating from the Guidelines for Perinatal Care (2010), a review of patient to staffing ratios for 20 shifts in MBU (with reassessment every 6 hours) revealed an overall deficit of professional nursing staff that ranged from -4.25 to + 1.0 staff RNs. The acuity tool recognizes the need for nursing hours according to the acuity of the patient and the recommended guidelines for nursing care. For example, if the patient is described as a high risk patient the category for nursing care would be 1:1 or require six hours of dedicated nursing care over the six hours assessed.

If the patient is a woman with antepartum complications in stable condition, guidelines indicate a nurse-patient ration of 1:3 is appropriate and require two hours of dedicated nursing care over the six hours being anticipated, are indicated for that patient. The total patient census has an assigned acuity and nurse hours will be calculated for the shift. Patient changes in condition are noted at the change of shift and appropriately calculated. Total hours needed for dedicated patient care (with attention to acuity and using the AWHONN staffing guidelines) are then divided by 6 hours (the timeline being assessed) for the total number of nurses needed. Nurses available – nurses needed = +/- nurses showing a deficit (-) or a surplus (+). 75% of the time staffing was at a deficit with a greater than 1.5 nurse need. Overall, 90% of the time there was a nursing staffing deficiency. See Appendix I for the staffing assessment tool.

Management and staff nurses within the urban setting articulated concern about nurses who were "floated" to the Mother Baby Unit without orientation or education to prepare them for the patient care required. Instances included

1. allowing a new mother to ambulate before her epidural anesthesia had allowed complete return of motor skills creating the potential for a fall and injury;
2. lack of knowledge regarding neonatal assessment and care;
3. lack of knowledge related to newborn screening required before discharge;
4. lack of knowledge related to antepartum, intrapartum and post partum physiology that may impact care of the mother and/or neonate;
5. lack of knowledge related to immunizations appropriate for the child bearing woman;
6. lack of knowledge related to immunizations appropriate for the neonate;
7. inability to support the breastfeeding mother or inform the mother appropriately about basic breastfeeding facts;
8. lack of knowledge related to discharge instructions and planning for mother and neonate;
9. as well as inefficiencies related to location of equipment on the unit.

These points of competency have the ability to affect safety, quality and/or patient safety on the Mother Baby Unit during the hospital stay and after discharge

Nursing competency in the care of the population served is an essential part of safe staffing plans. An understanding of the diagnoses, treatments, medications, and side effects is imbedded in competent nursing care. Administration of care that includes informed consent and education underscores the need for nurses to have a clear understanding of

problems, treatment and prevention to appropriately articulate information to the patient. Problems can arise that are a direct threat to the safety and health of the patient, or can be precipitated by family, social constraints, cultural needs, access to resources and so on. It is necessary within the competent nursing practice that nurses are aware of problems, needs, barriers and tools for resolution to provide safe and high quality care that works to optimize the health of the patients served. The Novice to Expert Theory developed by Patricia Benner is a framework that supports this project.

Cross training a pool of registered nurse support staff provides a link in creating a safe and high quality staffing model. When perinatal census increases over a short period of time and/or with the occurrence of nurse absenteeism, this intervention for staffing support provides the Mother Baby Unit with a staffing "safety net." Cross training has been used by healthcare facilities to support the fluctuating needs of hospital units. As a bridge to cover the staffing gap when nurse absenteeism occurs, cross-training can be an effective plan. Historically, staffs with similar skills have been successfully cross trained with education and clinical support.

PROJECT PLAN AND METHODOLOGY

The objective of this project is to establish an orientation program that provides education, orientation, and ongoing support for nurses who are reallocated to an unfamiliar perinatal unit. This would result in a flexible nursing workforce that will improve patient safety and quality through the use of competent perinatal nurses to support nationally and professionally endorsed staffing ratios. Teamwork within the staff provides a critical component to the success of this project, since staffing mix varies from competent, to proficient, and finally to expert practitioners who have the ability to elevate their colleagues skills and the quality of patient care imparted.

Target Population

Staff already involved at the facility as In House Registry (IHR) will be queried to determine their interest in becoming a part of a Pilot program that will learn new skills and provide support specifically to the Mother Baby Unit, providing flexibility in staffing when patient volume and acuity or staff availability warrants their assistance. This nursing staff population will offer one shift per pay period beyond their current obligations to IHR, to support MBU

staffing.

The patient population in this inner city urban location is the vulnerable maternal child populations in low socioeconomic communities the facility has a long history of service to. The payer mix is generally over 90% Medicaid.

Setting

The Pilot Program will involve self-study (at home), didactic education on the Maternal Child Unit, and on the job orientation with seasoned preceptors on the Mother Baby Unit nurses who are proficient or expert nursing staff. The healthcare organization is a Level III perinatal center within metropolitan Chicago within a low socioeconomic high crime community. The payer mix is over 90% Medicaid. Dominant ethnic populations are African American (45%) and non-black Hispanic (45%).

Evaluation of Resources

The Chief Nursing Officer, the In House Registry manager, a Human Resource nurse recruiter, the Nursing Education Manager, and the Director of Maternal Child services endorsed the project proposed, allowing four nurses to be used in a pilot program to determine the efficacy of this project. The project budget is predicted to be $5026.53. Four nurses with an average estimated hourly cost of $39.23 oriented for 32 hours totals $5021.44. In addition, printed materials for educational purposes total $2.97 per person. Printing for mailing will cost $2.12. Mailing itself totals $22.06. The nursing recruitment office in Human Resources plans to cover the cost of 47 mailings. . At an estimated cost of $65/hour for agency nurses, there is a difference of $25/77/hr between the cost of an agency nurse currently and the average hourly salary of the IHR pilot nurses (averaged to be $39.23). With a total program cost of $5048.62, it will take 78 hours (or 6.5 twelve hour shifts) of IHR staff use when outside registry staff would have been accessed to absorb the program cost. After four twelve hour shifts are completed, the pilot program will yield +$25.77 per hour when the IHR nurse is utilized in lieu of employing an agency nurse. In a years' time, if the institution anticipates an average of ten agency nurses needed per month, savings of over $3092 will be actualized when IHR MBU project nurses are used instead. See Table 2.

Measurable Goals and Objectives

- To provide opportunities for nurses to acquire new skills, knowledge and abilities

- To support the implementation of perinatal staffing guidelines recommended and endorsed by professional healthcare organizations
- To support efficacy in the facility use of costly staffing resources.
- To support a balance of high quality/safe patient care while promoting a fiscally responsible cost containment initiative within the healthcare organization.

Time line

The letter (Appendix A) will be sent to potential participants. Within a window of 7-10 days, participants will contact the project manager who will forward information about the program, including (Appendices B and C) the self-assessment tool, and the checklist. With the selection of the participants by 10 days, a schedule will be planned. The schedule and self-study modules will be forwarded to participants so that they can prepare for the scheduled didactics and orientation period, over 7 to 10 days. Within a month, four IHR nurse participants will be prepared to offer shifts that will support the MBU staff. See the Gantt Chart or time line created in Appendix J.

OUTCOME MEASURES

Improved nurse to patient ratios that support high quality care (patient and nurse satisfaction) will provide outcome measures illustrated in the metrics of

- Improvement comparison between pre and posttest results, with a requirement of 80% on the posttest to successfully complete the cross training pilot program;
- Increased nursing satisfaction shown through use of the Gap analysis tool;
- Completion of a project evaluation tool;
- A cost-benefit analysis that provides evidence that the use of oriented or trained in house registry staff shows financial efficacy that reduces the need for additional costly and expensive nurse recruitment or agency use.

PLAN FOR IMPLEMENTATION

Data Collection Tools and Methods

A letter (Appendix A) will be sent to potential IHR candidates, originating from the Human Resources Department.

Metrics for measure are clearly delineated.

Curriculum is derived from identification of perinatal nursing accountability related to patient assessment, recognized obstetrical morbidity and mortality, and the transitional phase of neonatal adjustment.

One strategy to support teamwork begins with introductions to all staff, a unit tour and scavenger hunt. The ability to find tools to do the work of nursing affords the nurse an element of mastery of the new environment and independence (Billings & Halsted, 2009).

Two self-study modules (Appendices D and E) follow with two presentation didactics including PowerPoint lecture, quizzes, case studies and discussion (Appendices F and G), quizzes and face to face didactics with lecture, case studies and discussion. Participants will experience demonstrations with the content expert, and present return demonstrations to identify basic understanding.

Pilot participants will complete an orientation (three shifts of eight hours)with preceptors in the Mother Baby Unit. An evaluation tool (Appendix H) to be used for the first five independent shifts and quarterly will identify gaps that require additional attention. Resources will be developed for an orientation program that creates competent mother baby nurses within the perinatal unit. The participants will maintain their own competency by scheduling to work two shifts per pay period, to maintain competency within the specialty. In the spirit of Benner's Novice to Expert theory, these nurses will be empowered to continue to build upon the skills learned to create a proficient mother baby nurse by accessing mentoring resources and providing mentoring when they are the expert. This pilot process may serve to support a culture that embraces concepts of team and support.

Identified nurses will be provided with self-directed educational modules, practice bulletins, structured didactics and skill stations that inform the nurses of perinatal patient care guidelines related to typical diagnoses entering the perinatal unit.

Appropriate periods of orientation with proficient and expert perinatal nurses will complete the cross-training allowing the participating nurse to perform on the perinatal unit competently. Initially, 2-4 hours of classroom didactic will be coupled with 8-10 hours of clinical experiential practice with an experienced nurse acting as preceptor. With adequate, skilled and flexible nursing staff, patients will receive higher quality, safer care. Dedicated perinatal nurses, functioning at the level of proficient or expert nurses will continue to serve the cross-trained nurse as resources/mentors as cross trained nurses work as staff. An employee evaluation tool will completed by the shift charge nurse for the first 5 shifts worked and quarterly assessing nursing skills related to quality of care, organizational skills, communication, professionalism, and the patient experience perspective that serve to illustrate nursing competence and efficacy. Census tallies will be compared with staffing utilized to determine successful reassignment of flexible staff. Comparison of participant pre and posttest scores, patient satisfaction, nursing satisfaction (related to the In House Registry and maternal child staffs), and nurse staffing costs will provide metrics for analysis of the program.

With the culmination of the training, a posttest will be administered. With the establishment of competency, the nurse will be assigned at least one shift a pay period within the specialty unit to maintain competence and build skills. There would be no penalty to the nurse if the shift is cancelled due to low census.

Benner's theory, Novice to Expert supports the plans for implementation of this project. After the participant is found to be engaged in the project with appropriate credentials and experience, the movement in learning from a paradigm of reliance on abstract principles to association with past concrete experience as the nurse participant is assigned materials to read and review before the onsite cross-training activities proceed. The nurse participant will attend three four hour didactics that include Power Point slides with lecture, discussion and quizzes to explore knowledge that underpins the care rendered on the mother baby unit. During these four hour didactics, the nurse participant will enter into the perception of skill acquisition from many constituents to a more holistic view of the activity or skill as work with patients commences, and the expert demonstrates the skills to complete a comprehensive and individualized focal maternal postpartum assessment, the newborn assessment, completion of the newborn screenings, assistance with breastfeeding, and more. During this time, return demonstrations are required. Review of the patient history and current interactions with the patient area essential components when identifying patient needs and problems. After the four hour didactics, nurse participants will be assigned to a preceptor for eight hours of direct patient care, with an orientation plan and checklist. With this element of cross training the culmination of skill acquisition- from detached observer to involved participant begins. With the completion of the 36-40 hours of cross training, the nurse participants will be asked to complete the posttest and demonstrate the skills of maternal postpartum

assessment, newborn assessment, breastfeeding support, postpartum/newborn education and discharge instructions.

In terms of confidentiality no patient or staff health information will be required for this educational opportunity. Any clinical contact during practice will not result in documentation of any personal patient information during the course of this educational opportunity. With completion of this program, all documents (pretest, test, staff consent, et etc.) required of participant staff will be maintained in their personal human resources folder within the facility to support completion of the program and competency of staff. Staff will also have the opportunity to copy the documents for their own professional portfolio. With completion of the educational opportunity, all staff contacts provided will be disposed of (shredded).

Plan for Data Analysis

Data analysis will include comparison of the pre and post test results, in a percentage format or score. The expectation is that nurse participants improve their scores and knowledge base to a minimum score of 80%. The pre and posttest results provide comparison to determine what aspects of perinatal nursing education need improvement within the project. In addition, return demonstrations after the project is completed will provide insight into nurse participants strengths and weaknesses, and inform what may be lacking within the project education provided. The use of the IHR Evaluation tool will provide additional data about the competency of the nurse participant through the eyes of the charge nurse on the perinatal unit, and the nurse herself.

PLAN FOR DISSEMINATION

This DNP project will be articulated to the academic community through the use of a PowerPoint slides and discussion that will illustrate the preparation, application and outcome measures of this project.

This paper has been refined as the basis for a poster presentation. In addition, specific deliverables will include:

- This paper will be refined as the basis for publication or poster presentation
- A cross training Tool Kit will be available for replication and adaptation that includes
  - Appendix A: A letter of invitation to cross train within the agency
  - Appendix B: an Orientation tool to identify needs
  - Appendix C: A signed intent to participate
  - Appendix D, E, F, and G: Outlines of

lesson plans (a template to be used)
  - Appendix H: A Gap analysis to identify continuing and/or changing needs
  - Appendix I: Worksheet to identify staffing needs

(The Tool Kit includes instructions of the use for each document provided.)

In general, this toolkit provides a template to adapt to different services within acute care that can be useful to any nurse staffing unit.

Implications for further investigation

Further investigation is needed of the practice of floating nurses in venues other than acute care so that quality of care, safety and value of the nursing interventions are not degraded.

Within the hospital industry, further investigation regarding the value of nursing interventions in terms of patient health across the continuum of care. Quantification of nursing interventions in terms of optimal health across the continuum needs to be explored.

Additional methodology to inform the nursing and healthcare industry in terms of safe, high quality healthcare: that is, what is safe and high quality healthcare? Does it mean the same thing to everyone (patient, nurse, family, community, insurers, other healthcare providers)?

CONCLUSION

This flexible staffing program proposed is intended as a means of utilizing available nursing staff more efficiently: to decrease short staffing which impacts safe and high quality perinatal patient care while simultaneously increasing the opportunities for underutilized in-house registry nurses to work their scheduled hours. When patient census fluctuates in the perinatal units, positions to be filled are sporadically needed to support dedicated nursing staff. Within the proposed program, nurses will learn additional skills that provide them with a higher level of job satisfaction and marketability. Eventually, the efficient use of nursing staff will be demonstrated as the cross-trained nurses will be enabled to move fluidly between In-House Registry to maternal child units as census dictates.

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