Developing a Structured Implementation Plan: Transitioning to a Blended Learning Model for Electronic Medical Record Education

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Abstract

Online and blended learning is increasingly being utilized to educate healthcare staff on electronic medical record documentation. The implementation of online learning brings challenges to nurse educators and other leaders who have not been responsible for implementing and validating this type of education previously. With Rosabeth Moss Kanter's theory of structural empowerment as a framework, this project developed a structure to guide nursing staff after the implementation of a blended learning model for EPIC documentation in their organization. This project attempted to alleviate the stressors felt by nursing educators, preceptors, and orientees by providing education, tools, and support. After the implementation began, an unplanned intervention was added that provided open learning labs for EPIC support to the staff of the organization. After the pilot period, a survey was sent to nurse educators, preceptors, and orientees to gather their qualitative feedback and perceptions regarding the blended learning model. A low level of survey responses limited the results of the project. Qualitative feedback received through interviewing nursing educators and orientees revealed that the organizations goal of having nurse orientees work on their online education throughout orientation in the inpatient units was not being implemented as intended. Nurse orientees did not feel they had time to step away from patient care to review online education. This information is of value because it can help education leaders develop a more feasible plan for EPIC education dissemination to ensure that the education policy reflects the actual practice occurring in the inpatient nursing units.

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Chapter I: Introduction

A large integrated health system headquartered in Central Illinois had recently transitioned from providing two days of in seat training for new inpatient nurses on EPIC, the organizations electronic medical record (EMR) documentation platform, to a one day in seat EPIC course. The material previously covered in the second day of EPIC training would now be incorporated into online modules to be assigned to nurses to complete throughout their nursing orientation. Each new inpatient nurse was assigned the registered nurse (RN) 200 course via Canvas, an online learning platform. The utilization of Canvas courses for education of inpatient staff is new at this organization. At the time of this transition, there was no structure in place for the nursing educators, preceptors, or the EPIC credentialed trainers (CTs) to follow in regard to implementing these new learning modules into nursing orientation. Providing nursing educators, preceptors, and EPIC CTs in the organization structure and support throughout the transition would help ensure that the implementation was successful. Structural power in an organization in the form of resources, information, and support has been found to be an organization antecedent of employee engagement (Garcia, Fernandez, & Martinez, 2015).

Background and Significance

This large healthcare system, headquartered in Peoria, Illinois, consists of thirteen hospitals with 1,874 acute care beds between them. The flagship hospital, a Midwest level one trauma center, is the largest of these hospitals. This Midwest hospital has 629 licensed beds and employs 5,376 employees (OSF Healthcare, 2019). Prior to this transition, newly hired inpatient nurses across this entire healthcare system, traveled to the flagship Midwest hospital to complete

two eight hour days of EPIC training on the EMR. EPIC inpatient nurse classes are taught by a credentialed EPIC trainer. Employees from the informatics team are credentialed in EPIC applications through the organizations credentialing process.

In fiscal year 2017, there were approximately 721 inpatient nurses hired across this healthcare system that required inpatient EPIC documentation training. EPIC classes for inpatient nurses were scheduled biweekly with classes limited to twenty nurses per classroom. Depending on the number of new nurses hired in a specific pay period, two separate classrooms running simultaneously were often required. This equated to thirty-two hours of training every two weeks. In addition to paying for new nurses to attend the sixteen hours of EPIC training, this healthcare system paid for the mileage accrued to and from class at the flagship Midwest hospital for the nurses who were hired to work in other locations within the organization. Decreasing the EPIC training to one eight hour day could be a significant cost savings measure for this integrated health system.

Since the transition to the blended learning model, new inpatient nurses hired across this healthcare system travel to the flagship Midwest hospital for only one day of EPIC training and then are assigned the RN 200 online course by an EPIC CT. One of the organizations goals of transitioning to this blended learning model is for nurses to retain more of their EPIC training by directly applying their new knowledge to real time patient documentation (D. Tilley, personal communication, October 17, 2018). To accomplish this, as nurses go through orientation in the inpatient unit, preceptors will have nurse orientees view specific online modules when the topic of one of the learning modules arises. This will allow the nurse orientees to review the EPIC education and specific documentation requirements when it is most pertinent. Examples of some of the online learning modules include: (a) blood administration; (b) use of physical restraints;

(c) admitting, transferring, and discharging of patients; and (d) documenting the patient's care plan and education.

Nursing preceptors from this healthcare system have not been responsible for providing formal EPIC education in the past. Having their orientees step away from the bedside to view the online modules is a foreign concept to preceptors whose goal has traditionally been to provide orientees with as much direct patient care experiences as possible during their orientation. An effective and smooth orientation process helps build nursing competence and skill and is important for the future success of the novice nurse (Wing, Regan & Spence, 2015).

In order to provide a successful orientation experience, nursing educators, preceptors and EPIC CTs need supported as their responsibilities and expectations have changed. At the time of the transition to the blended learning model, there was not a process or structure in place to support nursing educators, preceptors and EPIC CTs through the transition or to elicit their feedback and suggestions regarding the online modules.

Nurse educators at the flagship Midwest hospital are responsible for overseeing the orientation of new nurses hired to their units. They are charged with: (a) selecting the preceptors for each orientee; (b) assessing the orientees progress regularly throughout orientation; (c) providing unit specific education; and (d) ensuring that new nurses have completed all of the various education that is required to work in their department. Prior to the implementation of the blended learning model, the documentation of formal EPIC training and the assessment of nurse orientees' competence with EMR documentation, was not a responsibility of the nurse educators.

Due to the Canvas learning platform not being used by nursing educators before, adding the responsibility of verifying that the online EPIC modules have been completed successfully by nursing orientees has the potential to cause problems for nursing educators. Educators are

already responsible for maintaining and completing several orientation checklists and competencies throughout orientation. Nursing orientation documentation is a permanent part of the nurse's regulatory file. When hospitals are surveyed by regulatory bodies, nursing educators may be asked to present any employee's regulatory file for review.

Having a complete and accurate regulatory file is a major responsibility for nurse educators. Errors in documenting a nurse's competency or incomplete documentation within a regulatory file can cause the organization to be penalized or lose certain accreditations. Providing nurse educators with the resources, education, tools and support structure needed to properly navigate the Canvas learning platform will assist them with organizing and tracking nurse orientees' required orientation checklists and competency assessments.

Needs Assessment

An analysis of the strengths, weaknesses, opportunities, and threats (SWOT) was completed to evaluate this organizations readiness for the implementation of a blended learning model. The SWOT analysis revealed the following strengths: (a) the education department at this healthcare system is highly motivated to provide effective online learning modules for new nurses; (b) the flagship Midwest hospital has an experienced nursing informatics staff to help with this transition; (c) administrative leaders within this healthcare system are very supportive of the transition to the blended learning model to support future online learning opportunities. Weaknesses identified include: (a) all new inpatient nurses will get the same online modules regardless of their specific unit and orientation schedule; (b) nursing preceptors may not be comfortable with online learning; (c) there will be variation in how the online modules are implemented between different nursing preceptors.

The following opportunities related to the success of this transition were identified: (a) nursing preceptors are no longer given monetary compensation while precepting; (b) in order to function as a nursing preceptor, nurses are now required to take an online preceptor course and quiz which has proven to be difficult for some preceptors to complete successfully; (c) nursing preceptors feel there is not a lot of incentive to precept anymore; (d) nursing educators already have multiple orientation checklists and competencies that they are responsible for keeping track of with each orientee, adding another checklist for the online EPIC modules will be difficult to maintain. Threats to the successful implementation of online learning modules include: (a) there is variation in nurses' knowledge of EPIC depending on past experience; (b) performing online modules throughout orientation will require self-discipline and time management; (c) nursing educators may decide to have nurse orientees view all of the online modules at the beginning of their orientation instead of throughout their orientation as intended. Overall it was determined that the leaders within the healthcare system are very supportive of the education team's implementation of online learning and are also supportive of developing a structure to support nursing educators and preceptors. The nursing informatics staff have the ability to support nursing educators and preceptors through this transition to help newly graduated nurses build competence with electronic documentation.

Problem Statement

Implementing this blended learning model without providing a support structure for the nursing educators, preceptors, and EPIC CTs may lead to preceptor frustration, EPIC documentation errors and increase staff turnover. If nurse orientees are not given the education they need to effectively navigate the EMR, it may increase the amount of time spent away from their patients, lead to errors in patient care, and could potentially cause the nurse to miss

regulatory documentation requirements. Nursing competence with the EMR significantly impacts the quality of care delivered, experience, and satisfaction of patients and their families. Transitioning to a blended learning model is ultimately placing additional responsibilities on nursing educators and preceptors that they are unfamiliar with. Without providing these individuals with support and structure during this transition, the success of this implementation will be compromised.

Project Aim

The aim of this project was to develop a structure for nursing educators, preceptors and EPIC CTs to guide them after the implementation of a blended learning model for EPIC documentation. To develop this structure, a team of EPIC CTs, nursing educators, nursing preceptors, and education scholars was formed to obtain insight into the potential barriers they perceive and their own attitudes regarding the successful implementation of the blended learning model.

The project objectives were:

1) Create a communication channel between EPIC CTs and the nursing educators and preceptors to allow them to ask questions and provide feedback regarding the online EPIC modules.
2) Create a standard feedback loop with expected timelines for those responsible to answer submitted questions/suggestions or correct errors recognized/modify processes.
3) Create a schedule for the nursing preceptors to follow that will help them evaluate their orientees progress of the online modules at regular intervals over the orientation

period so that the EPIC module assignments are dispersed throughout the orientation and not completed all in the beginning or end of orientation.

4) Create a tool for the EPIC CTs to allow them to track nurse orientees and their progress regarding their EPIC modules throughout their orientation period.

Clinical Question

The primary question this project attempted to address is, how does a support structure during the implementation of a blended learning model for EPIC training compared to this implementation without a support structure in place, affect nursing preceptors' and nursing educators' attitudes, commitment level, and confidence regarding the blended learning model, over the course of a six-week orientation period?

Congruence with Organizational Strategic Plan

The strategic plan at this healthcare system has three facets; perform, grow, and innovate (OSF Healthcare, 2019). This project aligns with the innovation goals of this healthcare system, to design the future with breakthrough innovation, digital transformation and advanced analytics (OSF Healthcare, 2019). Improving the orientation process for new nurses with a blended learning model has the ability to positively affect employees' workforce commitment while increasing the operating margin which are two of this organizations key results for fiscal year 2019.

On the other hand, without support and structure in place during the implementation of the blended learning model, nursing, educators, preceptors, and EPIC CTs may become dissatisfied in their roles. This dissatisfaction could be reflected in the results of the annual staff opinion survey. The results of this annual survey are used to measure employees' workforce

commitment. The goal for fiscal year 2019 is a workforce commitment score in the 77th percentile (OSF Healthcare, 2019).

Empowering behaviors by leaders has been shown to impact the work environment and leads to positive work engagement (Cziraki & Laschinger, 2015). This project attempted to alleviate the stressors felt by nursing educators, preceptors and EPIC CTs surrounding the implementation of the blended learning model by providing education, tools, and support. Offering this support during the transition to a blended learning model was provided to make the transition smoother and decrease negativity surrounding this change.

Synthesis of Evidence

To review the existing literature available on the topics of online and blended learning models, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Health Source, and Education Resources Information Center (ERIC) databases were searched. Searches used on these databases included; effectiveness of online education, blended learning models, flipped classrooms, and online learning in hospital orientation. The search on these databases yielded 214,532 articles related to online education. These articles were narrowed to include only articles pertinent to blended learning models in healthcare education. The results were narrowed further to include only research studies performed in the last five years that were published in the English language. The most recent studies performed on blended learning models in healthcare related fields that included abstracts were then reviewed further to exclude studies that used level four and level five levels of evidence. Randomized controlled trials (RCTs) that met the search criteria were preferred, this yielded four studies. Quasi-experimental studies that met search criteria were then selected, this yielded seven studies. Two level three systematic reviews that met the search criteria were selected based on the large number of articles reviewed by these

studies. Because adult learning principles vary significantly from childhood learning, results were also narrowed to focus on adult learning versus childhood learning. The technologies that make online learning possible have changed drastically in the past twenty years, therefore the more recent the study, the more relevant its findings will be to current online learning formats.

To review the existing literature available to reinforce the need for a support structure during periods of transition in healthcare, the Medline, CINAHL, OVID, PubMed, and Nursing Academic databases were searched. These databases were searched for the terms; Kanter's Empowerment Theory in nursing education and Kanter's Empowerment Theory in healthcare. These searches yielded 121 articles. Results were narrowed to include studies published in the last five years; in the English language. Kanter's Empowerment theory was first sited in 1993, many of the studies on this theory were performed greater than ten years ago. Of the remaining articles, seven were chosen based on content related to employee engagement, job satisfaction, and professional growth.

Appraisal of Evidence

Online learning. The review of literature provided evidence to support the effectiveness of online learning. Each study reviewed demonstrated that online education is at least equally as effective as traditional in-seat training. Four RCTs that were reviewed, examined the differences between participants who were randomized into groups of online learners and traditional classroom learners (Karvinen et al., 2017; Maloney et al., 2015; Steward, Mullinix, & Qiang, 2018; Stockwell, Stockwell, Cennamo, & Jiang, 2015). Stockwell, Stockwell, Cennamo, and Jiang (2015) found that students who were given a video assignment before attending a classroom lecture had better attendance and higher satisfaction with the course than students who were given a textbook assignment to complete before class. Additionally, students who were

given a video assignment had higher exam scores than the control group. This study supports the blended learning approach that is being implemented at this healthcare system.

Maloney et al., (2015) performed a level one RCT to determine if a blended learning method for evidence-based medicine training within a medical program would be more cost-effective than face-to-face learning. Medical students were randomized into groups who either received face-to-face teaching or a blended approach with classroom lecture, online aspects, and mobile learning. Students' competency was evaluated and their attitudes about the different teaching methods were obtained with a survey. The blended learning approach was found to be more cost-effective to operate compared to the face-to-face teaching method after its' third year of implementation (Maloney et al., 2015).

Another RCT that aimed to examine the effectiveness of online learning modules meant to improve physical activity education by oncology nurses found that the online learning intervention improved some parameters of the physical activity education but not the actual number of patients who were provided the education (Karvinen et al., 2017). A limitation found within this study was that the participants were already a highly motivated sample of nurses so they may not have represented oncology nurses as a whole. Identifying this limitation is helpful for this project because there will be variations in the motivation level of nursing preceptors which can alter the project effectiveness.

The review of literature examined seven level two studies (Luckie et al., 2018; McCall, Spencer, Owen, Roberts & Heneghan, 2018; Meredith et al., 2018; Mishra, Rani & Bhardwaj, 2017; Reis et al., 2013; Soffer & Nachmias, 2018; Telford & Senior, 2017). Three level two studies were carried out with a quasi-experimental method that involved pre and posttest surveys for students of online learning versus traditional learning (Luckie et al., 2018; Reis et al., 2013;

Soffer & Nachmias, 2018). Soffer & Nachmias (2018) compared three different face to face courses with three online courses with similar characteristics such as the same instructor and exams. Course completion, understanding of materials, student engagement and satisfaction were evaluated with a student survey. There was only a 39 percent survey response rate, but the findings did suggest that in many of the aspects evaluated, the online courses were as effective or more effective than the face to face courses (Soffer & Nachmias, 2018).

A theme identified in one level two study was that online learning was superior to in-seat training for acquiring new knowledge but not for becoming competent with a new skill (Luckie et al., 2018). Luckie et al., (2018), examined the effectiveness of online pediatric asthma management education for school personnel. This study found that online training effectively increased the knowledge of asthma first aid, however, students did not demonstrate effective asthma first aid skills. Only 29% of students were found to be competent to save the life of a child in an asthma emergency (Luckie et al., 2018). This finding will not impact this project because the online modules being implemented are not meant to teach nurses how to perform skills, only how to document their interventions in the EMR.

Three level three systematic reviews of previous research performed on online or blended learning were reviewed for this project. The results of these reviews were in-line with the level one and two studies that demonstrated that online education interventions were at least equal to traditional methods (McCall, Spencer, Owen, Roberts, & Heneghan, 2018; McCutcheon, Lohan, Traynor, & Martin, 2015; Wolf, 2018). Wolf (2018), reviewed 1294 articles to evaluate the use of web based video lectures in terms of the learners' outcomes and satisfaction. This review again demonstrated that web based lectures were equivalent or better than in person lectures (Wolf, 2018).

Structural empowerment. A positive work environment for nursing staff is essential to developing job satisfaction and reducing burnout (Hayes, Douglas & Bonner, 2014). Newly graduated nurses are more vulnerable to experiencing negative mental health symptoms in response to work related stress (Wing, Regan & Spence, 2015). Leaders in healthcare who create empowering cultures in the workplace are able to increase job satisfaction, which in turn lowers work related stress, (Eriksson & Engstrom, 2018; Hayes, Douglas & Bonner, 2014; Wing, Regan & Spence, 2015) retains nurses who are eligible for retirement, and attracts new nurses (Cziraki & Laschinger, 2015). This is evidenced in Magnet recognized facilities where nurse executives are successfully able to implement empowerment characteristics and processes (Underwood & Hayne, 2017). In addition to increasing job satisfaction, when nursing administrators use Kanter's theory in bedside nursing units, it provides nurses opportunities for professional growth (Duffield, Baldwin, Roche & Wise, 2014). When supportive structures are in place, nurses report that a sense of empowerment comes with their feelings of competence (Thuss, Babenko-Mould, Andrusyszyn & Laschinger, 2016).

Transitioning to a blended learning model will bring challenges but having the knowledge that the existing evidence proves that online learning is an effective teaching method will help support the rationale for the transition. This project aimed to provide nursing educators, preceptors, EPIC CTs, and nurse orientees with support and structure through the transition, to empower them, decrease the work related stress associated with the transition, and increase this healthcare system's chance of success with the blended learning model.

Theoretical Framework

The theoretical framework guiding this project is Rosabeth Moss Kanter's theory of structural empowerment. This theory emphasizes the structure within an organization. Kanter's

theory describes the following conditions that must be present for empowerment to take place: (a) the opportunity to learn and develop; (b) access to information; (c) access to support; (d) and access to resources (Larkin, Cierpial, Stack, Morrison, & Griffith, 2008). Kanter proposed that providing individuals with the tools, information, and support they need will benefit the organization by improving skills, increasing accountability, and allowing employees to find more meaning in their work (Larkin et al., 2008). Besides benefiting the organization by boosting productivity, improving empowerment in employees increases job satisfaction and trust within the employee (Larkin et al., 2008).

This project attempted to increase the empowerment of nurse educators, preceptors, and EPIC CTs during the period of transition within their organization to in turn increase their workforce commitment. Project interventions that aligned with the principles of Kanter's theory of structural empowerment include, (a) developing and providing educational resources to nurse educators, preceptors, and EPIC CTs; (b) providing nurse orientees direct access to EPIC experts; and (c) providing an ongoing communication loop to nurse educators, who are able to bring issues and questions identified in their units to the education team during monthly meetings. These interventions supported the empowerment of these employees according to Kanter's theory, by providing them with access to information, resources, and the opportunity to learn and develop (Larkin et al., 2008).

Chapter II: Methodology

Project Design

This project was a pilot study to test the success of the proposed support structure for nurse educators, preceptors, and EPIC CTs as their roles evolved with a blended learning model. If the organizations leadership determines that this project demonstrated that the proposed support structure empowered these employees, it can be replicated across other units of the flagship Midwest hospital as well as other hospitals within the organization. As the education for other disciplines is moving to an online format in the future, this support structure has the potential to be applied across different disciplines and EPIC applications.

Setting

This pilot took place in four med/surg inpatient units at the flagship Midwest hospital. This hospital is a level one trauma center in the Midwest with 629 licensed inpatient beds. These four units were chosen for the pilot because they are units that regularly hire newly graduated nurses. Some of the more specialized departments in this hospital require that nurses work in an acute care setting for at least one year prior to applying to their units. These four med/surg units have the same leadership model. Each unit has a nurse educator, nursing supervisor, manager, and director. Managers and directors may be responsible for multiple units, but educators and supervisors are specific to one unit. Nursing educators are thought of as the unit's clinical expert and they spend half of their hours working as staff in their departments with the other half of their hours devoted to staff education. The orientation process for these four med/surg units follows the same timeline and structure. Nursing orientation is six weeks long with most of the first week being spent off of the nursing unit in formal hospital orientation, one day of in-seat EPIC training, and a standardized nursing skills day. Every nurse orientee is assigned a primary

nursing preceptor by their nursing educator with which they spend the remaining five weeks of nursing orientation. Nurse orientees often have multiple secondary nursing preceptors depending on their primary preceptor's schedule.

Population

The size of the population included in the pilot was dependent on how many newly graduated inpatient nurses were hired at this flagship Midwest hospital during the pilot period. The goal was to include at least fifty nurse orientees and their primary preceptors in the pilot. Only newly graduated nurses were included in the study, experienced nurses who were hired were excluded due to their previous EPIC training and experience. There was a total of five newly graduated inpatient nurses hired into the four med/surg departments that received the additional EPIC CT support during the pilot period. Newly graduated nurses hired during the pilot period in each inpatient nursing unit of the flagship Midwest hospital, along with their nurse educators and preceptors, were included in the post pilot survey. The post pilot survey was distributed to a total of ninety-two individuals.

Tools

Post pilot survey. After the support structure was implemented on the inpatient med/surg units, preceptors who actively precepted during the pilot period, educators of units with newly graduated nurse orientees, and nurse orientees were asked to fill out a survey (see Appendix A). This survey attempted to identify whether or not the support structure was able to: (a) adequately prepare preceptors and educators for their new roles regarding EPIC training; (b) help preceptors and educators feel confident in their ability to incorporate EPIC training into patient care; and (c) create a feeling that the blended learning model for EPIC training will help nurse orientees retain their EPIC education. The survey questions were answered with a five point Likert scale with the

following response options (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly. There was an option for the respondent to mark questions as not applicable and an optional free text box to further explain their response to each question. This survey was developed specifically for this pilot study by the doctoral student.

To develop this survey, the doctoral student created questions that would assess whether the interventions of the project were of benefit to nurse educators, preceptors, and orientees. The interventions were as follows, (a) create a communication channel between EPIC CTs and the nursing orientees and preceptors; (b) create a feedback loop when issues arise; and (c) create a reference tool on paper to help track progress with the RN 200 modules that included a guideline for incorporating the modules into patient care. The goal for this survey was that the responses of all respondents would reflect that they understood the rationale for the blended learning model, felt that nurse orientees would retain their EPIC education better than the in-seat training method, and were able to help their nurse orientees incorporate pertinent RN 200 modules into patient care. At least 80 percent of all respondents are expected to respond with agree slightly or agree strongly to these three survey questions in order to validate the support that was supplied to every inpatient unit.

Respondents from the pilot units were expected to respond more positively that they received the right amount of support during this transition, were adequately prepared for their new responsibilities regarding EMR training, and had a way to voice their feedback, compared to the respondents from units that did not have the additional EPIC CT support intervention. At least 75 percent of respondents from the pilot group were expected to respond with agree slightly or agree strongly to these three survey questions in order to deem this pilot intervention successful.

EPIC CT tracking tool. A tracking tool was developed by the doctoral student to help EPIC CTs organize and record the details of their meetings with nurse orientees (see Appendix B). The plan was for the EPIC CTs to meet with each nurse orientee three times throughout their orientation. The goal for the timing of these meetings was to meet, (1) by the second week of orientation for the first meeting; (2) midway through the nurse's orientation; and (3) near the end of orientation. At the final meeting with the nurse orientee, the EPIC CTs planned to validate the nurse orientee's competence with EPIC documentation and confirm that she/he has passed the final exam of the RN 200 course. With the implementation of the blended learning model, a large portion of the EPIC CTs teaching requirements were eliminated. Meeting with nurse orientees throughout orientation provided the EPIC CTs with an opportunity to utilize their skills as EPIC content experts, while helping alleviate some of the work of the nurse educators and preceptors. This tool directly addressed the objective: create a tool for the EPIC CTs to allow them to track nurse orientees and their progress regarding their RN 200 modules throughout their orientation period.

Project Plan

Interventions/Support structure for all inpatient units at flagship Midwest hospital.

Paper toolkit. The implementation of the project interventions was scheduled to begin in July of 2019 and conclude in November of 2019 (see Appendix F). The first project intervention involved developing the paper toolkit for nurse orientees, preceptors, and educators to use to track the orientees' progress through the RN 200 course (see Appendix C). The paper toolkit was developed by the doctoral student to be used as a reference that could be kept in the orientation binder and accessed easily while working in the nursing unit. The objectives of this toolkit were to: (a) reinforce the reason for transitioning to the blended learning model for EPIC training; (b)

provide instructions on how to access the Canvas learning platform; (c) provide trouble shooting information and a contact list if experiencing technical problems; (d) provide real world examples of how to incorporate the RN 200 modules into patient care; and (e) provide a list of each module included in the RN 200 course.

The toolkit contains a table to track the progress of the course completion throughout orientation. The specific order of module completion was left up to the leadership and educator of each nursing unit and the preceptors and orientees themselves. The paper toolkit reemphasized the objectives of the RN 200 course, the course expectations, how to successfully complete the course, and provided additional EPIC resources available to nurses. This toolkit was created to be used as a reference for the nurse orientee and her/his preceptors only and was not intended to be a permanent part of the regulatory file.

The Canvas platform had not been used by nursing educators or preceptors prior to the implementation of the blended learning model. Several other learning platforms are used at this hospital, adding the Canvas platform without providing instructions that could be referenced on how to log in and find the RN 200 course could cause delays with accessing and completing the modules. There are several different modules/lessons within the RN 200 course, without providing a paper copy of the modules that could easily be referenced, could potentially make it difficult for nurse orientees and her/his preceptors to remember which modules were still needing completed. Reinforcing the rationale for the blended learning model and providing examples of how to incorporate the modules into patient care support the utilization of adult learning principles to guide the EPIC education which should increase retention of this education. This intervention directly addresses the objective: create a schedule for the nursing preceptors to follow that will help them evaluate their orientees progress of the online modules at

regular intervals over the orientation period so that the EPIC module assignments are dispersed throughout the orientation and not completed all in the beginning or end of orientation. The doctoral student's goal was to have this toolkit ready to disperse to inpatient nurse orientees by mid-September of 2019.

Updating the RN 200 course. The second project intervention involved updating the RN 200 course. Changes were necessary to make the RN 200 course in the Canvas online platform more user friendly by allowing the nurses to navigate through the different modules in their own preferred order while being able to track their progress and completion through the course visually. With the assistance of a clinical education program specialist and approval from the clinical documentation instructional designer of the organization, a new homepage was created within the RN 200 course that displayed each module individually as a hyperlink that would launch that individual lesson once selected.

An additional Canvas feature was activated that allowed nurses to mark sections of the course as completed as they progressed through the course so they could better visualize where they left off when they returned to the course. The paper toolkit created by the doctoral student, was added into the RN 200 course as a PDF attachment that could be viewed and printed if needed. The clinical documentation instructional designer used this updated course content for each monthly cohort of nurse orientees beginning in August of 2019. The changes to the RN 200 course and the addition of the paper toolkit were communicated to the inpatient EPIC CTs across the organization by the clinical documentation instructional designer.

In-seat EPIC curriculum. In addition to the changes made to the RN 200 course, the doctoral student also assisted the clinical documentation instructional designer with making changes to the curriculum of the in-seat EPIC class for inpatient nurses. This additional

information was added to help nurse orientees understand the rationale for the transition to the blended learning model, explain how the modules should be incorporated throughout their orientation into patient care when the module was pertinent, and help the nurse orientee understand that they would be responsible for communicating with their various preceptors to let them know when they needed time to complete modules throughout orientation. The in-seat EPIC class is a mandatory part of nursing orientation, because of this there was an expectation that 100 percent of new inpatient nurses received this lesson on the blended learning model.

Nursing preceptors were assigned a mandatory education course prior to the implementation of the blended learning model, however there was not a plan for educating the nurse orientees about the rationale for the blended learning model and the organizations expectations for how to best incorporate the RN 200 modules throughout orientation. It was identified that nurse orientees often have multiple preceptors, and there was a fear identified by nurse educators that the preceptors may find it hard to keep track of which RN 200 modules have been completed on days that the nurse orientee spent with different preceptors.

Making the nurse orientee responsible for keeping track of their RN 200 modules helps alleviate this issue and encourages the nurse orientee to be more engaged throughout their orientation to promote active learning. This intervention also addresses the objective listed above regarding a schedule for nursing preceptors by educating nurse orientees on the RN 200 modules so that they can help keep their own progress on track throughout their orientation. The doctoral student's goal was to have this additional lesson plan created and incorporated into the in-seat EPIC class for inpatient nurse orientees by mid-September of 2019.

Providing education and resources. The doctoral student presented education on the Canvas online learning platform to the inpatient clinical nurse educators at the monthly educator

meeting in August of 2019. The education presented covered the organizations transition to a blended learning model for EPIC training for inpatient nurses, information on how nurse orientees were to successfully complete the course in order to complete their EPIC training requirement of nursing orientation, and educator responsibilities with tracking their orientees course completion. The doctoral student distributed the paper toolkit to all educators electronically so that they could begin adding it to orientation binders. Educators were instructed to contact the doctoral student if they had questions about the new process of blended learning or needed assistance with the RN 200 course.

Communication channel. With the assistance of the manager of the education department of the flagship Midwest hospital, the topic of the RN 200 course was reviewed multiple times throughout the pilot period at the monthly informatics and nurse educator meetings. Reviewing this content at these meetings gave nurse educators the opportunity to address concerns or questions they had about the RN 200 modules. This provided a chance for the leaders from the hospital's education department to reinforce the correct way to incorporate the RN 200 modules into patient care and offered nurse educators an opportunity to discuss potential technical problems with the modules or specific content issues that were identified. This intervention also provided nurse educators with a feedback loop. This intervention directly addressed the objective: create a standard feedback loop with expected timelines for those responsible to answer submitted questions/suggestions or correct errors recognized/modify processes. The doctoral student's goal for this intervention was to have a discussion of the RN 200 modules added on the agenda of the informatics and educator monthly meetings beginning in September of 2019.

Additional interventions for the med/surg units included in the pilot. The doctoral student organized a meeting with the educators of the four med/surg nursing units chosen to receive additional EPIC CT support in August of 2019. The purpose of this meeting was to communicate the doctoral student's objectives during the pilot period, create a communication plan for when new orientees were hired into the pilot units, and obtain the educators' opinions of the transition to the blended learning model for EPIC education. Educators agreed to provide the doctoral student with the names of new nurses hired into their units along with the names of their primary preceptors and their orientation schedules and agreed to facilitate meetings between the doctoral student and nurse orientees while they were in orientation.

As the doctoral student was made aware of newly hired nurse orientees, their names and pertinent information was added to the CT EPIC Tracking Tool. The first meetings between the doctoral student and nurse orientees were arranged by the nurse educator of the unit where the orientee was hired. The doctoral student then communicated with the orientees directly to provide support and EPIC assistance.

The meetings between nurse orientees and EPIC CTs provided an opportunity for the EPIC CT to review the nurse orientee's progress with the RN 200 modules, help them with EPIC content questions or workflow concerns, and provided a feedback loop for the nurse orientees. These meetings also provided nurse orientees with the ability to directly reach out to an EPIC expert when necessary. The EPIC CT verified that each nurse orientee had successfully completed each module and taken the final quiz with a passing grade.

Having the EPIC CT assess the nurses' competence with EPIC while they were still in orientation gave the EPIC CT the opportunity to provide additional EPIC education when needed to prevent documentation errors. This intervention directly addressed the objective: create a

communication channel between EPIC CTs and the nursing educators and preceptors to allow them to ask questions and provide feedback regarding the online EPIC modules. The doctoral student's goal was to have the meetings between EPIC CTs and nurse orientees begin by September 16th of 2019. The EPIC CTs used the tracking tool to record the orientees progress through the RN 200 modules as well as issues identified and brought forward by the nurse orientees and/or nurse preceptors.

Data collection. The survey questions developed by the doctoral student were used to create an online survey using SelectSurvey. The doctoral student worked with the organizations data analytics team to export and analyze the data from SelectSurvey. The electronic survey was anonymous, participants were not required to enter their name or any other identifying information. The survey did capture whether or not the respondent worked on one of the four med/surg units that received the additional EPIC CT support intervention during the pilot period.

Sustainability plan. The intervention related to providing a paper toolkit for nurse orientees regarding the RN 200 modules will be sustained by nurse educators and the flagship Midwest hospital's education department. Nurse educators are responsible for creating binders for each nurse hired into their department, this toolkit will remain a permanent reference in the inpatient nurse orientation binder. If the EPIC training for nurse orientees is changed in the future, the education department will be responsible for updating this toolkit and redistributing it to nurse educators.

The clinical documentation instructional designer for inpatient curriculum will be responsible for sustaining the lesson plan created for nurse orientees regarding the RN 200 modules. The instructional designer regularly reviews all lesson plans and EPIC training materials and makes updates as needed when there are EPIC upgrades or organizational changes.

The manager of the education department of the flagship Midwest hospital will sustain the communication channel with nurse educators. The manager of the education department is responsible for creating the monthly agenda for the nurse educator meetings and this allows the manager the ability to address any questions or concerns with the RN 200 modules at each monthly educator meeting. If unable to provide answers to the nurse educators, the manager of education department will communicate concerns or problems to the EPIC CTs who will follow up with the nurse educators directly.

The intervention related to providing nurse orientees direct access to EPIC experts will be sustained by the EPIC CTs of the flagship Midwest hospital who will staff weekly open learning labs in the hospital, in place of meeting individually in the nursing units. Learning labs will be staffed with one to two EPIC CTs at a time. EPIC CTs will divide the inpatient nursing units between them and will regularly review the progress of the nurse orientees who are hired into their assigned units. EPIC CTs will discuss their units' progress and/or concerns with the RN 200 modules at their regularly scheduled weekly meetings.

Data Analysis

The results of the qualitative post pilot survey were analyzed with the help of the data analytics department from the flagship Midwest hospital. Because the survey was in an electronic format, there was no need to manually enter or transcribe the data into a computer. The results of the survey were analyzed using independent sample t-tests and a statistical narrative was supplied.

Institutional Review Board

The Nursing Research Committee at the flagship Midwest has very stringent policies in place to ensure the protection of research participants' rights and privacy. In order to perform

research at this hospital, the doctoral student was required to write a research protocol outlining the research plan, complete a facility specific research application form, and provide evidence that she had successfully completed the four Collaborative Institutional Training Initiative (CITI) courses that are required by the local Institutional Review Board (IRB) (M. Lewis, personal communication, June 28, 2019). Once these documents were submitted and approved by the Nursing Research Committee, the project was forwarded to the Human Subject Protection Program and the site Research Administration group for review and approval (M. Lewis, personal communication, June 28, 2019). After this final approval at the hospital level, the project was then submitted and approved by the local IRB (M. Lewis, personal communication, June 28, 2019).

The research involved in this pilot study only involved the use of survey procedures. The survey sent after the pilot period, did not request information that could allow the participants to be directly or indirectly identified, did not place the participants at risk of criminal or civil liability, and could not be damaging to the participants in anyway, should their responses be disclosed (Office for Human Research Protections, 2019). Due to these protections, this research met exception status (see Appendix E) (Office of Human Research Protections, 2019).

Chapter III: Organizational Assessment and Cost Effectiveness Analysis

Organization Assessment

The implementation of blended learning at this organization is providing an opportunity for the members of the informatics team to redefine their role in regard to EPIC training. This team is open to change and excited about the technological advances that are able to streamline EPIC education. EPIC education has traditionally taken place in the classroom, now there will be an interdisciplinary approach because nursing preceptors, educators, and EPIC CTs will be

working together to ensure nurse orientees are receiving the education needed to accurately document in the EMR.

Cost Factors

The cost factors associated with the implementation of this project included: (a) compensation for staff of the organization during weekly informatics meetings between the informatics coordinator, EPIC CTs, and the manager of the education department during the pilot period; (b) compensation for staff of the organization during project team meetings between the doctoral student and nursing educators; and (c) the cost associated with printing paper toolkits to add to the inpatient nurse orientation binders (see Appendix D). There was no charge for the statistician services provided by the organization to assist with data analysis. The total cost of these resources was estimated to be $2671.00. The education department and informatics staff had access to the resources and materials needed to develop the paper toolkit for the inpatient nurse orientation binders, update the education in the EPIC in-seat course, and create the SelectSurvey for nursing preceptors. The work of this project was deemed beneficial to the organization; therefore, all meetings were scheduled during regular working hours and did not require outside funding.

Chapter IV: Results

Analysis of Implementation Process

Implementation of the project interventions began in August of 2019 and concluded in February of 2020 (see Appendix G). Project interventions initially were implemented ahead of the planned goal dates, but modifications were necessary from the initial implementation plan. The four nursing units chosen to receive additional EPIC CT support had a low number of new nurses hired in during the planned pilot period between September and November of 2019. Due

to this, the implementation period was extended through January of 2020 and the post pilot survey was delayed until February of 2020.

Updating the RN 200 course was not originally a planned project intervention. However, as the doctoral student reviewed the course to understand the current state content, it was identified that several aspects of the course could be altered to improve the experience of nurse orientees.

Given that most interactions and education occurred between the doctoral student and the nursing educators and orientees, the doctoral student decided to include nursing educators and orientees in the post pilot survey that was originally intended for only the nursing preceptors. The local IRB was contacted in October of 2019 to request this modification to the survey recipients. Approval of this change was granted without affecting the previous determination that the survey was not considered human subjects research.

The process of meeting one on one in the nursing unit with orientees was not productive. Nurse orientees found it difficult to step away from patient care in the nursing unit and were not in the right mindset for learning. The goal to meet with nurse orientees three times throughout their orientation was modified to meeting once in person followed by subsequent communications through emails and phone conversations.

An unplanned intervention that was added after the project implementation began, was the initiation of open learning labs staffed by EPIC CTs. The learning labs opened on Thursday January 9th and were scheduled weekly from 0700 to 1500. It was decided by the doctoral student that it may be more beneficial to set up open labs where nurses and other staff members could come on a walk in basis when they needed assistance with EPIC or their Canvas courses.

Educators were encouraged to send orientees to the labs if they needed a quiet space to work on their RN 200 course or if they had any EPIC questions or concerns.

The most important lesson learned during the project implementation was that nurse orientees and preceptors are uncomfortable with stepping away from patient care, even for brief periods, during their in-unit orientation period. At least at this time, in unit EPIC training while concurrently assigned to a team of patients does not seem feasible in this population.

Analysis of Project Outcome Data

Survey analysis. The post pilot survey was created using SelectSurvey and was administered to participants through an online link via their organizational email on Monday February 3, 2020. The survey was sent to ninety-two participants who were identified as either being a nurse orientee during the pilot period, a preceptor during the pilot period, or an educator of a unit where an orientee was hired. The survey closed on Friday February 14, 2020. One reminder email was sent on February 13, 2020. Of the ninety-two surveys sent, eleven completed surveys were returned, which was a twelve percent response rate.

Of the eleven respondents, eight identified themselves as educators, two as preceptors, and one as a nurse orientee. There were two respondents from the four med/surg units chosen to receive additional EPIC CT support and nine respondents from the remaining inpatient nursing units that did not receive additional EPIC CT support. Both of the respondents from the four med/surg units identified themselves as nursing educators.

Independent samples t-tests were utilized to analyze whether the average Likert-scale agreement score was statistically significantly different between respondents from units receiving additional EPIC CT support and respondents from units not receiving additional EPIC

CT support. Reliability analysis was performed (alpha = 0.84) on the ten survey questions and an overall score of agreement was tested with an independent samples t -test (see Appendix H). Only question number six of the survey, *I am able to have my nurse orientees incorporate pertinent EPIC Clindoc RN 200 modules into patient care during scheduled working hours*, was statistically significant (p = 0.007). Participants from units that did not receive the additional EPIC CT support significantly agreed more that they were able to have their nurse orientees incorporate the modules into patient care, with an average score of 1.7 versus an average score of zero from the units that did receive additional EPIC CT support.

Thirty-six percent of the survey respondents responded with agree slightly or agree strongly that they understood the rationale for the blended learning model and that they were able to help their nurse orientees incorporate pertinent RN 200 modules into patient care. Twenty-seven percent of the survey respondents responded with agree slightly or agree strongly that they felt that nurse orientees would retain their EPIC education better than the in-seat training method.

Fifty percent of respondents from the four med/surg units that received additional EPIC CT support, responded with agree slightly or agree strongly that they received the right amount of support during this transition, were adequately prepared for their new responsibilities regarding EMR training, and had a way to voice their feedback.

Qualitative feedback. A recurrent theme identified through discussions with the nursing educators and orientees was a perception that there was no time to incorporate the RN 200 modules into orientation while assigned a team of patients. Nurse orientees repeatedly stated that there was no time during their shift to break away to review the online modules.

Multiple nurse educators required their nurse orientees to complete all of the RN 200 modules before being assigned to a patient team. These nurse educators feared that it would be difficult to track their orientees progress and completion of the RN 200 modules if they did not set a deadline early in the orientation period. Educators stated that they preferred to have the RN 200 modules completed by their orientees before they began performing direct patient cares so that the orientees were more prepared for documenting in the EMR.

Other educators were more accepting of the goal to incorporate the RN 200 modules into patient care but were skeptical of its feasibility. Some of the nurse orientees decided to work on the RN 200 modules at home, against the advice of their leadership, to avoid missing out on clinical experiences during their orientation.

One orientee provided feedback that after she completed the RN 200 modules, certain EPIC workflows that she had already completed made more sense to her and that the RN 200 modules helped reinforce education she received from her preceptors. Orientees did not experience technical difficulty with the RN 200 course and did not report difficulty with the course content or final exam of the course.

Chapter V: Discussion

Findings

The following objectives of the project were carried out as planned:

1) Create a communication channel between EPIC CTs and the nursing educators and preceptors to allow them to ask questions and provide feedback regarding the online EPIC modules.

2) Create a standard feedback loop with expected timelines for those responsible to answer submitted questions/suggestions or correct errors recognized/modify processes.
3) Create a schedule for the nursing preceptors to follow that will help them evaluate their orientees progress of the online modules at regular intervals over the orientation period so that the EPIC module assignments are dispersed throughout the orientation and not completed all in the beginning or end of orientation.
4) Create a tool for the EPIC CTs to allow them to track nurse orientees and their progress regarding their EPIC modules throughout their orientation period.

However, given the low response rate of the post pilot survey, the results were not able to demonstrate that the project interventions were able to provide the support necessary to empower nurse educators, preceptors, and orientees with their new responsibilities surrounding EPIC education. It is important to note that when orientees did attempt to work on the RN 200 modules, whether it be all in one day at the direction of their educator, throughout orientation, or in the open learning labs, they were able to complete the modules and pass the course without difficulty.

The most significant difficulty faced during the project implementation was in arranging meetings with the nurse orientees. Nurse orientees seldom responded to email communications, making it difficult to plan meetings that worked with their schedules. Most nurse orientees worked third shift throughout a portion of their orientation, this added more complexity to planning meetings.

Updating the RN 200 course and initiating the open learning labs were the most successful interventions of the project. Without the changes that were made to the RN 200

course, the nurse orientees would likely have had more difficulty passing the course successfully. The open learning labs offer nurses ongoing access to EPIC content experts in a centralized location within their facility.

Limitations or Deviations

One limitation of this project was the small sample size. The goal was to include fifty nurse orientees, however there were only five nurse orientees hired within the four med/surg units receiving additional CT support during the pilot period that met the inclusion criteria. Leadership from the pilot units reported that they had vacant nursing positions but were unable to fill their open positions during the pilot period.

Another limitation was the low response rate from the post pilot survey, only twelve percent of participants responded to the survey. Most respondents were nurse educators who have scheduled office hours versus the nurse preceptors and orientees who are always assigned to direct patient care. Although it was an effective way to analyze and export the survey results, the online survey may not have yielded the same number of responses that a paper survey distributed directly to participants could have.

A deviation from the project plan was the initiation of the open learning labs staffed by EPIC CTs. The organizations plan was to have nurse orientees complete the RN 200 modules throughout orientation when the orientee was performing patient care directly related to the specific modules. The feedback received throughout the pilot demonstrated that this plan was not followed. Nurse orientees were resistant to stepping away from patient care to discuss their EPIC training and reported that they did not have time to complete the RN 200 modules during their normal working hours while assigned patients. Hosting open learning labs was an intervention used to provide EPIC support without asking the orientees to schedule a time to step away from

their patients on the nursing unit. This intervention did not begin until January of 2020, less than a month before the pilot ended. If the open learning labs were initiated from the beginning of the pilot, it may have increased the number of respondents who felt that they received the right amount of support during this transition.

Implications

Practice. The support interventions of this project will be sustained in the flagship Midwest hospital and shared with other hospitals in the organization. The open learning labs have been positively received by nursing educators as an alternative solution for EPIC CT support. The labs have been successful enough that the EPIC CTs have discussed the possibility of offering the lab on a second day of the week during the busier months of the year when there is an influx of new nurses hired.

In the future, it may be beneficial for EPIC CTs to work with the inpatient educators to develop a structured guideline for the nurse orientees to follow, directing which RN 200 modules to complete during each week of orientation. Implementing the RN 200 modules throughout orientation would align more with the organizational goals compared to completing the entire course in one day.

As the EPIC training for other disciplines is moving online at this organization, the open learning labs can be utilized to support all disciplines and EPIC applications. Smaller hospitals within the organization that do not have a dedicated informatics team with EPIC CTs, would not be able to implement the open learning lab intervention. The updates to the RN 200 course and the nurse orientee toolkit were made available to all hospitals within the organization.

Future research. The topic of online EPIC training offers several research opportunities in the future. One area of interest is the difference between learners reported comprehension and

retainment of online EPIC education compared to learners who received EPIC education in a traditional classroom setting. Another topic of research could focus on the actual accuracy of nursing documentation in the EMR after online EPIC training compared to the accuracy of nursing documentation after EPIC in-seat training.

Results of the project will be shared with flagship Midwest hospital's education department, the clinical documentation instructional designer responsible for creating the curriculum for nursing staff, and the organizations education team.

Nursing. The education and experiences provided during the orientation period lay the groundwork for the future success of nurses. Having adequate education, resources, and support to perform one's job functions is essential to promote structural empowerment and increase job satisfaction (Larkin et al., 2008). As more education in healthcare is being disseminated via online platforms, it is important for education leads to also provide access to content experts and develop communication channels to allow nurses and other staff members the ability to voice their feedback.

Health policy. The flagship Midwest hospital has a policy in place titled, *Competencies,* that details how competencies are validated and documented (OSF Saint Francis, 2020). This policy defines competencies as "the identified essential knowledge and skills that are considered necessary to the performance in a specific role" (OSF Saint Francis, 2020). According to this policy, each new employee is required to complete their department specific orientation checklist by the end of a ninety day probationary period. The completed orientation checklist and other orientation documents are placed in the employee's regulatory file (OSF Saint Francis, 2020). Educators, preceptors, and managers are responsible for validating the competence of their employees' core job functions. Documentation of participation in the in seat EPIC class and

successful completion of the RN 200 course is considered a mandatory education requirement used to validate an inpatient nurse's core job function as it relates to EMR documentation (OSF Saint Francis, 2020).

The implementation of blended learning for EPIC education for nurses brings challenges to nurse educators and other department leaders. Implementing EPIC education throughout orientation via the online RN 200 modules requires considerably more time to track and validate than the previous method of only in seat education. In order to follow this policy, educators and preceptors will need continued assistance from EPIC CTs to track and validate that nurses are completing the RN 200 course successfully within their ninety day probationary period.

Chapter VI: Conclusion

Value of the Project

The results elicited from this project provide this organizations leadership with feedback from nurse orientees and the educators responsible for overseeing nursing orientation. The transition to a blended learning model for EPIC training was a significant change in this organization. This project demonstrated that the organizational goal in regard to how the RN 200 modules were to be implemented in the nursing unit was not executed as intended. This information is of value because it can help education leaders develop a more feasible plan for EPIC education dissemination to ensure that the education policy reflects the actual practice occurring in the inpatient nursing units. Throughout this pilot project, there were no technical or content issues with the RN 200 course reported. This speaks to the value of the work the doctoral student placed on updating the course to make it easier to navigate and complete.

DNP Essentials

This project incorporated many of the eight Doctorate of Nursing Practice (DNP) Essentials, specifically Essentials II, III, IV, and VI (American Association of Colleges of Nursing, 2016). Essential II, *Organizational and Systems Leadership for Quality Improvement and Systems Thinking*, was addressed by the doctoral student during this pilot project as evidenced by the creation of a communication channel for nursing staff. Advanced communication skills were necessary to support processes that assisted nursing staff during a time of organizational change regarding EPIC education delivery (American Association of Colleges of Nursing, 2016).

The principles of Essential III, *Clinical Scholarship and Analytical Methods for Evidence-Based Practice*, were utilized to appraise the existing literature on the topics of online and blended learning and structural empowerment in healthcare in order to "apply relevant findings to develop practice guidelines and improve practice and the practice environment" (American Association of Colleges of Nursing, 2016, p.12). Surveying nursing educators, preceptors, and orientees, required that the doctorate student write a research protocol and request approval through the local Institutional Review Board (IRB). This process aligns with Essential III by allowing the doctoral student to use the results of the post pilot survey to analyze data from the practice environment (American Association of Colleges of Nursing, 2016, p.12).

The doctoral student demonstrated strength in Essential IV, *Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care,* while assisting in the development of a web-based learning platform for new nurses to improve patient care (American Association of Colleges of Nursing, 2016). Information systems/technology was also utilized by the doctoral student to design an online survey to

evaluate the success of the project interventions (American Association of Colleges of Nursing, 2016).

The doctoral student organized and led an interprofessional team throughout this pilot project, this aligns with Essential VI, *Interprofessional Collaboration for Improving Patient and Population Health Outcomes* (American Association of Colleges of Nursing, 2016). Presenting education to nurses at monthly meetings improved the doctoral student's communication and leadership skills while working with the clinical education program specialist, the clinical documentation instructional designer, and the manager of the education department improved the doctoral student's collaborative skills and ability to function effectively in an interdisciplinary team (American Association of Colleges of Nursing, 2016).

Plan for Dissemination

The findings from this project will be presented by the doctoral student to the education department of the flagship Midwest hospital where the pilot took place, the organization wide education group, and to the Director of Professional Development from the flagship Midwest hospital.

Attainment of Personal and Professional Goals

The doctoral student's ultimate goal with this project was to help support nursing staff during the implementation of online learning for EPIC training. I do feel that I was able to identify and implement necessary changes to the RN 200 course to help improve the success of this learning modality and was able to gather valuable feedback from frontline staff impacted by this change in education delivery. Organizing and leading an interprofessional team to carry out a project that I designed was a professional goal that has been attained thanks to this project.

Obtaining my CITI certification, writing a research protocol, and being the principal investigator on a project were additional personal goals that this project has helped me achieve.

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Appendices

Appendix A

Survey Questions

1. I received the right amount of training on the EPIC Clindoc RN 200 modules for nurse orientees. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
2. I was adequately prepared for my additional preceptor/educator responsibilities regarding incorporating EPIC Clindoc RN 200 modules into patient care throughout nursing orientation. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
3. I have a good understanding of the rationale for transitioning to a blended learning model for EPIC training of nurse orientees. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
4. I feel a blended learning model for EPIC training will help nurse orientees retain their EPIC education. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
5. I am able to have my nurse orientees incorporate pertinent EPIC Clindoc RN 200 modules into patient care during scheduled working hours. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
6. I received the right amount of support while transitioning to a blended learning model for EPIC training of nurse orientees. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly

7. I had a way to voice my concerns and provide feedback regarding the EPIC Clindoc RN 200 modules. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
8. I feel my concerns and feedback regarding the EPIC Clindoc RN 200 modules were valued and responded to in an appropriate timeframe. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
9. I am satisfied with my preceptor/educator responsibilities regarding incorporating pertinent EPIC Clindoc RN 200 modules throughout orientation. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly
10. I feel confident in my ability as a preceptor/educator to assist nurse orientees with completing their EPIC Clindoc RN modules throughout their orientation. (0) Disagree Strongly (1) Disagree Slightly (2) Neutral (3) Agree Slightly (4) Agree Strongly

Appendix B

EPIC CT Tracking Tool

NEO Date	MP Name	Unit	Educator	EPIC CT	Primary Preceptor	Meeting Date	Progress/Concerns

Appendix C

Nurse Orientee Toolkit

EPIC CLINDOC RN 200

ACCESSING CANVAS ECOURSE

Accessing Canvas eCourse
Logging In
CANVAS: https://osf.instructure.com
User name: *** Login
Password: *** + Employee ID# (***23456)

Canvas Help Desk

https://osf.instructure.com/login/canvas

Always use Google Chrome web browser when accessing Canvas courses.

COURSE

EPIC CLINDOC RN 200

COURSE OBJECTIVES

Upon completion of the course learners will be able to document the following activities:

- Admitting a Patient
- MyChart Bedside Tablet
- Care Everywhere
- Care Plans
- Patient Education
- Managing Orders and Order Sets
- Charge Capture
- Blood Administration
- Restraints
- Unit Manger
- Medication Administration Record
- Transfer a Patient
- Discharge a Patient

COURSE EXPECTATIONS

- RN will complete EPIC Clindoc RN 200 modules online during scheduled working hours.
- RN will identify and seek out learning opportunities related to clinical documentation.
- RN will communicate learning needs and feedback with preceptor and educator/manager during weekly meetings.

COURSE STRUCTURE

This is an asynchronous course. Students learn the same material at different times and locations. RN will have access to course for 90 days. Preceptor will help guide RN to incorporate module content into patient care.

- Modules will be completed throughout orientation when the learning activity is pertinent to patient care being performed.
- Modules will be repeated if preceptor determines documentation needs improvement.

Use the table below to track your progress with the course throughout your orientation.

MODULE	Date	Preceptor Approval
Admitting a Patient		
MyChart Bedside		
Care Plans		
Patient Education		
Managing Orders and Order Sets		
Medication Administration Record		
Transfer A Patient		
Unit Manager		
Charge Capture		
Override Pulls		
Blood Administration		
Restraints		
Discharging a Patient		

COURSE COMPLETION

RN must complete the following activities before the conclusion of unit based orientation:

- All module learning activities
- Score 85% or higher on post-test
  - 3 attempts to earn 85% or higher
  - If unsuccessful after 2nd attempt, facility Credentialed Trainer must remediate.

COURSE EXPECTATIONS

- RN will complete EPIC Clindoc RN 200 modules online during scheduled working hours.
- RN will identify and seek out learning opportunities related to clinical documentation.
- RN will communicate learning needs and feedback with preceptor and educator/manager during weekly meetings.

ADDITIONAL RESOURCES

- Learning Home Dashboard in EPIC
- Tip Sheet Portal https://one.osfhealthcare.org/sites/IOL/Pages/TS.aspx
- Facility Credentialed Trainer

Appendix D

Budget Table

Expenditure	Cost
Weekly Informatics Meeting for 7 EPIC CTs, Informatics Coordinator, & Manager of education department x 8 weeks	$2304.00
Project Team Meetings for doctoral student & 3 nursing educators x 3 meetings	$357.00
Statistician Services	No charge for employees of the organization
Printing of Paper Toolkits x 100 orientees	$10.00
Total Cost	$2671.00

Appendix E

IRB Approval Letter

Peoria Institutional Review Board FWA 00005172 One Illini Drive

Peoria, Illinois 61605 IRB #00000688

IRB #00000689

DATE: July 29, 2019

TO: Jennifer Van Autreve, BSN

FROM: University of Illinois College of Medicine at Peoria IRB 1

STUDY TITLE: 1473642-1] Developing a Structured Implementation Plan: Transitioning to a Blended Learning Model for Electronic Health Record Education

IRB REFERENCE #: SUBMISSION TYPE: New Project

ACTION: DECISION DATE: DETERMINATION OF NOT HUMAN SUBJECTS RESEARCH July 29, 2019

Thank you for your submission of New Project materials for this research study. University of Illinois College of Medicine at Peoria IRB 1 has determined this project does not meet the definition of human subjects research under the purview of the IRB according to federal regulations.

We will put a copy of this correspondence on file in our office.

If you have any questions, please contact [redacted] at [redacted] or [redacted]. Please include your study title and reference number in all correspondence with this office.

Appendix F

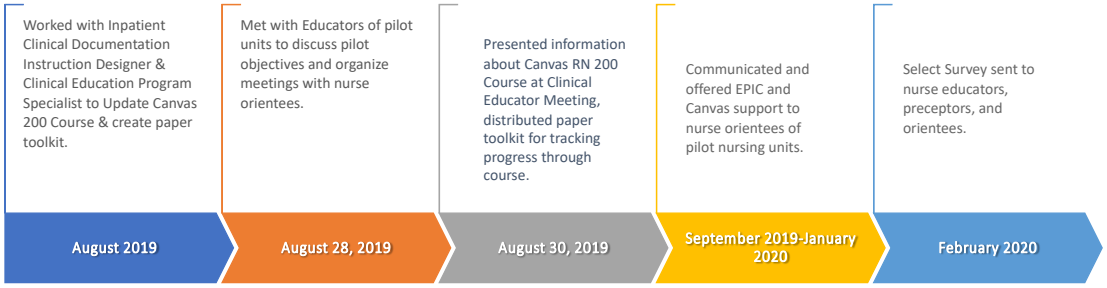
Projected Timeline of Project Plan

- July 12, 2019 - Develop paper toolkits for nurse orientation binder.
- July 22nd, 2019 - Meet with EPIC CTs to discuss the support meetings with nurse orientees and review EPIC CT Tracking Tool for organizing nurse orientees progress with the RN 200 modules.
- July 24, 2019 - Present project plan to Nursing Research Committee.
- August 21, 2019 - Anticipated approval from Nursing Research Committee.
- August 26, 2019 - IRB application submission.
- September 9, 2019 - Anticipated IRB approval.
- September 10, 2019 - Speak at Nurse Educator monthly meeting to explain the addition of the RN 200 paper toolkit to the nurse orientation binder.
- September 10, 2019 - Distribution of toolkit to educators.
- September 10, 2019 – Discussion of RN 200 Module added to monthly nurse educator and informatics meetings.
- September 13, 2019 - Update lesson plan for in-seat inpatient RN EPIC class with instructional designer.
- September 13, 2019 – Meet with nurse educators of med/surg pilot units to educate them about the EPIC CT support intervention.
- September 16, 2019– November 15, 2019 – EPIC CT support pilot on med/surg units.
- October 1, 2019 - Create SelectSurvey for nursing preceptors.

- November 18, 2019 – SelectSurvey Preceptor Survey sent electronically to nurse preceptors of inpatient nursing units.

Appendix G

Implementation Timeline



Appendix H

Survey Analysis

Question	Key Units Average	Other Units Average	Difference	p-value
Train Amount	1.5	2.0	-0.5	0.796
Responsibility	2.0	1.5	0.5	0.845
Transition	2.5	1.9	0.6	0.754
Blended	1.0	1.3	-0.3	0.397
Incorporate	0.0	1.7	-1.7	0.007
Support	3.0	1.8	1.2	0.417
Voice	2.5	1.8	0.7	0.715
Concerns	3.0	1.5	1.5	0.352
Satisfied	1.0	1.5	-0.5	0.171
Confident	2.0	2.5	-0.5	0.845
Overall Score	1.9	1.8	0.1	0.940