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Nursing Education Workflows in EHR Training

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This is to certify that the doctoral study by

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Walden University
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Abstract

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MS, Walden University, 2014

BS, Drexel University, 2010

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

A need for improvement in nursing education regarding inpatient workflows and informatics skills was identified at this project site. Upon hire, nurses were required to complete a 4-hour basic class on the electronic health record (EHR) system, but this class did not include inpatient-nursing workflows needed to provide and facilitate care for patients. This project addressed the lack of EHR education on inpatient nursing workflows. The focus of this staff education project was an education class on inpatient nursing workflow provided to a nurse residency class. Sources of evidence were obtained through a literature search and pretest/posttest data analysis. The literature used to support the project included articles on best practices for EHR education for nursing. The pretest and posttest design was used to determine if there was an increase in EHR knowledge after the education. Benner's novice-to- expert model served as the framework. The mean total proficiency scores on inpatient nursing workflows in the EHR improved from pretesting to posttesting, (6.8 to 7.8, $p = 0.048$). The study findings showed improvement in participants' average proficiency, knowledge, and clinical skills in the EHR. This project findings demonstrated the need for an inpatient nursing informatics workflow class for all nursing staff, and the findings supported an increase in education to facilitate workflow and care safety. This project promotes positive social change by improving curricula, raising awareness of how technology affects clinical care and practice, and encouraging continuous quality improvement through informatics education.

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Table of Contents

Section 1: Nature of the Project

Problem Statement

Technology plays a significant role in nursing, including clinical nursing, research, education, management, and informatics (Darvish, Bahramnezhad, Keyhanian, & Navidhamidi, 2014). Computer skills, informatics knowledge, and informatics skills are needed to facilitate care, assist with operations and administration, develop care delivery innovations, organize data and research, and provide education (Darvish et al., 2014). The problem I addressed in this project is the lack of electronic health record (EHR) education on inpatient nursing workflows.

Although technology has become an integral part of health care delivery, comprehensive education regarding technology is not always accomplished in health care organizations. The TIGER initiative is a national program with the primary goal of developing and creating informatics education and competencies for nurses in school and the workplace (O'Connor, Hubner, Shaw, Blake, & Ball, 2017). Education can help nurses develop the skills necessary to learn and understand informatics, and to use the technology provided more efficiently while providing high-quality patient care using evidence-based practice. It is important to move forward, continue to share ideas and technological solutions, and apply them to all areas of nursing (O'Connor et al., 2017).

At the project site, a 4-hour basic EHR class is provided to nurses, but it does not include education on pertinent nursing workflows needed to provide care and facilitate documentation of the care. These workflows pertain to how nursing clinical documentation and processes are initiated and completed. Examples of these workflows

include shift assessment documentation requirements, acknowledging and reviewing orders, reviewing patient information such as imaging and lab results, and clinical pathways. These important informatics concepts help the nurse navigate the flow of information throughout the patient chart.

This lack of knowledge is a gap in nursing practice that leaves nurses underprepared to complete their daily workflows and documentation and will be the focus of this project. In their literature review of 167 articles, Galani, Yu, Paas, and Chandler (2014) found that a common problem among EHR training programs was the nature of the training materials and the content delivered to the nursing staff. Often the training was long and irrelevant to their workflow. By the end of their training, nurses were overwhelmed, frustrated, and felt they lacked the knowledge to operate the system and care for their patients (Galani et al., 2014). Galani et al. recommended improved instructional design to improve training and enable nurses to gain the knowledge necessary to use the EHR effectively. In particular, they recommended a demonstration that explained the connection to practice and facilitated understanding, provided hands on practice simulations based on roles, and included a tip sheet or guide for reference (Galani et al., 2014).

Purpose

The purpose of this doctoral project was to improve nurses' knowledge of nursing workflows in the EHR using best practices. The gap in practice I identified was the lack of education regarding inpatient-nursing workflows in the EHR. The practice-focused question for this DNP scholarly project was: Will an education class in EHR training for

nursing workflow increase nursing staff knowledge? This project has the potential to increase nursing staff knowledge on the inpatient workflows for nursing, enable the nurses to complete their documentation efficiently, and provide and facilitate care effectively.

Nature of the Doctoral Project

I completed a literature search to find the best practices in EHR training. Sources of evidence showed the importance of documentation in the EHR to patient information sharing. Training and education in informatics was needed to allow nurses to excel at their job. Inadequate training left room for errors in clinical decision making by the nurses (Stephenson, Gorsuch, Hersh, Mohan, & Gold, 2014). EHR classes are needed for staff to address their specific workflows through hands on training or simulations. These classes will help the nurses apply the technology to real world experiences. Researchers have found that with simulation of EHR use, nurses' knowledge rates increased while practice errors reduced (Alkureishi, Lee, Webb, & Arora, 2018). Organizations using this method found that nurses felt more capable and prepared to complete their jobs (Alkureishi, Lee, Webb, & Arora, 2018).

I used this approach in my DNP project. A pretest was given to the nurse residency class at the project site to assess their current knowledge of inpatient nursing workflows in the EHR. Staff education was provided using hands on training by logging the nurses into the play environment of the EHR. A posttest was given after the education training to analyze whether the staff education provided increased staff knowledge on inpatient nursing workflows in the EHR.

Significance

Stakeholders included the senior vice president (SVP) of the nursing education and professional development department, and the lead analyst for training from the information technology department. I was granted approval by the SVP to add informatics education to the nurse residency class. The lead analyst for training also approved use of the play environment for the nurse residency class and provided nursing log-in usernames and passwords needed for the training.

This DNP scholarly project contributes to nursing practice by improving the specific nursing workflow training in the EHR. It is important for nurses to be competent in EHR documentation, retrieval of patient information, and provision of safe and efficient care for the patients (Darvish et al., 2014). This project has potential to be expanded for use with all staff nurses, staff nurse continuing education on EHR optimizations, and nursing students in clinical rotations who also need to complete documentation and retrieve patient information in the EHR.

This project promotes positive social change by impacting curricula, raising social change consciousness, and promoting continuous quality improvement (Walden University, 2017). Informatics education is needed for nurses in both undergraduate and graduate programs to help promote consciousness of how technology affects clinical care and practice, and to improve the quality and process of technical solutions and workflows. For example, teaching nursing informatics in undergraduate programs increases the nurses' knowledge of how the EHR captures data and how data are transferred between clinicians. Nurses who use the EHR are able to facilitate

enhancements in the EHR, or offer recommendations to redesign nursing documentation, which further improves the efficiency of documentation. These nurses can, therefore, advocate for and lead projects to enhance the EHR for documentation, collection of data, and retrieval of nursing data (Kleib, Simpson, & Rhodes, 2016). Furthermore, encouraging nursing informatics education in graduate school enhances the graduate prepared nurse to be a decision maker, leader, and change agent for nursing informatics such as a clinical nurse information officer (CNIO; Kleib et al., 2016).

Summary

With technology at the forefront of nursing practice, it is imperative that nurses are able to use the EHR efficiently. Education on the inpatient nursing workflows can help develop the skills needed to provide high quality care and drive best practices through technology. Section 2 will address the background and context of this project.

Section 2: Background and Context

Introduction

The purpose of this doctoral project was to improve nurses' knowledge of nursing workflows in the EHR using best practices. I used Benner's (Benner, 2012) novice to expert model to examine nurses' acquisition of knowledge and skills. This project explains (a) the effect education has on nursing practice such as capturing and sharing patient information between clinicians, and (b) how education influences the nursing skills at this particular organization site. I have worked with the SVP of the nursing education department to develop and deliver staff education on inpatient nursing workflows in the EHR, evaluate the education provided, include key stakeholders, and identify the program's impact on social change. In Section 2, I will review (a) the concepts, models, and theories that I used in this project; (b) the relevance of this project to nursing practice; (c) the background and context of the project; (d) my role as a DNP student; and (e) the role of the project team.

Concepts, Models, and Theories

To close the practice education gap in regard to EHR education, I used the Benner (Benner, 2012) novice to expert model to inform the development of a module to improve nursing knowledge. There is a need for transformation in nursing education to prepare nurses for the increasing of complexity of care and the use of technology (George, Drahnak, Schroeder, & Katrancha, 2016). Simulated learning, the use of a model environment in staff education, has the potential to move learners through Benner's stages from novice to expert, and decrease their anxiety and confusion with

using the EHR. This can help them complete their tasks and assist them in helping their patients reach their health goals (George et al., 2016). The stages of Benner's theory are novice, advanced beginner, competent, proficient, and expert. The main concepts of Benner's model of skill acquisition are competence, skill acquisition, clinical knowledge, and practical knowledge. This model was appropriate for this doctoral project since it involved staff education to help move the participants forward from the novice stage of knowledge (George et al., 2016).

Benner (2012) has focused on the use of the theory to help evaluate nursing education curriculums nationwide. The Carnegie Foundation for Advancement of Teaching National Nursing Educating launched the Call for Radical Transformation, which encouraged reflection on nursing education and queried whether the education was helping meet today's care needs, improving the health of society, and preparing students with their clinical skills and reasoning (Benner, 2012). Several schools nationwide implemented initiatives to improve their education, for example, clinical assignments with in-depth integrative learning, rather than total patient care, simulations, clinical debriefing groups and reporting, enhancing nurse residency courses, and encouraging inter-professional education and collaborative teamwork (Benner, 2012). These initiatives helped bridge the practice-education gap, producing more competent and proficient nurses (Benner, 2012). These initiatives are an example of how this model assisted in my doctoral project and how initiatives such as in-depth learning and simulations showed an increase in knowledge, and how the education helped move the participants forward from the novice stage of knowledge.

Relevance to Nursing Practice

EHRs enable connectivity and sharing of patient information. Tools such as patient portals, e-prescribing, computerized order entry, and telemedicine help clinicians connect with their patients, pharmacies, and other clinicians. EHRs also enable collection of discrete data needed for reporting to help identify areas that need improvement in patient care (Stephenson et al., 2014). In order for the EHR to be used effectively and efficiently, training and education in informatics is needed to optimize workflows and enable nurses to excel at their jobs. Inadequate training can cause frustration and leave the nurses vulnerable to making errors in clinical decision-making (Stephenson et al., 2014).

In one study, Stephenson et al. (2014) nine basic EHR classes were evaluated. Clinicians were unable to complete their tasks 37% of the time without assistance. A simulation based on the user's clinical workflow was shown to increase readiness and performance in the use of the EHR (Stephenson et al., 2014). In Case 1, subjects completed a testing session resulting in only 30% correct answers in using the EHR. After simulation education, Case 2 subjects' testing session resulted in 68% correct answers in using the EHR. The two cases were similar in questions but involved different clinical scenarios. The testing sessions involved documentation, data finding, and assessment of trends (Stephenson et al., 2014). Relative improvement in performance correlated inversely with baseline performance (R -0.69; $p = 0.002$), and Case 2 participants performed better in identification of specific safety issues (Stephenson et al., 2014). Knowledge rates increased from 30% to 68%, and the overall

identification of patient safety issues, such as medication errors, was also improved (Stephenson et al., 2014).

Another study evaluated the implementation of best practices in EHR training pertinent to each clinical role. A literature review was done to find the best practices for patient-centered care. An EHR curriculum was then created and implemented as a requirement for employee onboarding (Alkureishi, Lee, Webb, & Arora, 2018). The training content included the importance of an EHR, education on best practices, and case studies where students needed to complete EHR navigation and documentation needed for their job role. After the exercise, feedback was given with instructions to highlight areas for improvement (Alkureishi et al., 2018). Students also completed a survey that showed they felt well prepared and capable to complete their job. They were also very satisfied with their education and felt it should be mandatory for every employee. Skills and best practices learned were also very helpful in providing patient-centered care and documenting in the EHR (Alkureishi et al., 2018).

This doctoral project has the potential to advance nursing practice in this organization site since it provides hands-on simulation training and educational materials on the inpatient nursing workflow for all nurses, which can help prepare nurses to feel confident in completing their tasks and providing high quality care using best practices.

Local Background and Context

This organization site is a Level 1 trauma center with more than 7,000 employees, 1,250 nurses, and 630 physicians in over 70 specialties, with over 100 outpatient offices. This site is also an academic medical center that has 635 inpatient beds and 1.4 million

outpatient visits annually. The organization has a nurse residency program that is offered 12 times a year, one starting each month, and lasting for 1 full year, with at least 15 students per cohort. The students are exposed to multiple nursing specialties such as med-surg, critical care, trauma, emergency room, pediatrics, and NICU. The intended setting for this doctoral project was a nurse residency class.

Role of the DNP Student

It is important to continuously improve and enhance nursing education with the latest health care technologies. My role in this doctoral project was to develop and deliver staff education on inpatient nursing workflows in the EHR, evaluate the education provided, include key stakeholders, and identify the program's impact on social change. The steps for developing this education included planning, implementation, and evaluation. This program helped provide best practices in nursing education, which enhanced the nurses' informatics skills. My motivations for this project came from reviewing the onboarding process for nurses and the education they are provided. With a background in informatics, I found a need for improvement in nursing education regarding inpatient workflows and informatics skills at this organization site. To reduce any potential biases, multiple participants from the nurse residency class participated and planning, implementation, and evaluation will be reviewed with the DNP project chair as well as the SVP of the Professional Development and Nursing Education Department of this organization site.

Summary

Benner's novice to expert model, helped identify the education increased nursing knowledge of inpatient nursing workflows in the EHR. This project is relevant to nursing practice because education assists nurses in providing safe, efficient care and enhances and optimizes their use of the EHR. This DNP project took place at the organization site in a nurse residency class. I was able to plan, implement, and evaluate this program. In Section 3, I review the collection and analysis of evidence.

Section 3: Collection and Analysis of Evidence

Introduction

The purpose of this doctoral project was to improve nurses' knowledge of nursing workflows in the EHR using best practices. The gap identified in this clinical setting was the lack of education regarding inpatient nursing workflows in the EHR. This project has the potential to increase nursing staff knowledge on the inpatient workflows, enable the nurses to complete their documentation efficiently, and provide and facilitate care effectively.

Practice-Focused Question

The practice-focused question for this DNP scholarly project was: Will an education class in EHR training for nursing workflow increase nursing staff knowledge? The nursing staff at this project site does not have an inpatient nursing class on how to utilize the EHR. The purpose of this project was to increase nurses' knowledge of inpatient workflows in the EHR. I provided this staff education to a nurse residency class. A pretest identified the nurses' current knowledge of inpatient workflow best practices. A class was then provided with hands on training and educational materials. After the education, a posttest was given to see if knowledge of the topics covered in the education increased.

Sources of Evidence

I obtained evidence to support the project through a literature search with key words such as *nursing informatics, informatics education, EHR education, quality and informatics,* and *nursing workflow and EHR.* The articles chosen included those on best

practices for EHR nursing education. These best practices for education included demonstrations, reference guides, and simulations where nurses could practice realistic scenarios in the EHR. A pretest was given before the staff education to identify staff's current mean proficiency score, and I used the posttest to evaluate the mean proficiency score after the education.

A literature search was completed to find the best practices in EHR training. The evidence showed the significance of documentation in the EHR to share patient information, and that training and education in informatics is needed to allow nurses to excel at their jobs. Insufficient training can create room for errors in nurses' clinical decision making (Stephenson et al., 2014). EHR classes are needed for staff on their specific workflows using hands training or simulations, which can help the nurses apply the technology to real world experiences. With this education, researchers have found that nurses' knowledge rates increased while practice errors decreased. Organizations using this method found through surveys that nurses felt more capable and prepared to complete their jobs after the training (Alkureishi, Lee, Webb, & Arora, 2018).

I also used this approach in this DNP project. A pretest was given to the nurse residency class to assess their current knowledge of inpatient nursing workflows in the EHR. Staff education was then provided using hands on training by logging the nurses into the play environment of the EHR. The play environment is a duplicate of the EHR, where test patients and scenarios are created for clinicians to practice. A posttest was then given after the education and training to examine whether the staff education provided increased staff knowledge and moved the participants from the novice stage of

knowledge on inpatient nursing workflows in the EHR. In this project, I identified the need for an inpatient nursing workflow class for all staff nursing. The findings of this DNP project may result in improving EHR education given to all nursing staff to enable them to provide and facilitate care safely and document it efficiently.

Evidence Generated for the Doctoral Project

The participants in this study were from a nurse residency class of 15 people. These participants were chosen, as they are new graduate nurses learning to prepare and improve their critical thinking and clinical practice skills. This class was a perfect opportunity to identify if EHR education will increase staff knowledge on inpatient nursing workflows in the EHR. Educating participants on informatics skills, such as shift assessment documentation requirements, acknowledging and reviewing orders, reviewing patient information such as imaging and lab results, and clinical pathways, led to an increase in knowledge that will ultimately help them provide care to their patients safely and efficiently.

The pre and post assessment design was used to evaluate the effectiveness of the classroom training in improving nurses' knowledge of inpatient workflows in the EHR (see Agrawal et al., 2016). In this assessment model, a pretest and posttest is given to students to evaluate the improvement in knowledge (Agrawal et al., 2016). This model was appropriate for the doctoral project because there was a pretest given before the staff education to identify the staff's current mean score of their knowledge on informatics skills, compared to their mean score post intervention.

In their recent study, Stroup, Sanders, Bernstein, Scherzer, and Pachter (2017) created an EHR curriculum for a cohort of residents. This education included EHR basic training and resident enhanced training that included demonstrations, practice, and order set review. This study also used the pre and post assessment model to evaluate education. The mean total proficiency scores improved from pretesting to post testing, (6.8 - 7.8, $p = 0.048$). The study showed improvement in average proficiency and enhancing their knowledge and clinical skills in the EHR (Stroup et al., 2017).

I gave a pretest to the nurse residency class to assess their current knowledge of inpatient nursing workflows in the EHR. Objectives of this class included shift assessment documentation requirements, acknowledging and reviewing orders, reviewing patient information such as imaging and lab results, and clinical pathways. Staff education was then provided using hands on training by logging the nurses into the play environment of the EHR. A posttest was given after the education training to examine whether the staff education provided increased staff knowledge on inpatient nursing workflows in the EHR. For this doctoral project, I used the Brigham and Women's Hospital pretest and posttest guidelines. This model serves as a meaningful evaluation of education provided in an organization. There are four levels of the model: reaction learning, behavior, and results (Brigham and Women's Hospital, 2013). Guidelines that I used include evaluating knowledge and attitudes before and after an education program, obtaining 100% response, and using the results to further improve the education.

The participants remained anonymous as the tests did not require the name of the participant. I obtained Walden University IRB approval prior to initiation of the staff

education project, 02-07-19-0387089. The role of the Walden University IRB is to ensure that all Walden University research is compliant with the ethical standards of the university as well as U.S. federal regulations.

Analysis and Synthesis

Using the pretest and posttest guidelines of Brigham and Women's hospital, I gave a pretest and posttest to the nurse residency class on the class objectives. The tests included multiple choice questions focused the objectives of the class, with a short answer section to include their thoughts on the quality of the class. The SVP of the professional development and nursing education department also reviewed the test to ensure the instructions, questions, and information were clear. To record, track, and organize the pretest and posttest scores, I used an Excel spreadsheet. The score of each participant's test was documented on a pretest and posttest Excel spreadsheet. The learning gain calculation was used to determine the percentage of learning gained from the training. The learning gain calculation (post-learning score minus pre-learning score/maximus Score minus pre-learning score) x 100 was used to measure if there was an improvement in knowledge (see Brigham and Women's Hospital, 2013). There was an increase in the mean score from pretest to posttest. I also obtained information on nurses' attitudes towards the EHR and recommendations on EHR training through the pretests and posttests using multiple choice and open-ended questions.

Summary

The problem addressed in this project was the lack of EHR education on inpatient nursing workflows. Education was provided to a nurse residency class with a pretest and

posttest. To complete a collection and analysis of evidence, I completed a literature search on current best practices for EHR training. The Benner novice to expert model was used as the nursing theoretical support for the project. A pretest/posttest design was used to evaluate the effectiveness of the education. A learning gain calculation was also used to see if the education improved nursing knowledge.

Section 4: Findings and Recommendations

Introduction

In this project, I addressed the lack of EHR education on inpatient nursing workflows. At the project organization site, a 4-hour basic EHR class is provided to nurses that does not include pertinent nursing workflows needed to provide care and facilitate documentation of the care. These workflows pertain to how nursing clinical documentation and processes are initiated and completed. This lack of knowledge is a gap in nursing practice that leaves nurses underprepared to complete their daily workflows and documentation; it was the focus of this project. The purpose of this doctoral project was to improve nurses' knowledge of nursing workflows in the EHR using best practices. The practice-focused question for this DNP scholarly project was: Will an education class in EHR training for nursing workflow increase nursing staff knowledge?

Sources of evidence were obtained through a literature search and pretest/posttest data analysis. The articles supporting the project included information on best practices for EHR education for nurses. The pretest and posttest design was used to determine if there was an increase in EHR knowledge after the education. Benner's novice to expert model served as the projects framework. The learning gain calculation was used to determine the percentage of learning gained from the training. In this project, I identified the need for an inpatient nursing informatics workflow class for all nursing staff, and the findings supported improving education to facilitate workflow and care safety.

Findings and Implications

A pretest with 10 questions, EHR education, and a posttest with 10 questions took place in a nurse residency class of 15 students. All 15 students participated in the activity. As shown in Table 1, the mean of the pretest was 68.7%, while the mean of the posttest was 92%, with a maximum score of 100%. The learning gain calculation resulted in 74% showing an increase of knowledge in EHR inpatient workflows. See Appendix A for the class agenda.

Table 1

Pretest and Posttest Scores on Nursing Workflows in the EHR

Participant	Pretest	Posttest
1	70	90
2	60	80
3	70	90
4	70	90
5	60	100
6	70	100
7	60	90
8	80	80
9	70	90
10	60	100
11	80	100
12	70	90
13	60	90
14	70	90
15	80	100
Mean score	68.7%	92%

Students also completed open-ended questions on the posttests. Many students felt more comfortable with finding patient information, completing the admission process, documenting more efficiently using flowsheets, starting and completing clinical pathways, and reviewing orders. Others described the value of the education and

considered it to be a “huge part of the job and needed” and reported that “this helped decrease my frustration and learned easier ways to document.”

Although this study was limited to one nurse residency class, it was proven that an education on inpatient nursing workflows helped to increase knowledge, assist nurses in completing their documentation and finding patient information, and decreased frustration. This education can be used to teach many aspects of medical care, not only for nurses, but also for all clinical staff and their pertinent workflows. For example, medical students, respiratory therapists, case managers, physical therapists, residents, and provider staff could increase their knowledge of their own workflows in the EHR.

This project supports multiple goals of the mission of Walden University to promote positive social change by impacting curricula, raising social change consciousness, and promoting continuous quality improvement. This project supports informatics nursing education for all nursing staff to help promote consciousness of how technology affects clinical care and practice, and to improve the quality and process of technical solutions and workflows.

Recommendations

I reviewed the tests, education, and results with the VP of professional development and clinical education, and we found this class to be useful for the onboarding of new nurses as well as a refresher for nursing staff’s mandatory annual skills fairs. This education can help decrease frustration and improve nurses’ knowledge of inpatient nursing, and increase their ability for find and document information that will

help care for their patients. This education is a great way to reinforce informatics skills, have hands on training, and adopt important behaviors required for documentation.

Strengths and Limitations

One strength of the project was the use of hands on training with test patients. Students were able to practice and complete their workflow activities in a learning environment that was safe and did pose potential harm for real patients. Also, a learning gain calculation showed an overall improvement in inpatient nursing workflows. This project was limited to one nurse residency class of 15 participants, although the participants were from a wide range many nursing specialties such as med-surg, critical care, trauma, emergency room, pediatrics, and NICU, which provided a good representation. Further research needs to be done for other clinical specialties such as respiratory therapy and providers to see if education on their specific workflows could also increase their knowledge, making them more capable of completing their job efficiently and effectively.

Section 5: Dissemination Plan

Introduction

The plan for dissemination of this project study will include mandatory training for onboarding of new nurses orienting at the practicum organization site, as well as including this type of education into the mandatory annual nursing skills fair. This will enhance nurses' EHR knowledge after their 4-hour basic training and reinforce their knowledge annually.

Analysis of Self

After reviewing the onboarding process for the inpatient staff nurse, I was able to attend nursing orientation classes and found an area for improvement in EHR education. These new nurses were provided a 4-hour basic training of the EHR but were not provided knowledge on specific inpatient workflows including shift assessment documentation requirements, acknowledging and reviewing orders, reviewing patient information such as imaging and lab results, and clinical pathways. As a result, I researched best practices for implementing EHR education and worked with the VP of professional development and nursing education to create a nursing informatics education program to enhance nurses' knowledge of inpatient workflows. This education plan included a pretest, hands on training and education, and a posttest. Findings showed that this program was able to reduce frustration, enhance nurses' knowledge of inpatient workflows in the EHR, and improved nurses' efficiency in clinical documentation. This solution will further help other new nurses onboarding at this practicum site and education will be reinforced annually.

Defining this practice issues, using research and assessment skills, and using a multidisciplinary approach to education and informatics relates to the DNP Essentials and helped me translate research into evidence-based practice. I used best practices, innovation, and technology to disseminate evidence-based practice, which will only help improve nursing practice and patient outcomes (Melnyk & Ford, 2014).

Summary

To assure this project organization site has the appropriate education provided to nursing staff on the EHR, I identified an opportunity for improvement in nursing education. In this staff education project, I developed an education program on inpatient nursing workflows, shift assessment documentation requirements, acknowledging and reviewing orders, reviewing patient information such as imaging and lab results, and clinical pathways. The pretest and posttest results showed a positive learning gain in nurses' EHR knowledge after the education. This education program has helped the participants move forward from the stage of novice. In this project, I identified the need for an inpatient nursing informatics workflow class for all staff nursing. This education program will be used for onboarding new nurses to the practicum organization site and will be included as reinforcement at their annual skills fair.

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Appendix

Establishing Education of Nursing Workflows in EHR Training to Increase Staff Knowledge: Agenda

1. Review purpose of the training
2. Pretest
3. Hands on training: reviewing patient information and clinical assessments, shift assessment, acknowledging and reviewing orders, and clinical pathways.
4. Posttest