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Quality Improvement to Increase Nurse Knowledge on Nursing Informatics Project Management Standards

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Walden University

College of Health Sciences

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Elizabeth Fleischer

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2015

Abstract

Quality Improvement to Increase Nurse Knowledge on Nursing Informatics Project

Management Standards

by

Elizabeth Fleischer

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

When an inexperienced nurse project manager is assigned to serve as a project manager for health information technology (HIT) tools, there is increased risk the project will not be completed on time, within budget, and in scope. An identified business need at a large military treatment facility was an educational tool to bridge the gap between nursing informatics and project management. The scholarly project was a Nursing Informatics Project Management Guidebook, which served as an educational tool to increase nurses' knowledge to serve in the HIT project manager role. With a quality improvement methodology, the outcome and impact sequence logic model was applied as the framework. The target population was the Clinical Informatics Sub-Committee, which was a multidisciplinary working group. The Nursing Informatics Project Management Guidebook included an introduction to nursing informatics, project management standards, 9 current scholarly articles, and links to professional organizations. There was also an overview of the roles and responsibilities of a nursing informatics project manager throughout the 5 acquisition lifecycle processes, which includes initiating, planning, executing, monitoring, and closing. Finally, essential terms were defined to assist in the completion of the assigned project on time, within budget, and in scope. An implication for positive social change was increased knowledge for nurses to serve as a HIT project manager, which advances the nursing profession with informed nurses to serve in the leadership position among multidisciplinary groups.

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Section 1: Overview of the Evidence-Based Project

Introduction

With the integration of the electronic health record (EHR) and health information technology (HIT) into the health care workflow and arena, there are expectations to decrease costs and improve patient-centered quality care as outlined by the Institute of Medicine (IOM) (McGowan, Cusack, & Bloomrosen, 2012). However, Kitzmiller reported that over 80% of health care projects are not successful, about one third are not finished, and many projects go over budget or past the planned schedule (Bove, 2009). More specifically, failed nursing informatics projects “can result in late fees, penalties for continuing use of old systems, the cost of extending consultants, and the opportunity cost of not having the new system in operation” (Kropf & Scalzi, 2008, p. 38). A strong project management foundation is an essential intervention to complete the assigned task successfully. At this time, nurses are being assigned as project managers regardless of project management education and experience at a large military east coast metropolitan government hospital. In order to increase confidence and knowledge to serve in the position, project management training is needed to introduce terminology, tools, and responsibilities.

Problem Statement

Initially, there was no in-house training for nurses selected to serve in the project management position. Upon research at the hospital, no guidebooks or training resources for nursing informatics and project management that bridged the gap between the two worlds were available. At the time, there were several scholarly articles that combined

nursing informatics and project management found in the Walden Library Database, which served as the foundation for this project.

Moreover, the hospital maintained a level two on the project management maturity. On the project management maturity model, a level two indicates basic and non-standardized process are used, and estimates are done based on knowledge, and not standards (Crawford, 2002). At the local hospital, once a project was approved, there were no established or repeatable processes to complete the deliverables. Also, there was inadequate documentation needed to complete the project based on expert knowledge or information from conferences, and not evidenced-based. As a result, money was spent on information technology (IT) tools that do not meet the nurse's need or cannot be used to its full capacity since it does not properly integrate with the current infrastructure due to lack of coordination between the clinical and technical communities.

Moreover, as a result of a lack of adequate project manager training to serve as a liaison between the clinical and technical communities, millions of dollars have been spent on projects that are not being used or not used to its fullest capacity. In 2012, kiosks were implemented and projected to be mapped to the current electronic healthcare record (EHR) system, which did not align with the vision of the organization since a new system will be acquired and implemented in the coming years. The project did not go through clinical governance, but was still approved by IT leadership. Challenges continued when the project manager did not question the project to meet the needs and mission of the organization. The focus was to finish the project within scope, on time, and within budget (Ho, 2010), but did not consider the clinical impact at the hospital level. A year later,

those kiosks are not functional or improve the nurse's workflow or patient check-in process. In order for a project to be successful, ongoing coordination between clinical and technical subject matter experts by the project manager is essential.

Purpose Statement and Project Objectives

The purpose of the project was to create a project management guidebook to provide nurses selected to serve as project managers the foundation to complete the assigned task within scope, time, and budget. The guidebook introduced the nursing informatics specialty and introduction to project management, in an effort to bridge the gap between the two skill sets. The specific measurable objectives of the guidebook include the following: 1) locate and analyze scholarly articles that support nursing informatics and project management; 2) adjudicate comments and feedback from selected nurses to improve the guidebook and promote buy-in for change management; 3) design and development a guidebook on nursing informatics project management; and 4) disseminate the guidebook to the Clinical Informatics Sub-Committee. The guidebook was based upon evidenced based literature and Program Management *Body of Knowledge* standards, which is a common approach in practice (Payne et al., 2011).

Project Question

The project question was as followed: Would nursing informatics project management training make a difference in the nurses' knowledge and ability to successfully complete the assigned project?

Significance

The opportunity to serve as a nursing informatics project manager supports the recommendation to increase opportunities for nurses to improve healthcare outcomes (Cipriano, 2011), which aligns with IOM's *The Future of Nursing Leading Change, Advancing Health* (2010). One of the recommendation was as followed "nurses should be full partners, with physicians and other health care professionals, in redesigning health care in the United States" (IOM, 2010, p. 3). The project management guidebook provides the foundation and basic knowledge to overcome the "traditionally ..passive users of EHR technology" (Rojas & Seckman, 2014, p. 215) and serve in a non-clinical role on a multidisciplinary team to improve health outcomes.

There was documentation that projects are not successful for several reasons such as the complex healthcare system, untimely communication between nurses and leadership, and resistance to change (Bove, 2009). It was reported about "85 percent of all projects failed-either by being late, over budget or not delivering what they had promised" (Bove, 2009, p. 2). Project management training is needed to improve these statistics.

Moreover, evidence-based literature shows the value and return on investment when a proper IT governance is in place at a respective organization. In 2002, a major healthcare services organization, Aetna, reported a loss of \$280 million dollars; however, in 2007, the company recorded a net income of \$1.8 billion (Weill & Ross, 2009). The change management focus was on the "customers and employees, a companywide embrace of "back to basics" values, and the development and use of a dynamic

information technology (IT) platform” (Weill & Ross, 2009, p. 2). As a new project manager, it is essential to be aware of these lessons learned to understand the importance of evidence-based articles and proper governance process.

Relevance to Practice

Under the American Recovery and Reinvestment Act of 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act outlined the Meaningful Use standards (Castillo & Kelemen, 2014). Meaningful Use expectations cover “improving quality, safety, and efficiency and reducing health disparities...engage patients and families in their health...improve care coordination...improve population and public health...and ensure adequate privacy and security protection for personal health information” (Castillo & Kelement, 2013, p. 319). In order to meet the Meaningful Use goals, nursing informatics project managers need to be properly trained and involved throughout the process to ensure the desired tool is acquired and successfully implemented.

Structured project management training will improve outcomes to ensure all issues, risks, constraints, and assumptions are discussed before the acquisition and implementation of a new tool. The selected project manager will ensure nurses and clinical representatives are present and active during the discussions to meet the needs of each community to avoid wasting time and money on projects that do not fit into the workflow. As mentioned by Williams and Murphy (2005), project management guidelines “yield high performance rates, quality patient care, and increased employee satisfaction” (p. 41).

Also, improved patient outcomes with increased quality and safety measures are results of an established project management approach that flows through the rigorous governance process for comments and feedback (Stonehouse, 2013). Project managers are responsible for providing senior leaders the background information, updates, risks, and concerns to make the most educated decision (Williams & Murphy, 2005). When money is well spent on IT tools, financial resources and manpower can be spent on other projects that will impact patient delivery and improve nursing workflow. The project manager is responsible for providing updates and feedback through a governance structure process to ensure it is aligned with the future vision and any organization changes that may be impact the project.

Implications for Social Change

It is the responsibility of doctorate prepared nurses to use their education and experience to promote social change with fellow nurse leaders and other multidisciplinary stakeholders (Raine, 2014). With the addition of technology into the nursing workflow, social change is an essential factor for successful implementation of tools. First, nurse managers must motivate other nurses to serve as project managers, which serve as the motivation factor throughout the project lifecycle. The project manager must understand the impact and need for the assigned project to articulate the message to team members. Depending on past experiences, some nurses may need further clarification on the need for change, introduction of technology, and role of the project manager.

Moreover, the selected manager must have the knowledge and resources to complete the social change. The project management guidebook provides the basic skills to increase confidence as a project manager, which will reflect throughout the project among the other members. There will also be opportunities to share experiences with other project managers to promote change and increase confidence. Also, when assigned a project, the human resources available to complete the task will be provided as well as the project governance for leadership oversight.

Definitions of Terms

Several definitions are essential to provide clarification for the reader.

Nursing informatics: As defined by Hebda and Czar, the “use of information and computer technology to support all aspects of nursing practice, including direct delivery of care, administration, education, and research. The definition of nursing informatics is evolving as advances occur in nursing practice and technology” (McGonigle, Hunter, Sipes, & Hebda, 2014, p. 324)

PMBOK : Project Management *Body of Knowledge* standards, which is a common approach in practice (Payne et al., 2011).

Assumptions and Limitations

Assumptions are the elements of a project that are assumed to be true, but have no reference to validate and confirm the status. As the guidebook was created, one assumption was that the reader had no nursing informatics knowledge or project management experience. On the other hand, limitations are restrictions that will impact

the project. One identified limitation was the lack of active health information technology projects to facilitate the guidebook and capture lessons learned.

Summary

The first step in a project was to outline a project design with the problem statement, question, and objectives. The identified problem was the lack of nursing informatics project management training for nurses, which has resulted in money not being well spent with tools that do not support the nursing workflow. Also discussed was the relevance to practice, social change impact, and assumption and limitations. Overall, a project manager needs to be introduced to project management standards, his or her role, and governance process for successful project completion.

Section 2: Review of Scholarly Evidence

Introduction

Review of scholarly evidence was the key to benchmark against other organizations and capture lessons learned to lay down the foundation for a project management training to meet the identified needs of the organization. Throughout the literature review, research on nursing informatics, project management, and governance was retrieved from the following databases: CINAHL, Medline, ProQuest, and PubMed. Key terms used in the search include: nurse informatics, project management, health information technology, and change management.

Project Management

Project management is a similar, but different language and skill set compared to the nursing process that plans, assesses, and evaluates patient care. Scope, time, and money are the project manager's responsibilities during the lifecycle of the project. An introduction to project management responsibilities and expectations are essential to properly educate and prepare nurses with project management skills to complete the assigned task.

Ho (2010) acknowledged the position of the identified project manager as the one "responsible for taking an organization's strategic direction and turning it into tangible, achievable project outcomes" (p. 414) with a focus on the scope, time, costs, and communication management. The scope statement includes the objectives of the individual project and utilized to avoid scope creep by expanding the project, discussion, and costs. Documentation of the scope includes the background of the project, scope

statement, constraints, exclusions, assumptions, and what areas of work will be considered out of scope. Time management tools that can be introduced include early planning, estimation of activities, scheduling the anticipated activities, and ensuring the deliverables and milestones are on track considering multiple delay factors such as governance. Extended time lines will negatively impact the financial aspect. Finally, tools for cost management include resource planning, cost estimating, cost budgeting, and cost control.

Moreover, an awareness of the governance process in place and identified stakeholders is essential to ensure effective communication (Ho, 2010). Project managers communicate updates and risks up the chain through governance boards and stakeholders, and back down to the analysts to make changes as needed. Updates to senior leadership may be completed monthly or quarterly depending on the nature of the project and request. Also, meeting minutes from each meeting are needed to serve as an official record of the meeting.

Williams and Murphy (2005) effectively translated the project management language and concepts into perceptions nurses can identify with an example of a nursing scope. A terminology guide was provided to highlight key terms project managers need to be aware of throughout the project. Williams and Murphy (2005) expanded the project management triad with the significance of employee recognition and benchmarking. Recognition should be rewarded when a milestone is accomplished to promote a positive working environment.

Moreover, benchmarking is an opportunity to capture lessons learned from other similar organizations. Some questions may include: “How did they do it? How did they create their project team? What were their lessons learned?” (Williams & Murphy, 2005, p. 47). Benchmarking can be completed through various approaches and resources such as a literature review or site visits, and will be inserted into the project management introduction to capture lessons learned throughout the process.

Djalalinia et al. (2014) broke down the five phases of the project management process with activities. The first step was to create an infrastructure by identifying available resources, defining roles and responsibilities, and reviewing the governance structure that will provide oversight on the project. The second step is to define the project by outlining the goals, objectives, benefits, risks, and assumptions. Also, in this step includes the development of the implementation and resource plan. The third step is the project plan, which includes a detailed plan. The next step is the project control, which includes implementing the project by avoiding scope creep, avoiding risk, and managing quality and change. The project manager is responsible for reviewing the deliverables and report, which were constructed by team members. Finally, the last step is the project close out, which includes the post implementation evaluation and documentation of lessons learned.

Sokolow and Bowles (2008) highlighted the project management courses in the nursing informatics curriculum at the University of Pennsylvania after project management was identified as the “most important nonclinical skill for informaticists in their organization” (p. 14). Unified process (UP) methodology was the selected approach

since it is acknowledged as a current standard and allows for rapid development. The UP method consists of four phases, but the curriculum focused on two: inception and elaboration phases. During the inception phase, as the project manager, the student produces the project objectives and feasibility document that address the background, scope, objectives, and benefits. On the other hand, during the elaboration phases, the student project manager implements the project plan, use cases, and requirements.

Gavin and Lyon (2005) highlighted the project management process life cycle model, which is a four phase process. Phase one is the project initiation (PI), which includes identifying the problem. The deliverable for this phase is the charter that documents the team members, goals, objectives, resources, high level schedule, and scope. Phase two is the project planning (PP), which produces the deliverables and specific deadlines for each task. This phase ends with a kick off with stakeholders. Phase three is the project execution and control (PEC), which includes facilitating regular meetings, reviewing deliverables, and updating governance boards on proposed changes. Phase four is the project close-out (PCO) takes place when the planned deliverable including an executive summary, report, and glossary will be packaged and sent through the governance for review and approval.

Sa Couto (2008) utilized the Project Management *Body of Knowledge* as the guideline to outline project management. A project is a temporary effort that has a beginning and final point, which is overseen by the project manager. Several key elements in project management include identifying and documenting requirements, creating objectives, a plan to keep the project within scope, budget, and time constraints,

and managing expectations from the various stakeholders. In addition to the *Body of Knowledge*, other core competencies include knowledge of the topic and environment, basic management skills, and communication skills.

Bove (2009) compared the project management process to the nursing process, but acknowledged the differences among the two approaches. The three project management constraints, including time, scope, and costs, were highlighted as the factors that need to be planned and addressed throughout the process. Moreover, the five step project management process included the following: initiation, planning, execution, control, and closing. Initiation involves identifying the business need, objectives, risks, and expected outcomes. The planning phase is when the deliverables, deadlines, risk log, and communication plan are drafted. The execution phase is the implementation of the project, and controlling phase includes managing the project and risks on the status reports. The last phase is the close out when the deliverable to complete and lessons learned are documented. Finally, change management is a challenge that project managers may face, and may overcome with a course of action document that outlines the negatives and benefits of each option.

Maas (2012) highlighted consideration for project management success. The most important lesson is to be transparent about the status to allow leadership to make the most informed decision. Moreover, the project plan includes the project background, plan including the stakeholders, project planning, risks, and budget. The project plan included the background information on the problem, specific goal, scope, and how it fits into the

organization's bigger vision with other projects. The fourth topic includes risks, which may delay the project. It is essential to anticipate any risks and address the concerns.

Payne et al., (2011) stressed the five process mentioned by the Project Management *Body of Knowledge*, which includes initiating, planning, executing, controlling and monitoring, and closing to a local project. During the post evaluation, several key lessons were learned. In response to the question regarding the impact of the project management, the following are key comments to learn from: "Gave everyone the feeling that they were heard and had a valuable contribution. Established and facilitated effective methods of communication and decision making through regular planned meetings and reporting structures...Kept the project on track" (Payne et al., 2011, p. 6). Lessons learned included that "it is always more difficult being off site than regularly seeing and interacting with the project team but this should not deter inclusion of people off site" (Payne et al., 2011, p. 7). Finally, a recommendation was to create guidelines such as a deliverable and project manager should only be needed for project over \$150,000, and standing protocol for projects less, due to the time and resources to complete projects.

Marshal and Hughes (2008) introduced one of the project management approaches, PRINCE, or Projects IN Controlled Environments. There are four phases, which includes starting up, initiation, directing, and closing a project. In the first phase, the main activities include outlining the project team member roles and responsibilities as well as risks. Project managers are not decision makers, but are responsible to provide the information and updates to the leadership to make the most informed decision. A risk

assessment is completed to prevent issues from occurring. The next phase is the initiating the project include quality and scope, communication plan, plan with deliverables and deadlines, and configuration management. During the next phase, the project manager oversees the resources and funds while the project is being implemented. Finally, during the last phase, the project manager is responsible for closing the project with the deliverable, report on outcomes, and next steps if needed.

Shelley (2008) highlighted key points from a workshop to improve project management skills. Some roles of the project manager include understanding the business need for the proposed project, identify stakeholders and appropriate governance, establish a working relationship and rapport with other groups, facilitate change management, and move the project forward with a focus on the schedule, time, money, quality, and resources. Moreover, some skills of a project manager include a combination of leadership and management skills, group dynamic management, strong communication skills, ability to multi-task, and positive attitude despite challenges and changes. The awareness and familiar with the local governance process is essential for accountability to leadership groups for guidance and/or approval as needed throughout the project lifecycle.

Risk management is an essential and ongoing effort to avoid a failed project. A project risk is an unplanned variable that impacts the objectives, but can be positive or negative (Sheppy, Zuliani, & McIntosh, 2012). During the planning phases, it is important to identify any potential risks that may arise. When being assessed, risk management plan includes the risk, the likelihood of the risk occurring, and the impact to

the plan. Once these elements have been discussed, options with pros and cons can be outlined to mitigate the risk with guidance from leadership through governance oversight.

In addition to the focus on time, money, and quality mentioned above, one challenge the project manager may face is the limited resources and group dynamics. First and foremost, it is essential for the project manager to create a positive environment and promote the organization mission and value to demonstrate the value in the project (Suhonen & Paasivaara, 2011). Another essential element is the project manager's emotional intelligence or the ability to manage his or her own feelings as well as the group dynamics among the team. Some overarching themes of challenges include work environment changes with limited resources and strained human resources, negative attitude among nurse managers with a lack of support for project, and group dynamics with lack of participation.

Upon a review of the evidence-based literature, several themes merged across the various articles, which will be included into the project management training. The first theme is the five project management process: initiating, planning, executing, controlling and monitoring, and closing of the project. Several articles advertised the process as a four step process, but combined some steps such as execution and controlling into one process. Overall, all these steps are an essential part of the project management lifecycle.

Another theme that merged was the variables the project manager was responsible for during the lifecycles mentioned above. The list varied, but several common topics include the time, scope, costs, and quality. Communication among team members as well as through governance is essential since project managers are not decision makers. Other

activities include benchmarking, employee recognition, and risk management. Finally, a positive attitude and change management in alignment towards the organization mission is essential.

Theoretical Frameworks

Logic Model

With the proposed quality improvement project, the logic model is the framework that was applied to the nursing informatics project management guidebook. There are various logic models, but the overarching five steps include (1) identify the problem; (2) create an intervention; (3 and 4) outline the goal, objective, and actions; and (5) describe anticipated outcomes (Lane & Martin, 2005). The identified problem is the training gap and lack of resources for this additional duty regardless of previous training and experience. The guidebook is the intervention, which will introduce nursing informatics project management. Overall, the goal is to increase the knowledge and skill for assigned nurses to complete the task by reviewing the guidebook, scholarly articles, and professional organizations. The short term desired outcome is better trained and educated nurses to take on the role, and longer term desired outcome is money well spent and improved nurse workflows and patient outcomes with health information technology tools that fit into the current workflow.

King's Theory of Goal Attainment

Nursing informatics is not aligned to theory in great detail, but can be applied to King's Theory of Goal Attainment and Conceptual System (Killeen & King, 2007). King's Theory of Goal Attainment includes the Transaction Process Model that serves as

the “fundamental interaction process that facilitate ordered function so human groups can communicate as systems in society and nations” (Killeen & King, year, p. 53-54). A prime example is the interdisciplinary interaction that is essential to acquire the appropriate technology tools to be used within the nurse-patient interaction process, which is a key component as a nursing informatics project manager.

Moreover, King’s Conceptual System is based on the General Systems Framework with a focus on human beings and overall goal on health (Killeen & King, 2007). The three interconnected systems (personal, interpersonal, and society systems) can be applied to the nursing informatics specialty with the impact of technology within each group. In the complex healthcare environment, technology is an intervention to improve the information processing and decision making process among the three systems (Parker & Smith, 2010). When the appropriate technology tool is acquired, there will be increased access to patient’s health information as well as populations, such as diabetics, to make the most informed decision, improve health outcomes, and decrease costs.

Change Management

About 50% of health information technology projects failed since there was a lack of staff and nurse buy-in to use the new system (Edwards, 2012). Change management is a theoretical framework to apply during the planning and implementation of the project management. There are several change management theories to select from; however, the selected change management framework is the three phases proposed by Kurt Lewin. Lewin (1951) outlined the stages as unfreezing when a change is identified, moving the

proposed plan forward, and refreezing the new process into the daily workflow. The governance process has been in the unfreezing stage over the past few months, which has allow for proper planning of the proposed governance process and project management introduction.

Before change can be managed, an understanding of the value is needed to gain buy-in from leaders as well as end users. Combes (2013) reported that governance boards do not bring value when old processes and traditions are praised “so highly that they can’t objectively consider relationships with other organization. Fail to act because they fear the board will be a casualty of change. Fail to exercise the board’s power and authority to bring about change” (p.14). Before governance can be implemented, senior leaders need to approve new boards or removal of boards as needed to promote change management, which includes evaluating the current situation, promoting the change, and the future vision of the organization (Combs, 2013).

Finally, change management promotes buy- in from senior leaders and end users. Through ongoing meetings with senior leadership, guidance and direction was provided to promote the change management process. This collaboration eased the transition as committees are stood up and requests for membership are sent out. Also, senior leadership approval on the new structured governance process emphasized the new way forward on project requests for both clinical and IT projects. Finally, feedback from the nurses throughout the process promoted change management and buy-in on the training since they had an opportunity to voice their feedback on the content and approach.

Specific Project Management Framework

Finally, the Project Management *Body of Knowledge* is the common standard used in practice (Payne et al., 2011). In this framework, a project is defined as an individual project or a sub-project of another project, capability to conduct a service, or a result such as a document (Project Management Institute, 2008). There are five process groups, which includes initiating, planning, executing, monitoring and controlling, and closing (Project Management Institute, 2008). Throughout the project, key actions include identifying the business need and expectation, capturing requirements, and moving the project forward to meet deadlines and within budget and schedule (Project Management Institute, 2008). There are nine knowledge areas incorporated throughout the five phases and include the following: project integration management, scope management, time management, cost management, quality management, human resource management, communication management, risk management, and procurement management (Project Management Institute, 2008).

Summary

A review of scholarly articles revealed several common themes such as the five phases for project management. Also, several frameworks including the Logic Model, King's Theory of Goal Attainment, change management, and specific project management framework were reviewed and applied to the process and scholarly product. This knowledge served as the foundation for the scholarly guidebook.

Section 3: Approach

Project Design and Approach

The selected project design was the logic model that provided a visual tool to outline the resources, activities, outputs, goals, and impact to complete the project (Allmark, Baxter, Goyder, Guillaume, & Crofton-Martin, 2013). Several identified advantages to using the logic model include understanding how the activities impact the deliverable product and outcomes, outlining activities and anticipated outcome, and creating a snapshot of the main components of the deliverable (Baxter et al., 2014). The selected template was the outcome/impact sequence logic model as outlined by Cooper (2011) with Resources plus Activities yields Output yields Outcomes yields Impact, which can be found in Appendix F.

After identifying the need for a nursing informatics project management guidebook, a more detailed research of project management training was completed using the framework. Essential resources or inputs included current scholarly articles, endorsement from senior leadership, and support from the Clinical Informatics Sub-Committee. In addition to buy-in from the leadership and nurses, lessons learned were also an essential input resource to better understand the problem at the local level. Finally, another key input resource included approval from the Internal Review Board (IRB) to continue with the implementation.

Next the key activities were outlined, which included research, benchmarking, and briefings. First, the relevant current literature research was completed to fill the gap that was identified by the business need. At the practicum site, the search resulted in no

training available at the military hospital. Several online resources such as high level presentations were found on project management, but no guidance on nursing informatics project management roles and responsibilities. Lessons learned from past experiences from past projects were applied where appropriate. Many scholarly articles were reviewed to outline best practices and options to fill the gaps, but nine articles stood out and were embedded in the guidebook as a resource for additional background information.

Also, professional organizations were benchmarked and applied to the guidebook as a resource for further involvement and knowledge. During the research process, a project management training tool by ProjectMinds was discovered. With permission, which can be found in Appendix D, this tool was edited and modified to apply to the nursing informatics project management guidebook.

Moreover, other key activities included gaining senior leadership approval and identification of nurse stakeholders with varying project management backgrounds to provide feedback throughout the process. After the literature review was complete, the proposed project was presented to senior leadership at the Board of Directors, with the preceptor in attendance, for approval and guidance prior to taking additional actions. The Board of Directors was the final decision making governance body at the military hospital and provides guidance for the project manager from the Clinical Informatics Sub-Committee.

Upon approval from the Board of Directors, the project was socialized with the identified ten nurse stakeholders to request formative feedback and promote change

management. These nurses, who included nurse managers and both junior and more experienced nurses, were recruited through an electronic Clinical Informatics Sub-Committee Co-chair request. It was essential to capture various backgrounds and experiences to ensure the guidebook was at the appropriate level for the target audience, which were nurses who do not have any project management training.

The nurses, with various project management experiences, provided suggestions to improve the content and approach through a Likert scale, which can be found in Appendix A. Formative feedback was essential to ensure the selected intervention and supporting activities are in place and on track to meet the planned goals and objectives (Hodges & Videto, 2011). As a result, several key lessons and elements were provided on how to improve the project such as an introduction to nursing informatics to provide background on the nursing specialty. Another piece of feedback received was an online training since the initial plan was for full day of in class training. Finally, another suggestion was the inclusion of more nursing informatics and policies since many nurses were not familiar with the specialty. As a result, there will be links to professional organizations such as Healthcare Information and Management Systems Society (HIMSS), American Nursing Informatics Association (ANIA), and American Medical Informatics Association (AMIA), which fulfills the last section to provide additional resources.

Once the resources and activities were outlined, the next step in the logic model was to create a deliverable product or output to fill the training gap, which was a nursing informatics project management guidebook. The training intervention was a modified

toolkit as outlined by the Agency for Healthcare Research and Quality (AHRQ, n. d.) for easy access to multiple resources on a particular quality improvement topic. As outlined by the AHRQ, sections in the toolkit include a change management assessment, application of quality improvement to the local hospital data, highlighting the priorities with senior leaders, implementing the intervention, monitoring progress for project sustainment, reviewing the return on investment, and closing with additional resources. Due to limited resources, the guidebook followed a modified structure of the toolkit presented by AHRQ.

Project Evaluation Plan

Finally, the last component of the logic model is the anticipated outcomes which can be measured by the project evaluation plan. In addition to the short term measures of increased knowledge of nurses based on the pre and post evaluation tool, there are several long term evaluation plans for consideration. It was recommended the Clinical Informatics Sub-Committee manage a project portfolio to track project success based on project completing on schedule, within budget, and within scope.

Over time, it is anticipated results and impact will show that money is better spent on technology that fits into the nurse workflow and promotes patient safety. As mentioned, some limitations included lack of hospital data such as money spent on past projects. There is a non-repeatable process with a lack of documentation, which resulted in limited data to review as a baseline. Even though documentation was not found, it is well known there is a need and high priority for nursing informatics project management introduction to ensure projects that improve the nurse workflow and patient safety.

The guidebook can easily be sustainable by the Clinical Informatics Sub-Committee as a teaching tool within the committee and newly assigned nurse projects. The Co-chairs were provided a Word document to update with current articles and new professional organizations over time, which will be converted to a PDF to maintain version control and integrity of the document.

Tools

The primary assessment to measure the impact of the guidebook was the pre and post evaluation tool. It was distributed before the meeting via email, and completed on paper after the guidebook was presented to the Clinical Informatics Sub-Committee. The pre and post evaluation tool was graded to find the overall increase of knowledge gained as a result of the training by identifying the delta among the pre and post outcomes. Upon analyzing the data, there was a review for any high missed questions that may have been outliers and thrown out. However, no high missed questions were identified.

The pre and post evaluation tool did not contain identification data and matched by a number system, and is located in Appendix B. Questions test the knowledge on project management principles and definitions to stress the main talking points of the project management guidebook. The pre and post evaluation tool consisted of 11 multiple questions, which provided an objective evaluation of knowledge gained, which are outlined below:

1. A project is
2. Project management is:
3. Project management is:

4. The five project management process groups are:
5. The nine knowledge areas are:
6. A charter:
7. To gain a better understanding of project management best practices, you should review:
8. A project management plan is:
9. A project plan is:
10. The most often neglected and forgotten process group is:
11. The activities you should do to manage project risk are:
12. The cure for scope creep is:

In addition to the pre and post evaluation for content, a Likert scale was another tool for program evaluation that allowed for formative feedback. This process assisted with program development and change management process. This survey was sent out electronically through a military collaboration site to the nurse stakeholders that were identified to provide input throughout the process. Based on the feedback throughout the process, the project evolved throughout the process to meet the nurses' needs. Below are the questions from the Likert Scale, which ranged from Strongly Agreed to Strongly Disagree along with an opportunity for comments, and is located in Appendix A.

- Overall, the guidebook satisfies my learning needs.
- The guidebook design and layout promoted my learning.
- I gained new knowledge as a result of the guidebook.

- The content was relevant to my job.
- I learned something from this course that I will apply on the job as a project manager.
- Please indicate how the guidebook (content or approach) can be improved or provide any additional comments you have on the course overall.

Summary

The third phase of the project included planning the approach, tools, and evaluation based on the logic model framework. The approach included a guidebook that combines nursing informatics and project management that is similar to the guidelines presented by the AHRQ for quality improvement toolkits. The project evaluation plan was outlined to gather formative feedback with two tools, which included the pre and post evaluation tool and Likert Scale.

Section 4: Discussion and Implications

Summary and Evaluation of Findings

Throughout the research, there were limited resources on nursing informatics project management available. There was an identified need for a nursing informatics project management guidebook that combined the two worlds. In addition to the combination, links to scholarly articles and professional organizations were also made available. Upon dissemination of the scholarly product to the Clinical Informatics Sub-Committee, it was evident the guidebook was well received by the 25 health care professionals based upon attendance, discussion during the implementation, and feedback on the approach. Moving forward, the Clinical Informatics Sub-Committee will create a program to discuss lessons learned which makes the guidebook more specific to the local military hospital.

Discussion of Findings in the Context of Literature and Frameworks

Kitzmiller reported that over 80% of health care projects are not successful, about one third are not finished, and many projects go over budget or past the planned schedule (Bove, 2009). However, there are limited resources and education tools for health care professionals that will improve this statistic, and hence patient outcomes. The nursing informatics project management guidebook was developed based upon current scholarly articles and literature to increase knowledge on nursing informatics project management.

Implications

Implications for social change include increased knowledge and confidence for nurses selected to serve as project managers on health information technology tools.

Overall, the average went from 27% score to an 81% score. In addition to completing the project within budget, scope, and time, which will decrease health care costs, a nurse as the project manager will promote change management and buy-in among fellow nurses instead of a technical person that does not understand the workflow and challenges. As a project manager, the nurse serves in a position to voice nurse concerns among a multidisciplinary team, which promotes and advances the nursing profession.

Project Strengths and Limitations

With any project, there will be strengths and limitations to improve the effort in the future. Overall, the ease of use and multiple resources in one location was an identified strength and promote usability among users. On the other hand, an identified limitation was the inability to apply specifics to the local hospital organization since there are no current active projects in the lifecycle. As project managers complete projects in the near future, there will be an opportunity to capture lessons learned to apply local protocol and share experiences with others.

Recommendations for Remediation of Limitations

As mentioned, one of the identified limitations was the lack of active projects in the lifecycle process. In order to overcome this limitation, lessons can be captured from past project management experience and apply as appropriate. Also, another remediation was to increase nursing informatics and project management knowledge by reading the guidebook, reviewing the scholarly articles, and participating in professional organizations in the down time. When project managers are assigned in the near future, they will be more educated and informed about current trends and the process.

Analysis of Self

Throughout the process, there has been increased growth as a scholar, as a practitioner, and project developer. As a scholar, scholarly writing has improved immensely with including current literature and policy in the background information, identifying the business gap, and need for the proposed health information technology. Also, another scholarly component was to educate others on what governance and leadership approved the project to promote change management and receive guidance. Moreover, as a clinical practitioner, there was an appreciation for the non-clinical work to support the acquisition of health information technology. The non-clinical work can be very time consuming and may take three to six months to capture the “as-is” and “to-be” workflows and other information from the subject matter experts (SMEs), but is necessary to ensure the proper tools are purchased.

Furthermore, as a project developer, there was a better understanding why scholarly articles are needed to validate a gap and identify a proposed intervention. There was also increased confidence and awareness regarding the current policy and trends that can be applied to the scholarly project as well as current position as a requirements manager. Also, there was increased understanding of the governance process and requesting senior leadership approval, which allows the opportunity for guidance from senior leadership prior to initiating a project to avoid wasting resources.

Summary

With the integration of health information technology into the workflow, nursing informatics project management is a skill set that is needed to complete projects on time

and within budget. When a project stays within scope and budget, health care costs decrease and limited risk for patient safety since the project will function as intended. Moreover, nurse leaders as project managers advance the nursing profession by contributing to the multidisciplinary team effort and promoting change management.

Section 5: Scholarly Product for Dissemination

Introduction

The scholarly product for dissemination was a manuscript for presentation to the Clinical Informatics Sub-Committee at a local military hospital. To increase the audience size, was disseminated and shared on the military collaboration page, milSuite. In the future, additional dissemination opportunities include official publication and conferences such as the Summer Institute of Nursing Informatics (SINI) at the University of Maryland or American Nursing Informatics Association (ANIA).

Project Summary

In an effort to combine nursing informatics and project management, the end product included 11 chapters. The first chapter introduced the nursing informatics specialty, current policy, and need for nursing informatics project management. Two organizations, American Nursing Informatics Association (ANIA) and American Medical Informatics Association (AMIA) were highlighted with the mission and objectives of each organization.

As mentioned, current policy was also included based on feedback from nurses. Under the American Recovery and Reinvestment Act of 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act outlined the Meaningful Use standards that include “improving quality, safety, and efficiency and reducing health disparities...engage patients and families in their health...improve care coordination...improve population and public health...ensure adequate privacy and security protection for personal health information” (Castillo & Kelement, 2013, p. 319).

Finally the need and value for nursing informatics project management was highlighted. With the integration of the electronic health record (EHR) and health information technology into the health care workflow and arena, there are expectations to decrease costs and improve patient-centered quality care as outlined by the Institute of Medicine (McGowan, Cusack, & Bloomrosen, 2012). However, Kitzmiller reported that over 80% of health care projects are not successful, about one third are not finished, and many projects go over budget or past the planned schedule (Bove, 2009). More specifically, failed nursing informatics projects “can result in late fees, penalties for continuing use of old systems, the cost of extending consultants, and the opportunity cost of not having the new system in operation” (Kropf & Scalzi, 2008, p. 38).

Structured project management training will improve outcomes to ensure all issues, risks, constraints, and assumptions are discussed before the acquisition and implementation of a new tool. The selected project manager will ensure nurses and clinical representatives are present and active during the discussions to meet the needs of each community to avoid wasting time and money on projects that do not fit into the workflow. As mentioned by Williams and Murphy (2005), project management guidelines “yield high performance rates, quality patient care, and increased employee satisfaction” (p. 41).

The second chapter presented the high level concepts of the Project Management *Body of Knowledge*. The Project Management Institute’s Nine Project Management know areas, which include Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management,

Project Human Resource Management, Project Communication Management, Project Risk Management, and Project Procurement Management. As mentioned, the Project Management *Body of Knowledge* is a common approach in practice (Payne et al., 2011).

The following seven chapters defined what a project is and walked through the project lifecycle process including, initiating, planning, executing, controlling and monitoring, and finally closing. Each section provided a high level overview of the process, roles and responsibilities of the project manager, and activities in each process. The framework of the lifecycle process was reviewed and edited with permission by Project Minds (Appendix D).

Chapter three defined what a project was. As a nursing informatics project manager, the job is to effectively manage the project to completion. For the project to be successful, the project manager needs to understand what exactly constitutes a project, and which criteria are used to determine whether a project is successful or not to complete on time, within budget, within scope, and meets quality expectations.

The next chapter introduced the project lifecycle as defined by the Project Management Institute (PMI) with a five step process including initiating, planning, executing, controlling and monitoring, and closing. During the initiating process (phase one), the project goals are refined, stakeholder expectations are outlined, and risks are determined in the project. At the end of this phase, the Statement of Work (SOW), which is a document that provides a description of the services or products that need to be produced by the project, is the deliverable. During the planning process (phase two), the project in terms of its outcome, team members' roles and responsibilities, schedules, resources, scope and costs will be

outlined. At the end of the second phase, a project management plan, which is a document that details how the project will be executed, monitored and controlled, and closed within the refined project scope, will be produced. During the executing process (phase three), the project management plan is applied, and the team performs the work to produce the deliverables as detailed in the plan. The executing process also involves implementing approved changes and corrective actions. During the controlling and monitoring process (phase four), the project manager supervises project activities to ensure that they do not deviate from the initial plan and scope. The controlling and monitoring phase also involves getting approval and signoff for project deliverables. Finally, during the closing process (phase five), the deliverables are approved and shut down the project or its phases. At the end of the project, a formal project closure document and a project evaluation report will be produced.

Chapter ten provided embedded documents to scholarly articles to provide background on nursing informatics and project management. Access to these scholarly articles expanded the knowledge of the nursing informatics specialty and impact on patient care. Also, the current literature validated the guidebook teaching points and need for nursing informatics project management training. Below are the scholarly articles:

Table 1

Project Management Scholarly Articles

Bove, L. (2009). Project management for the rest of us. *CARING Newsletter*, 24(1), 1-5.










Bove.pdf

Edwards, C. (2012). Nursing leaders serving as a foundation for the electronic medical record. *Journal of Trauma Nursing: The Official Journal of the Society of Trauma Nurses*, 19(2), 111-114.



Edwards.pdf

doi:10.1097/JTN.0b013e31825629db

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| <p>Hefner, D., & Malcolm, C. (2002). 15 essential steps of IT project management. <i>Healthcare Financial Management: Journal of the Healthcare Financial Management Association</i>, 56(2), 76-78.</p> | 
Hefner & Malcolm.pdf |
| <p>Ho, J. (2010). Project management in health informatics. <i>Studies in Health Technology and Informatics</i>, 151413-424.</p> | 
Ho.pdf |
| <p>Murphy, P., Nelson, S., & Spialek, B. (2008). Project management: developing the tools you need to see projects through successfully. <i>EMS Magazine</i>, 37(12), 149-152.</p> | 
Murphy, Nelson, & Spialek.pdf |
| <p>Rojas, C. L., & Seckman, C. A. (2014). The informatics nurse specialist role in electronic health record usability evaluation. <i>Computers, Informatics, Nursing: CIN</i>, 32(5), 214-220. doi:10.1097/CIN.0000000000000042</p> | 
Rojas & Seckman.pdf |
| <p>Shellenbarger, T. (2009). Time and project management tips for educators. <i>Journal of Continuing Education In Nursing</i>, 40(7), 292-293.</p> | 
Shellenbarger.pdf |
| <p>Sokolow, P., & Bowles, K. (2008). Including information technology project management in the nursing informatics curriculum. <i>CIN: Computers, Informatics, Nursing</i>, 26(1), 14-22.</p> | 
Sokolow & Bowles.pdf |
| <p>Williams, J., & Murphy, P. (2005). Better project management, better patient outcomes: Solid project management strategies yield high performance rates, quality patient care, and increased employee satisfaction. <i>Nursing Management</i>, 36(11), 41-47</p> | 
Williams & Murphy.pdf |
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Finally, the last chapter highlighted professional organizations to increase knowledge and awareness of the nursing informatics specialty as well as health information technology organizations. There are multiple opportunities to participate in nursing informatics working groups to better understand the current trends, lessons learned from other organizations, and benchmark against other hospitals that have been successful with nursing informatics project management and health information

technology implementation. Moreover, it is essential to be aware and apply current policy and guidelines to projects at the local level. Finally, the Project Management Institute (PMI) Healthcare Community of Practice provides an opportunity to network and review topics on healthcare management.

Table 2

Professional Organizations

American Nursing Informatics Association	https://www.ania.org/
Healthcare Information and Management Systems Society (HIMSS)	http://www.himss.org/
Office of the National Coordinator (ONC) for Health Information Technology	http://www.healthit.gov/
Project Management Institute (PMI) Healthcare Community of Practice	http://healthcare.vc.pmi.org/Public/Home.aspx
The TIGER Initiative (Technology Informatics Guiding Education Reform)	http://www.thetigerinitiative.org/

Project Evaluation Report

Upon dissemination of the scholarly product to the Clinical Informatics Sub-Committee, it was evident the guidebook was well received by the 25 health care professionals based upon attendance, discussion during the implementation, and feedback on the approach. Next steps include an opportunity to discuss lessons learned which makes the guidebook more specific to the local military hospital. Overall, the average went from 27% score to an 81% score, which answers the project question that the guidebook will increase knowledge on project management. The Sub-Committee was

introduced to the electronic document (PDF), which is available in Appendix F. They will be able to share with project managers when they are assigned to the project, which makes sustainment and usability of the tool feasible and manageable.

Moreover, the guidebook was shared with military nurses and other health care providers among all three Services (Army, Navy, and Air Force) through a military collaboration site, milSuite. MilSuite is a collection of online tools and applications for the purpose of bringing online collaborative methods and secure communities to the entire Department of Defense (DoD). Through this site, there is an opportunity for users to comment and discuss topics, which will continue knowledge sharing. This is now available across the Enterprise, or globally around the world where military healthcare providers are stationed.

Summary

The scholarly project included 11 chapters that outlined the lifecycle process as well as scholarly articles and professional organizations. After IRB approval, it was disseminated at the Clinical Informatics Sub-Committee by 25 health care professionals. The project evaluation report highlighted the success of the project with increased passing rates on the pre and post evaluation tool.

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- Williams, J., & Murphy, P. (2005). Better project management, better patient outcomes: Solid project management strategies yield high performance rates, quality patient care, and increased employee satisfaction. *Nursing Management*, 36(11), 41-47.
Retrieved from
<http://web.a.ebscohost.com/ezp.waldenulibrary.org/ehost/detail/detail?vid=11&sid=163300e2-cdf2-4923-bd52-d9d759c96057%40sessionmgr4005&hid=4114&bdata=JnNpdGU9ZWWhvc3QtbGl2ZQ%3d%3d#db=rzh&AN=2009074146>

Appendix A: Likert Scale for Feedback on the Approach

Please indicate the extent to which you agree with the following statement.

Overall, the guidebook satisfies my learning needs.

Strongly Agree Agree Neutral Disagree Strongly Disagree

The guidebook design and layout promoted my learning.

Strongly Agree Agree Neutral Disagree Strongly Disagree

I gained new knowledge as a result of the guidebook.

Strongly Agree Agree Neutral Disagree Strongly Disagree

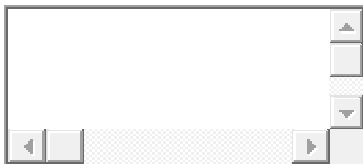
The content was relevant to my job.

Strongly Agree Agree Neutral Disagree Strongly Disagree

I learned something from this course that I will apply on the job as a project manager.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Please indicate how the guidebook (content or approach) can be improved or provide any additional comments you have on the course overall.



Appendix B: Pre/Post Evaluation Tool

1. A project is:
 - a. A group of related projects managed in a coordinated way to obtain the benefits and control not available from managing them individually.
 - b. A temporary endeavor undertaken to create a unique product, service or result.
 - c. An organizational function performing the ongoing execution of activities that produce the same product or provide a repetitive service.
 - d. A function of operations that focuses on sustaining business that may have a one-time configuration or ongoing processes.
 - e. A seemingly insurmountable challenge that when approached in a systematic way makes it appear doable, if only temporarily.

2. Project management is:
 - a. The centralized coordinated management of a program to achieve the program's strategic objectives and benefits.
 - b. The application of information systems to manage in a coordinated way a group of related projects.
 - c. The centralized coordination of operations and programs to achieve the program's strategic objectives and benefits.
 - d. The application of knowledge, skills, tools and techniques to project activities to meet the project requirements.

3. The five project management process groups are:

- a. Initiate, plan, control, execute, close
 - b. Define, design, deploy, evaluate, refine
 - c. Design, measure, analyze, improve, control
 - d. Define, measure, destroy, design, verify
 - e. Initiate, plan, evaluate, execute, close
4. The nine knowledge areas are:
- a. Scope, initiation, price, risk, communication, IT, procurement, schedule, and quality
 - b. Procurement, integration, scope, cost, quality, time, risk, HR, and communication
 - c. Integration, listerine, time, cost, quality, procurement, risk, HR, communication
 - d. Integration, scope, schedule, budget, quality, IT, training, communication
 - e. Scope, initiation, price, risk, communication, HR, procurement, schedule, and quality
5. A charter:
- a. Allows everyone to understand why this project is important, how it fits within the organizational structure and authorizes the work.

- b. Determines whether there is an acceptable and cost-effective approach that can be found to address the business need.
 - c. Produces a high level definition of the project deliverable requirements, product requirements, boundaries of the project methods of acceptance and high-level scope control.
 - d. Determines the grant of authority or rights, stating that the granter formally recognizes the prerogative of the recipient to exercise the rights specified.
6. To gain a better understanding of project management best practices, you should review:
- a. the PMBOK
 - b. the PMI website
 - c. attend PMI chapter meetings
 - d. none of the above - they would not be helpful.
 - e. A, B and C may all be helpful
7. A project management plan is:
- a. A formal, approved document that defines how the project will be executed, monitored and controlled.
 - b. The aggregation of the tools and techniques needed to manage a project.
 - c. Contains only the plans for each of the triple constraints and their baselines.

- d. A document that graphically depicts the project team members and their interrelationships for a specific inter relational diagram to discover root causes.
8. A project plan is:
- a. A formal, approved document that defines how the project will be executed, monitored and controlled.
 - b. The aggregation of the tools and techniques needed to manage a project.
 - c. The plans for each of the triple constraints and their baselines.
 - d. A document that graphically depicts the project team members and their interrelationships for a specific inter relational diagram to discover root causes.
9. The most often neglected and forgotten process group is:
- a. Integration
 - b. Initiation
 - c. Close out
 - d. HR
 - e. Inputs
10. The activities you should do to manage project risk are:
- a. Plan your risk plan, then identify, quantify, analyze, develop plans, monitor and control.

- b. Throw a bunch of money in a risk slush fund and use it as needed, then if it isn't used, you can throw a fantastic party!
 - c. Some projects don't have risks, so only make plans when absolutely necessary.
 - d. Monitor risks and when applicable mitigate, transfer, avoid, or accept risks.
11. The cure for scope creep is:
- a. To clearly identify what work will be completed and what work will not be included and then follow a scope change request process.
 - b. To clearly document the scope of work to be done and then follow the integration change process.
 - c. Use scope frequently and invest in Proctor and Gamble.
 - d. To be sure to communicate with the customer the scope of the project and follow the project plans.
 - e. Take a project management self-defense course.

Appendix C: Approval to Use Pre/Post Evaluation Tool

Re: [79477] ProProfs User Feedback : Other

Sameer Yes - please proceed On Friday, December 5, 2014,
Bhatia <efleischer2010@gmail.com> ...

6:41 PM (18
hours ago)

Yes - please proceed On Friday, December 5, 2014, <efleischer2010@gmail.com> ...

Sameer Bhatia <sameer@proprofs.com>

6:41 PM (18 hours ago)

Yes - please proceed

On Friday, December 5, 2014, <efleischer2010@gmail.com> wrote:

Name: Elizabeth Fleischer, Email: efleischer2010@gmail.com, Purpose: Other, Message: Sir/Ma'am, As a doctorate of nursing practice student, my project is on project management training. The project management preassessment (link below) would be a great addition to my project as the evaluation tool. Requesting permission to use the questions in the project with reference to ProProfs.

Thanks, Liz Fleischer <http://www.proprofs.com/quiz-school/story.php?title=project-management-fundamentals-preassessment>

Appendix D: ProjectMinds Guide Approval

“All the parts of this book can be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise. You do not need the prior written permission or authorization of the author.
www.projectminds.com”

Appendix E: IRB Approval March 6, 2015

Dear Ms. Fleischer,

This email is to notify you that the Institutional Review Board (IRB) confirms that your study entitled, "Nursing Informatics: An Intervention to Improve Governance for Info Management & Info Technology," meets Walden University's ethical standards. Our records indicate that your project does not include the types of activities that require a traditional IRB review. This Confirmation of Ethical Standards (CES) has an IRB record number of 03-06-15-0344759.

This confirmation is contingent upon your adherence to the exact procedures described in the final version of the IRB materials that have been submitted as of this date. This includes maintaining your current status with the university and this confirmation of ethical standards is only valid while you are an actively enrolled student at Walden University. If you need to take a leave of absence or are otherwise unable to remain actively enrolled, this is suspended.

If you need to make any changes to your project, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive confirmation with a status update of the request within 1 week of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for projects conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with these policies and procedures related to ethical standards in research.

When you submitted your IRB application, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to you.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the IRB section of the Walden web site or by emailing irb@waldenu.edu:

<http://researchcenter.waldenu.edu/Application-and-General-Materials.htm>

Please note that this letter indicates that the IRB has approved your project. You may not move forward with your project, however, until you have received the **Notification of Approval to Conduct the Project** e-mail. Once you have received this notification by email, you may move forward with your project.

Appendix F: The Outcome/Impact Sequence Logic Model

Table F1

Logic Model: Outcome/Impact Sequence

Inputs	Work-Steps	Deliverable Product	Goals	Results
Resources	Activities	Output	Outcomes	Impact
Endorsement from senior leadership Support from the Clinical Informatics Sub-Committee Discussions to capture lessons learned from experience Evidence Based Research IRB approval	Literature Review Review national organizations Benchmark against curent project management tools and request approval Brief senior leadership, Board of Directors Brief Clinical Informatics Sub-Committee Recruit nurse stakeholders Design guidebook Implement guidebook Design and implement evaluation plan	Nursing Informatics Project Management Guidebook	Increased knowledge Increased interest in nursing informatics Promoted change management	Better trained and educated nurses to take on the new role Could lead to cost savings in the future

Appendix G: Nursing Informatics Guidebook PDF



Nursing Informatics
Project Management

Curriculum Vitae

Elizabeth Fleischer, DNP(c), B.S., RN-BC, NREMT

LT, USPHS

PHS # 72616

Curriculum Vitae, MAR 2015

Cover Page

PERFORMANCE

- **Department of Defense (DoD) lead** for 4 Health Information Exchange (HIE) projects
- **Department of Defense (DoD) lead** for 3 projects of over 40 members in support of \$29B integrated electronic health record (iEHR) that will serve 18 million DoD and Veterans Affairs (VA) beneficiaries
- **OBC Honor Cadre Training Officer**, adjunct faculty, drafting training protocol

EDUCATION, TRAINING, & PROFESSIONAL DEVELOPMENT

- **DNP**, Walden University (47/52 hours required) 2015
- **MSN, Informatics**, Walden University 2013
- **Health Information Technology Graduate Certificate, GWU** 2012
- **BSN**, George Mason University 2010

Total CE Hours: 37.25 HOURS/ 24 EMT hours

- Registered Nurse, North Carolina Expires JUL 2016
- Advanced Cardiovascular Life Support (ACLS) Expires DEC 2016
- Basic Life Support (BLS), American Heart Association Expires OCT 2015
- American Nurses Credentialing Center Board Awarded DEC 2013
Certification- Informatics

Career Progression & Potential

Title	Agency/Location	Pay Grade	Billet	Dates
Chief, Clinical iEHR	Defense Health Agency Falls Church, VA	O2-03	O5	AUG 12- PRESENT
Clinical Nurse Sr I	BOP, FCC Butner, Butner, NC	O2	O2	AUG 10-AUG 12
Senior COSTEP	George Mason University, VA	O1	O1	SEP 09- AUG 10

Education

Doctorate of Nursing Program (52 quarter hours completed/52 hours required) Walden University, Minneapolis, MN	2015 completion-in progress
Masters of Science in Nursing, Informatics Walden University, Minneapolis, MN	JUN 2013
Health IT Graduate Certificate for Clinicians and Public Health Leaders George Washington University, Washington DC	MAY 2012
Bachelor of Science, Nursing George Mason University, Fairfax, VA	AUG 2010
Bachelor of Science, Health Care Management Wilmington University, Wilmington, DE	MAY 2009
Associate of Science Pikes Peak Community College, Colorado Springs, CO	AUG 2007
Applied Associate of Science, Allied Health Sciences Community College of the Air Force	JUL 2004

Licensure

Registered Nurse, State of North Carolina	Exp JUL 2016
National Registry of Emergency Medical Technician- E1321155	MAR 2017
Pre-Hospital Trauma Life Support No PH-07-0515-13	JAN 2007- 2011
Neonatal Resuscitation Program	AUG 2001-2003

Certification

American Nurses Credentialing Center (ANCC) Board Certification- Nursing Informatics	DEC 2013
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Training

Advanced Cardiac Life Support Provider	Exp DEC 2016
AHA Health Care Provider Basic Life Support Requirements Management at Level b	Exp OCT 2015 DEC 2014
Defense Acquisition University (DAU): Analysis of Alternative Agile Software Development Cycle	JUN 2014 AUG 2013
DAU: Intermediate Systems Acquisition (ACQ201A)	MAY 2013
DAU: Introduction to Earned Value Management (CLB 016)	NOV 2012
DAU: Cost Analysis (CLB 007)	NOV 2012
DAU: Joint Capability Integration & Development System (JCDIS) (CLR101)	NOV 2012
DAU: Core Concepts for Requirements Management	NOV 2012
DAU: Fundamentals of Systems Planning, Research, Development and Engineering (SYS101)	OCT 2012
DAU: Fundamentals of Systems Acquisition Management	SEP 2012

Uniformed Service Education/Training

Officer Basic Course (14 days) US Public Health Service, Gaithersburg, MD	OCT 2010
Non-Commissioned Officer Academy (5.5 weeks) Air Force, Keesler, Air Force Base, MS	JUL 2008
Aeromedical Evacuation, School of Aerospace Medicine (4 weeks) Air Force, Brooks City Base, TX	JAN 2007
Airman Leadership School (6 weeks) Air Force Peterson Air Force Base, CO	AUG 2005
Immunization Back-up Technician (IBT) Air Force Academy, Colorado Springs, CO	AUG 2004
Medical Service Apprentice (20 weeks) Air Force, Wright-Patterson Air Force Base, OH	MAR 2001
Basic Military Training Course (6 weeks) Air Force, Lackland Air Force Base, TX	OCT 2000

Special Skills

- Nursing Informatics Specialist- Board Certified
- National Registered Emergency Medical Technician, 2000-present
- Military protocol on ceremony and drill

Professional Experience

Chief, Clinical Integrated Electronic Health Record (iEHR)/Program Management (O-5 Billet) Defense Health Agency, Falls Church, VA	AUG 12- Present
<ul style="list-style-type: none"> • Lead Functional Program Manager for DoD Health Information Exchange (HIE) efforts. Played vital role supporting White House & Congressionally-mandated Federated Data Accelerator effort to have 7 data domains interoperable between DoD and VA at 9 Polytrauma sites by 31 Dec 2013. • IM lead on two HIE workgroups, one DoD led & one DoD/VA interagency to identify/document requirements gaps to meet Congressionally-mandated targets outlined in the 2014 National Defense Authorization Act (NDAA). • Responsible for requirements development & management of the \$30M VLER and \$15M JEHR projects by serving as functional liaison to DMIX on current legacy systems which include the Bidirectional HIE (BHIE), Federal HIE (FHIE), and Clinical Data Repository/Health Data Repository (CHDR). • Led large interagency DoD-Veterans Affairs (VA) team of over 	

30 members defining business requirements, common process models and identifying business process re-engineering activities to support Care & Disease Management capability

- DoD lead for 3 Capability Integrated Project Team (C-IPT) in the \$29B iEHR program and to assist Interagency Program Office (IPO) in delivering a single Information Technology (IT) solution for two Departments with over 18 million DoD-VA beneficiaries, 270,000 providers in over 1,700 federal healthcare facilities

Clinical Nurse Senior Level I (O-2 Billet)

Federal Correctional Complex Butner, Butner, NC

AUG 10- AUG
12

- Provided evidence-based patient care in psychiatric, operating room, and geriatric settings for 5200 ambulatory and non-ambulatory inmates in accordance with legal, ethical, and institution standards
- Worked on 5A/D in outpatient clinic setting that provided care for patients with multiple co-morbidities
- Served on Health Information Committee, made several suggestions to improve electronic health care record

Nurse Officer Senior COSTEP (O-1 Billet)

George Mason University, Fairfax, VA

SEP 09-AUG
10

- Performed community assessment on Fort Belvoir and presented to public health staff, awarded coin for excellence by Lt Colonel Martinez

Former Military Service

Flight Medical Technician

Delaware Air National Guard, New Castle, DE

AUG 06-
AUG 09

- Non-Commissioned Officer in Charge (NCOIC) of Mission Management: organized monthly cross country trips, ensured travel arrangements for 30+ people
- Airlifted patients before Hurricane Gustav and Ike
- 73 hours combined on C130, C17, and KC135

Former Military Service continued...**Air Force Academy Hospital, Colorado Springs, CO**SEPT 03-
AUG 06

- **Multi-Service Unit-** Provided nursing care to 350 medical-surgical on 13 bed unit; Supervised 2 young airman/preceptor for 17 Phase II clinical students
- **Family Practice Clinic-** Coordinated Preventive Health Assessment for 360 active duty members
- **Immunization Back-up Technician-**Self-administered over 6000 vaccinations to Academy cadets, active duty, retirees
- **Medical coverage** for 6 major events, ensured safety for over 70,000 participants

FEB 01-
AUG 03**Wright-Patterson Hospital, Dayton, OH**

- **Labor and Delivery/NICU/Postpartum-**Provided nursing care to over 1000 neonates, childbearing women, and post-menopausal gynecological patients, participated in over 50 deliveries;

Uniformed Services Award

Office of Secretary of Defense (OSD) Badge	DoD	2013
Unit Commendation	PHS	2012, 2012
Hazardous Duty Award	PHS	2011
Regular Corps Ribbon	PHS	2011
Commissioned Corps Training Ribbon	PHS	2010
Air Reserve Forces Meritorious Service Medal	AF	2009
Commendation Medal with Oak Leaf	AF	2011, 2009, 2006
NCO Professional Military Education Graduate	AF	2008, 2005
Achievement Medal with Oak Leaf	AF	2006, 2003
Air Force Longevity Service Award w Oak Leaf	AF	2006, 2003
Outstanding Airman of the Year	AF	2005
National Defense Service Medal	AF	2004
Global War on Terrorism	AF	2004
Good Conduct Medal	AF	2003
Basic Military Training Honor Graduate	AF	2000
Air Force Training Ribbon	AF	2000

Awards

Nominated for the Military Health System Nursing Leadership Excellence Award		OCT 2014 OCT 2010
Honor Squad-Officer Basic Course, PHS		
Delaware, Air Force Association Non-Commissioned Officer of Year		JAN 2009
Non-Commissioned Officer of the Year, Delaware Air National Guard		DEC 2008
Distinguished Graduate –Non-Commissioned Officer Academy		JUL 2008

Awards continued...

Delaware, Air Force Association Non-Commissioned Officer of Year	JAN 2009
Non-Commissioned Officer of the Year, Delaware Air National Guard	DEC 2008
Distinguished Graduate –Non-Commissioned Officer Academy	JUL 2008
166 th Airlift Wing Non-Commissioned Officer of the Quarter	APR-JUN 2008
142 nd Aeromedical Squadron Non-Commissioned Officer of the Quarter	APR-JUN 2008
Honor Guard Airman of the Year, Air Force Academy	DEC 2005
Honor Guard Airman of the Quarter, Air Force Academy	APR-JUN 2005
Honor Guard Airman of the Year, Air Force Academy	DEC 2004
10 th Medical Operations Airman of the Quarter	OCT-DEC 2004
Honor Guard Airman of the Quarter, Air Force Academy	JAN-MAR 2004
10 th Air Base Wing Annual Colorado Air Force Association Award	JAN 2004
10 th Medical Group Airman of the Year, Air Force Academy	DEC 2003
10 th Medical Operations Airman of the Year, Air Force Academy	DEC 2003
Honor Guard Airman of the Quarter, Air Force Academy	OCT-DEC 2003
10 th Medical Group Airman of the Quarter	OCT-DEC 2003
10 th Medical Operations Airman of the Quarter	OCT-DEC 2003
Honor Guard Motivation Leader, Wright-Patterson Air Force Base	DEC 2002
B-Flight Honor Guard Member of the Quarter	APR-JUN 2002

Professional Memberships

Sigma Theta Tau Honor Nursing Society	2012-Present
Healthcare Information and Management Systems Society (HIMSS)	2011-Present
American Nursing Informatics Association (ANIA)	2011-Present
Association of Military Surgeons of the United States (AMSUS)	2011-Present
American Nurses Association (ANA)	2009-Present

Continuing Education

Date	Conference or CE	Location	Hrs
DEC 2014	ACLS Provider Course	Falls Church, VA	11
MAY 2014	USPHS Nursing Recognition Day: Moving Nursing Forward: Connecting the Dots for our Future	Bethesda, MD, NIH	7.25
JUL 2013	Summer Institute in Nursing Informatics	University of Maryland	4.25
APR 2013	GA HIMSS Nursing Informatics Boot Camp	Atlanta, GA	14
APR 2013	HIMSS Federal Health IT Interoperability and How it Tests Meaningful Use	Rosslyn, VA	0

Publications:

1. *Patient Movement from the Battlefield to Home: DoD Use Case on Interoperability Challenges* presentation at the Summer Institute in Nursing Informatics at the University of Maryland, July 2014
2. *Department of Defense and Veterans Affairs Nursing Informatics Collaboration* poster presented at Summer Institute in Nursing Informatics at the University of Maryland, July 19, 2013
3. *Frontline* (Commissioned Officers Association Monthly Newsletter) Article "FCC Butner: Highly Visible in the Community." September, 2011.
4. *Frontline* (Commissioned Officers Association Monthly Newsletter) Article "Proper Protocol: Taps" September, 2011.

Presentations:

Nursing Informatics Project Management Presented to NPAC	JAN 2015
Are You Basic Ready? Presented for all Capital Area Providers (CAP) teams during conference call	SEP 2013