May 2015

Improving Transitions of Care in the Perioperative Setting

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IMPROVING TRANSITIONS OF CARE IN THE PERIOPERATIVE SETTING

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Doctor of Nursing Practice

School of Nursing
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The Graduate College

University of Nevada, Las Vegas
May 2015

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entitled

Improving Transitions of Care in the Perioperative Setting

is approved in partial fulfillment of the requirements for the degree of

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May 2015

EXECUTIVE SUMMARY

Improving Transitions of Care in the Perioperative Setting

by

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It is estimated that nearly 200,000 Americans die each year due to preventable medical mistakes (Gupta, 2012), and nearly 80% of all medical errors involve some form of miscommunication between healthcare providers (Joint Commission Center for the Transformation of Healthcare, 2013). Handoffs, or the transitioning of patient care from one provider to another, occur multiple times each day in the hospital setting and done incorrectly can lead to significant mistakes in patient care.

The purpose of this project was to improve the quality of handoffs that occurred between perioperative and inpatient nurses at an urban, tertiary medical center. A shared governance model was used to establish a team of key end-users from each of the involved units. These participants reviewed available models for handoff communication and chose a tool as their preferred method. The tool then was customized to include key information that was deemed important by the end users and a final version of the handoff tool was developed. This standardized method was then utilized for most patient handoffs that occurred from the Main Pre/Post Unit (PACU) and Interventional Radiology to two participating inpatient units.

Nurses on each unit were given an eight-question survey to assess their perception of the quality of the handoffs that were occurring prior to the start of the project and the

same survey was administered again at the conclusion of the project. Additionally, to assess compliance with the handoff tool, nurses from both the sending unit and receiving unit were asked to complete a five-question evaluation after each individual patient handoff.

During the pre-implementation period, 86 nurses completed the survey to determine their perception of the quality of the handoffs and their mean score was 4.53 (range 0-8). Forty-six nurses completed the survey post-intervention, with a mean score of 5.78 (range 0-8). Survey results demonstrated a statistically significant difference in the mean scores between the surveys at a $p < .000$ level. This indicates that the standardized handoff tool was effective at improving the perception of quality by nurses.

Individual handoff surveys showed that with the implementation of a standardized handoff tool, 97.4% of nurses that were giving report to another nurse felt that their handoff was accurate and appropriately reflected the patient's condition. In addition, the sending nurses were satisfied with the handoff that they provided 100% of the time. The nurses receiving the report answered that the handoff was an accurate representation of the patient's clinical condition 93.8% of the time and that they were satisfied with the overall handoff they received 89.6% of the time. In summary, the results demonstrated that the standardization of a handoff tool, when patients were moved from a Perioperative to inpatient unit, was able to improve the perceived quality of the handoff.

ACKNOWLEDGEMENTS

I would like to take this opportunity to acknowledge several people who have been instrumental in this journey. To my professional mentors Carol Cleek, Rebecca Gearhart, Liz Carlton, and Rachel Pepper. Each of you have supported me and helped develop my leadership abilities in very different ways. You have been there to give me advice, point me in the right direction, celebrate my successes and pick me up when I was down. Thank you for everything you have done for me.

To Dr. Karen Drenkard and Dr. Deborah Zimmerman. Thank you for your support, encouragement, and for continually building me up. You always believed in me and made me understand the potential that I had. You are filled with so much knowledge of the nursing profession and of leadership, and I hope that one day I can live up to the potential that you saw in me.

To my mother, Katharyn Link, I want to thank you for your never-ending support and love. In addition, the help with babysitting so that I could study and write was more helpful than you can ever imagine.

Finally, to my family. To my son Benjamin. You weren't around when I started this journey, but you certainly became the motivation for me to complete it, and the reason that I try to make myself a better person, nurse, leader and father. I hope that I have given you something to look up to. And most importantly, to my partner Russ. You tell me every day how proud you are of me. Your love and support through the long study sessions, endless reading, and weekend paper-writing has been amazing. Thank you for everything you have done to support me and our family and all the love you have shown throughout the years. I couldn't have done it without you.

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CHAPTER I

INTRODUCTION

The landscape of healthcare continues to progress and evolve. There is a focus on quality and patient safety present in healthcare like never before. While patient satisfaction and patient perception of care have held value for organizations in the past, they now mean more than ever. Patients who bestowed seemingly unwavering trust upon their healthcare providers a short time ago are now actively questioning the quality of the care delivered. The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) provided the first standardized patient satisfaction assessment used throughout the United States (HCAHPS, 2012). This publically reported datum provides an avenue for consumers to take a more active role in their healthcare decisions. For healthcare organizations, the tie between HCAHPS and reimbursement became significant with the signing of the Patient Protection and Affordable Care Act (PPACA) in 2010. This legislation overhauled the United States' healthcare system and now requires hospitals and other care providers to meet standards for patient safety and satisfaction in order to receive federal funding and reimbursement (United States Congress, 2010).

Problem Statement

As healthcare organizations strive to meet these increasingly difficult standards for quality, safety, and patient satisfaction, handoffs of care between providers must take center stage. Handoffs are the transferring of patient information between nurses or other healthcare providers at shift changes, or other times when care is transitioned (Wallis, 2013) with the intent of ensuring continuity of care (Riesenberg, Leitzsch & Little, 2009).

Done correctly, a handoff can provide the receiving healthcare provider with vital information that would be critical to the ongoing care of the patient. However, a handoff that is done poorly may result in miscommunication (Petrovic et al., 2012) and lead to significant errors in care (Wallis, 2013). It is estimated that nearly 200,000 Americans die each year due to preventable medical mistakes (Gupta, 2012), and the Joint Commission Center for the Transformation of Healthcare (2013) conducted research demonstrating that nearly 80% of all medical errors involve some form of miscommunication between healthcare providers. These statistics make handoff communication the root cause of nearly 160,000 preventable deaths each year in the United States.

The Perioperative Division at The University of Kansas Hospital consists of several individual units including the Main Operating Room, Main Pre/Post (PACU), Cardiovascular Operating Rooms, Interventional Radiology, Cardiac Catheterization Labs, Electrophysiology Labs, and the Endoscopy Center. There was a consensus among leaders within the division that there was little standardization in the handoff process for post-anesthesia and post-sedation patients despite the existence of an organizational standard to use the I-SBAR (Identify, Situation, Background, Assessment, Recommendations) format for performing handoffs. Additionally, these leaders believed that the division could see an improvement in quality, safety and patient satisfaction if a standardized process were to be implemented.

Background and Significance

The Institute of Medicine (IOM) landmark report entitled "To Err is Human: Building a Safer Health System" (IOM, 1999) documented that between 44,000 and

98,000 people die annually in the United States as a result of preventable medical errors (IOM, 1999). The IOM (1999) estimated that the annual cost for these errors was between $17 billion and $29 billion. It was this report that first began the debate about improving the quality of healthcare. A decentralized and fragmented system as the main cause, coupled with providers who fail to have access to complete information regarding their patients, were cited as key reasons for many errors. The IOM took this a step further and in 2001 released a second report entitled "Crossing the Quality Chasm: A New Health System for the 21st Century". This report discussed the rapid evolution of technology, the aging and more acutely ill population, and more importantly, uncoordinated handoffs as key drivers of inconsistent quality in healthcare (IOM, 2001).

As a response, in 2006, The Joint Commission developed National Patient Safety Goal (NPSG) 2E. This NPSG mandated that hospitals implement processes for effective handoff communication within their organizations (Petrovic et al., 2012). This handoff process was to include each of the following five components (Premier, 2007):

- Interactive communications allowing for the opportunity for questioning between the giver and receiver of patient information
- Up-to-date information regarding the patient's care, treatment and services, condition and any recent or anticipated changes
- A process for verification of the received information, including repeat-back or read-back as appropriate
- An opportunity for the receiver of the handoff information to review relevant patient historical data, which may include previous care, treatment and services

- Limited interruptions during handoffs to minimize the possibility that information would fail to be conveyed or would be forgotten

While all organizations that adhere to The Joint Commission standards for accreditation were required to comply with NPSG 2E, in the perioperative setting, handoffs had an even more significant role. The multidimensional nature of the perioperative handoff is more complex than in other areas of healthcare (Petrovic et al., 2012). This is largely due to the transfer of knowledge between multiple sets of providers, as well as the transfer of technology, equipment, and additional invasive devices just to name a few (Boat & Spaeth, 2013). In the perioperative setting, the opportunity exists for multiple sets of providers to have influence over the patient's care including surgeons, anesthesiologists, nurses, procedural technologists, radiologists, respiratory therapists, pharmacists, and many others. Research has demonstrated that 70% of incidents that occurred in the perioperative areas were related to handoff problems and communication (Abuzeid, Akbar, & Zacharek, 2012). Despite this, very little has been published on patient handoffs in the perioperative setting.

Purpose

The purpose of this project was to utilize established best practices for patient handoffs to bring a standardized handoff method to the Perioperative Division at The University of Kansas Hospital with the intent of improving provider satisfaction with the handoff process and improving the quality of information transferred between providers. The Association of Operating Room Nurses (AORN) has established recommendations for the effective handoff of patients among care providers. They recommend handoffs based on established best practice techniques which include NPSG 2E and incorporate

templates or checklists to reduce errors (AORN, 2013). Additionally, face-to-face communication during the handoff process has been established as a best practice that should be incorporated into all patient handoffs (Rice-Simpson, 2005).

This project incorporated those recommendations into practice using a shared governance model for staff participation. At the end of the project, the following questions have been addressed:

- What is the change in perception of handoff quality after sedation/anesthesia among perioperative division nurses at The University of Kansas Hospital?
- How effective is a shared governance model at integrating various nursing teams for the purpose of developing a standardized handoff method?
- Can the implementation of a standardized, evidenced-based handoff tool improve the perceived quality of information shared during the handoff process?

Goals and Objectives

The primary goal of this project was to improve the perceived quality of patient handoffs after sedation/anesthesia in the perioperative areas of a major, tertiary care hospital. Specific objectives to achieve this goal included:

- Conduct an initial survey of perioperative and inpatient nurses to determine baseline data on their perception of the quality of handoffs after sedation or anesthesia
- Utilize a shared governance model to involve frontline staff members in the evaluation of the data, determination of best practice handoff tools, and development of a handoff tool for the perioperative division

- Conduct education and training among participating members of the Perioperative Division as well as key inpatient nursing units
- Implement the change process utilizing a Plan, Do, Check, Act methodology
- Conduct a follow up survey of all participants to determine results

Though it was difficult to implement at the time of this project, a future goal for the continuation of this project into the innovation stage consists of utilizing available video technology through a secured platform such as Skype® or FaceTime® to allow nurses to conduct their handoff process face-to-face, but without having to ever leave the bedside. This addition would be expected to continue to enhance the quality of the handoff event, allow inclusion of the patient and their family members in the process, and align the transition with established best-practice evidence.

Policy Implications

This project had several policy implications that should be considered. First, at the organizational level, this project was able to demonstrate improvements in quality and safety by standardizing handoff tools used after sedation or anesthesia. The statistical significance of these results would indicate that a policy change to implement the new practice organization-wide would be appropriate. Finally, on a national level, because there is very little published research regarding perioperative handoffs, as this trial demonstrated a significant improvement in the perceived quality of handoffs, this project could set the benchmark for a national focus at improving perioperative handoffs.

CHAPTER II

REVIEW OF THE LITERATURE

Literature Review

For this project, a thorough literature review was completed. Three university libraries were searched using EBSCOHost and CINAHL. Key words included "nursing handoffs", "post-anesthesia handoffs", "transitions of care", "sedation handoff", and "nursing communication". Each of these searches yielded between 199 and 2,704 results depending on the search engine. The search was then narrowed by only looking at literature available between 2005 and 2014 and where full text copies of the article were available. Types of literature returned included systematic reviews, descriptions of process improvement projects, discussions of different handoff tools, and implementation strategies for new processes. Many of the articles were specific to handoffs involving patients moving from the hospital to the home or nursing home setting. When "sedation" was added to the search criteria, articles returned were largely related to accreditation standards in the Operating Room setting and around sedation practices rather than specifically to the handoffs between providers.

Upon review of the literature, several themes emerged. The first theme was that there is very little published research on structured handoffs. A systematic review by Riesenberg, Leitzsch, and Little (2009) focusing on the use of mnemonic tools to improve handoffs revealed only 46 results. During their study, they determined that the SBAR (Situation, Background, Assessment, Recommendation) model was the most commonly used, appearing in 70% of articles. However, they were able to identify 24 overall models that could be utilized to improve the effectiveness of the handoff process.

A follow up study by Riesenberg, Leitzsch and Cunningham (2010) concluded that "very little research has been done to identify best practices" (p. 24). Both studies determined that there was a significant lack of quantitative data available on handoff effectiveness because there are no established tools for assessing the quality of a verbal handoff (Horwitz et al., 2012).

A second theme that was prevalent in the literature review surrounded the different handoff methods. Handoff methods included written, verbal, phoned, face-to-face, taped, bedside, care plan-based, and reading the chart (Staggers & Blaz, 2012). Authors disagreed however, which of these methods produced the best patient outcomes and minimized safety risks. Riesenberg, Leitzsch and Cunningham (2010) determined that a combination of written and verbal handoff methods produced the best recall among staff members at 96%. However, Welsh, Flanagan, and Ebright (2010) recognized that the literature does not support one method over another as a best practice. Staggers and Blaz (2012) noted that the focus should be not on standardizing the handoff from an organizational perspective, but handoffs should be more contextually based and focused on being more patient-centered.

In order to improve the process of handoffs in an organization, barriers to effective handoffs must be addressed. Riesenberg, Leitzsch and Cunningham (2010) summarized eight key barriers that must be overcome.

- Communication Barriers
- Lack of Standardization
- Equipment Issues
- Environmental Issues

- Lack or Misuse of Time
- Difficulties Related to High Acuity or Caseloads
- Lack of Training or Education
- Human Factors

Horwitz, Moin & Green (2007) found that nurses were more comfortable with the shift change and handoff process once additional education and training was provided to them.

Many experts agreed that while there is not one single best practice handoff tool available, that there are best practices within the handoff arena that should be considered as a part of any change initiative. One of these best practices is the use of the bedside handoff. Bedside handoffs are advantageous because they involve patients in their care more and improve patient-nurse relationships (Sand-Jecklin & Sherman, 2013). Parental involvement in handoffs helped them better understand what was happening with their hospitalized child (Riesenberg, Leitzsch & Cunningham, 2010).

Significance

The advanced practice nurse with the Doctor of Nursing Practice (DNP) degree finds significance in this problem because of the multidimensional nature of the situation. A solution to this problem requires a practitioner that can handle multiple phases of project management. First, the leader of such a project must be able to complete a detailed literature review and translate the evidenced-based best practices into clinical practice changes. Next, they must be able to 'set the table' (Porter-O'Grady & Malloch, 2013), bringing all key stakeholders together and then work within and lead that interdisciplinary team. Finally, to be successful, the leader of the project must be able to

evaluate the outcomes and ensure that the new plan is not only financially viable, but produces the desired quality and satisfaction outcomes as well.

The DNP is frequently in a position of leadership in the organization. This requires them to have the ability to lead interdisciplinary teams, solve complex problems, and bring evidenced based practice to the bedside (Zaccagnini & White, 2011). The literature on the topic of nursing handoffs has noteworthy gaps. Despite this, the advanced practice nurse can utilize available research to implement best practice changes that will improve safety and satisfaction during the handoff process. This will require them to work with not only nurses, but physicians, surgeons, respiratory therapists and many others. The DNP graduate will be uniquely positioned for this type of project management.

Needs Assessment

The University of Kansas Hospital (TUKH) is a tertiary, academic medical center located in Kansas City, Kansas. Licensed for 727 beds, TUKH completed over 31,000 inpatient discharges in 2014, had 53,735 emergency department visits, and nearly 700,000 outpatient encounters (TUKH, 2014). The organization holds distinctions as a Magnet® designated hospital, an NCI®-designated cancer center, a Joint Commission-designated Comprehensive Stroke Center, and is ranked among the top 50 hospitals in the United States in all twelve categories by US News & World Report® (TUKH, 2014).

Informal meetings were held with members of leadership including the Director of Perioperative Services, the Vice President of Perioperative Services, the Director of Quality and Safety, nurse managers of Main Pre/Post and two inpatient units, and several randomly chosen staff members. During these meetings, the group confirmed that no

standardized method of handoffs exist as patients transition from the perioperative to inpatient setting. Additionally, staff members noted that during handoffs, information provided was frequently incomplete. Managers were able to confirm that face-to-face handoffs rarely, if ever, occur due to the extensive time required for nurses to be away from their home unit to complete this task. Everyone questioned indicated that they would be receptive to a standardization of the handoff process and that they believed that it would improve patient safety and satisfaction.

The Perioperative Division of the organization consists of several departments including the Main Pre/Post (PACU) and Interventional Radiology, which were the two units targeted for improvement with this project. The Main Operating Rooms completed 18,411 surgeries in FY 2013 (B. Dolan, personal communication, January 21, 2014) and nearly 6,000 of those patients were recovered in the Main Pre/Post department and subsequently transferred to inpatient units within the facility. During CY 2013, Interventional Radiology cared for 8,585 patients, and 51% of those patients were directly recovered in the department after sedation and then transferred to inpatient units. This translates into over 10,000 handoffs in an average year that have the opportunity to be improved. Improving the handoffs originating from the Pre/Post areas and the Interventional Radiology recovery room provide the organization with the opportunity to drastically impact the safety and satisfaction of patients throughout the hospital.

Description of the Project

Population Identification

The target population for this project was all nurses who were involved in the transition of post-sedation and post-anesthesia patients that presented to the Main

Pre/Post (PACU) or Interventional Radiology recovery rooms who were admitted to select inpatient units. Nursing participants were limited to day shift staff members only, as the majority of handoffs that occur among the target units take place between the hours of 7am and 7pm. Handoffs that involved patients of both genders above the age of 18 were included in the project. To limit the handoff volume to a manageable level for this initial trial, only those handoffs that occurred between the perioperative units and two select inpatient units were eligible. These two care areas, Unit 51, primarily a trauma and general surgical floor, and Unit 66, a Medical/Telemetry and Progressive Care Unit, were chosen due to the high frequency with which perioperative patients are admitted to those units.

Identification of Key Stakeholders

This project was sponsored by the division of Perioperative Services at The University of Kansas Hospital. Key stakeholders for this project included:

- Nurses in the Main Pre/Post (PACU) and Interventional Radiology units of the Perioperative Division
- Nurses working on Unit 66 and Unit 51.
- Patients having procedures in Interventional Radiology or surgery in the Main Operating Room and their family members
- Organizational safety officers and the Director of Quality
- Director of Informatics
- Director of Perioperative Services
- Organization administration including the CEO, COO/CNO, and Vice Presidents of Patient Care Services and Perioperative Services

Assessment of Available Resources

Main Pre/Post (PACU) & Interventional Radiology

- Registered Nurse: Receives the patient after surgery and/or the procedure and monitors the patient throughout the recovery process. Ensures patient recovery to baseline and completes any post-procedure or post-operative orders, testing, or additional interventions. Prepares information for handoff to inpatient unit and includes patient and their family in the handoff process. Facilitates transfer of patient to their inpatient unit.
- Information Technology Liaison: Works with department leadership and staff members to optimize the electronic medical record (EMR). Develops EMR reporting as requested.
- Business Analyst: Coordinates the collection of data from hospital databases as requested.

Inpatient Units

- Registered Nurse: Prepares for the patient arrival on the inpatient unit post-procedure or post-operatively. Receives handoff from Interventional Radiology or Pre/Post (PACU) nurse. Asks clarifying questions to ensure all appropriate information is transferred between providers. Validates all lines, drains, airways and pump settings for accuracy upon arrival to unit.

Team Selection & Formation

Team selection was conducted well before the actual implementation of this project. Interventional Radiology was chosen as a participating department because of the student's direct professional tie to that area. During discussions of the project with

hospital leaders, the Main Pre/Post unit was identified as having similar handoff inconsistencies, and therefore this project had the potential to make important patient care improvements in this area. Meetings were then held with each of the Main Pre/Post managers who agreed to participate in the project and felt that their staff members would be eager to improve the handoff process. Leaders in the Interventional Radiology and Main Pre/Post units were interviewed to determine to which inpatient units their patients were most frequently assigned. Short meetings were then conducted with those unit managers to help gauge interest in participating in the project. Both inpatient units quickly agreed to participate.

Team formation for the project implementation took place during the summer of 2014 and utilized a shared governance model. Shared governance is a "managerial innovation that legitimizes nurses' control over their practice" (Hess, 2004) by allowing nurses to participate in the decision making that will ultimately affect how they deliver care to their patients. The shared governance model has been shown to "harness the collective intelligence of professional nurses by empowering them" (McDowell et al., 2010, p.37) and is one of the foundational structures of Magnet® organizations (ANCC, 2014).

Managers from each of the participating units selected two front line nurses to be a part of the planning committee. Additional members of the committee included the managers of each of the participating units and the Perioperative IT liaison. The business analyst was also available to participate in an ad hoc capacity when needed. The committee was scheduled to meet bi-weekly throughout the project with goals of determining which best practice handoff tool to use, how to alter the tool to standardize it

to the needs of this group, and how to evaluate the effectiveness of the change process. It is imperative that nurses meet to discuss the important information that they need to have during the handoff process and in what order that should be presented (Wallis, 2013). The project implementation team also became the content experts and 'super-users' on their respective units and were used to train their peers regarding the new process. Finally, all staff members on each of the four units became part of the team as the project reached the implementation phase.

Cost Benefit Analysis

The cost of this project was minimal from an organizational standpoint. The most significant costs were the salary dollars required to allow staff members to participate in the project planning sessions and to work with their peers as project champions. For the salary portion of the costs, to have nine people meet bi-weekly for one hour for 16 weeks and have 30 minutes of unit-based project time every other week (see Table 1), the organization agreed to commit a maximum of $3,712.20. This included an average annual salary for a registered nurse nationwide of $65,470, which translates into $31.40 per hour, and an average annual salary for an IT Manager of $58.15 per hour (US News & World Report, 2012). Nurses managers are exempt status, salaried employees and therefore their wages were not included as part of the direct costs of the project. The total estimated cost for this project was $3,712.20, however it should be noted that routine meetings of the committee occurred less than planned and much of this expense was never realized.

Table 1: Project Salary Costs

Committee Member	Estimated Hourly Rate	Hours /wk	16 weeks of bi-weekly meetings	Additional estimated unit-based work hrs	Total Cost
Unit 66 Nurse 1	$31.40	1	8	4	$376.80
Unit 51 Nurse 1	$31.40	1	8	4	$376.80
Interventional Radiology Nurse 1	$31.40	1	8	4	$376.80
Main Pre/Post Nurse 1	$31.40	1	8	4	$376.80
Unit 66 Nurse 2	$31.40	1	8	4	$376.80
Unit 51 Nurse 2	$31.40	1	8	4	$376.80
Interventional Radiology Nurse 2	$31.40	1	8	4	$376.80
Main Pre/Post Nurse 2	$31.40	1	8	4	$376.80
Information Technology Liaison	$58.15	1	8	4	$697.80
Interventional Radiology Manager	Salary	1	8	N/A	$0.00
Main Pre/Post Manager	Salary	1	8	N/A	$0.00
Unit 66 Manager	Salary	1	8	N/A	$0.00
Unit 51 Manager	Salary	1	8	N/A	$0.00
Total Project Salary Cost					**$3,712.20**

Financial benefits resulting from this project were difficult to define, as no direct data are available that would describe the financial impact of improving patient handoffs. It was assumed that this project would improve both patient and nurse satisfaction levels which could directly impact hospital reimbursement and nursing turnover. Each of these has significant potential to affect the organization's financial performance. In addition, it was expected that this project would improve the quality of handoffs and that consistent, important information would be exchanged among providers that would prevent significant problems from occurring. Improving the handoffs in a way that allows the receiving provider to eliminate even one central line associated blood stream infection (CLABSI) at a cost of $22,939 (Scott, 2009) would easily pay for the costs associated with implementing this project.

Project Scope

This project was conducted over a 16-week period beginning in August, 2014. The scope of this project included the following elements:

- The development and face validation of a survey tool to assess the perceptions of staff nurses in both perioperative and inpatient units regarding the safety and quality of nursing handoffs between the units
- The development and testing of a standardized handoff tool customized for the perioperative handoff utilizing established best practices

A formal presentation will be delivered to hospital administration and senior nursing leadership with a summary of the findings and future recommendations for consideration by the organization.

CHAPTER III

THEORETICAL UNDERPINNINGS

This project required nurses to change their current handoff process to be more structured, which the student anticipated would initially slow their workflow and create frustrations. Most nurses tend to find this type of change process to be very difficult (Costello, 2010). Therefore, three distinct theories were utilized as the theoretical underpinning of this project in an effort to provide a significant amount of structure to the change process as well as ease the transition pain experienced by participants. Lewin's Theory of Planned Change and Meleis' Transition Theory both speak to the structure of change and how it was incorporated within this project. As this project was being driven in a top-down format, Lewin's Theory of Planned Change was an ideal approach (Shirey, 2013). Deming's FOCUS-PDCA model describes the process of evaluating change that was utilized throughout this project.

Lewin's Change Theory

Kurt Lewin developed his Theory of Planned Change in 1951(Zaccagnini & White, 2011). Lewin theorized that change is a dynamic process impacted by social forces that work either for, or against the planned change (Shirey, 2013). In order for the change process to be successful, the driving (helpful) forces must overpower the restraining (hindering) forces as the change process progresses. This movement from restraining to driving forces takes place along a continuum that encompasses three distinct stages.

Figure 1. Lewin's Theory of Planned Change. (Civil Service College, 2014).

The first stage in Lewin's model is the Unfreezing stage. It is during this stage that the change agent identifies the need for a change and participants are prepared for the upcoming change process. Imperative in this stage is the identification of the restraining forces so that the nurse leader can be adequately prepared to counteract them and begin the process of moving hindering staff members toward acceptance of the new process (Lee, 2006). In the Unfreezing stage, the leader presents the change process to the participants, goals are set, and the leader works to obtain buy-in from those affected by the change. Strategies that can be utilized by leaders in this stage include the presentation of data, demonstrating positive patient outcomes as a result of the change, and creating a sense of urgency (Shirey, 2013).

In this project, the Unfreezing stage started in early 2014. Hospital leaders identified the needed change and determined which units needed to be included in the initial project. The student then began the process of building a strong base of driving forces such as other nurse managers, quality leaders, and hospital administration. Additionally, during staff meetings, the student began casual discussions with staff members about the handoff process and how it could be improved. These types of discussions allowed nursing leaders to identify those staff members that might be more

resistant to the change than others, as well as to identify those that can be champions for the project.

The second stage in Lewin's model is the Moving or Transitioning stage. Rather than an actual, physical move, for Lewin this is more of an internal transition whereby participants begin to accept the new process and find ways to incorporate it into their workflows (Shirey, 2013). This does not happen easily however. The project champions first must develop a plan of action with clearly established goals that encourage engagement. Leaders then create a culture of open communication and participation that invites participants to share feedback, feel involved, and help own the change process (Lee, 2006). Methods for achieving this include conducting comprehensive education sessions and engaging staff members in the development of tools that will help them during the project (Stevens, Bader, Luna, & Johnson, 2011). Finally, nursing leaders must be continually observant for signs of participant fearfulness or sabotage which could jeopardize the entire project. At this stage, it is necessary to begin tipping the scales in favor of driving forces by bringing on additional positive resources and completing coaching sessions to remove fears. For this project, the Moving stage took place in the fall of 2014 when the project was officially introduced to staff members and they were engaged in the process.

The third and final stage of Lewin's change theory is the Refreezing stage and refers to the sustainability of the change. Movement into this stage signifies a successful implementation of the process change, however without a significant, continued effort at maintaining this success, participants are likely to revert back to old habits and the project will ultimately fail (Lee, 2006). It is during this stage that project leaders must

stabilize the change by ensuring that the change is reflected in policy, the culture reflects the change as the new norm, staff members are supported by leadership, and that continued compliance with the change is continuously monitored by organizational leadership. The Refreezing stage of this project is currently taking place and will continue over a period of approximately six months in the early parts of 2015.

Meleis' Transition Theory

A second theory that helped establish a framework for this project was Transition Theory by Afaf Ibrahim Meleis. While Lewin's Change Theory provided structure for end-users regarding the process for changing the handoff workflow, Meleis' Transition Theory provided a framework for end-users to understand the physical transition process between care areas from the patient's perspective. In this project, this transition is represented by the patient's movement from the perioperative arena to the acute care inpatient setting and to another set of healthcare providers.

Transition Theory was developed in the mid-1960s when Meleis noted the differences with which patients transitioned through major events in their lives. She initially focused on developmental transitions such as birth, adolescence, menopause and death. However, this theory was later expanded to include multiple aspects of the healthcare experience (Im, 2010). The role of the nurse in Meleis' theory is to help patients complete a healthy transition. Using either role supplementation or role clarification the nurse can assist the patient in achieving this goal. In this project, both were utilized as motivational tools to engage staff in the change process.

There are several types of transitions that are a part of the most current Transition Theory model. First are the developmental transitions that were a part of Meleis' original

work. Added however, are health and illness transitions, organizational transitions, and patterns of transitions. Health and illness transitions refer to the transitions that patients undergo as part of the healthcare experience and can include things like the transition into the recovery process from an acute illness, the discharge process from an inpatient setting, or in the case of this project, the transition of care from one care area to another. Important in this theory is that the nurse understands the patient's experience during a particular transition, and that the patient's transition pattern can be inclusive of multiple transitions at any one time. The nursing plan of care needs to be adapted to account for each of these transitions and ensure that the nurse does everything possible to safely transition the patient to their destination.

Once the type of transition has been identified, Meleis created five properties of a successful transition that must also be present. These properties include: awareness, engagement, change and difference, time span, and critical points and events (Im, 2010). For this particular project, two of these properties took on significant importance. First, awareness is a critical part of the transition of care between the perioperative units and the inpatient teams. All patients within this project had recently been exposed to anesthesia or moderate sedation. It was imperative for the nurse to have an understanding of the patient's current sedation level and mental state and incorporate that information as they planned the transition. The patient was not likely fully aware of his/her impending transition and may not have been able to answer handoff questions, verify his/her identity, describe his/her pain levels, or discuss his/her medications and allergies, just to name a few of the issues that could have occurred. If the patient was to successfully achieve a healthy transition, the nurse must consider this as the handoff took

place. The standardization of the handoff process needed to include this factor for the handoff to be truly effective. This was also an opportunity to make sure that the patient's family members were included in the process so that they could serve in a surrogate capacity for the patient if necessary.

Second, engagement was an important property that needed to be fully considered as part of the transition process within this project. "Engagement refers to the degree to which a person demonstrates involvement in the process inherent in the transition" (Im, 2010, p.420). Engagement is tied directly to the patient's awareness property, in that the patient who is not aware of the transition cannot effectively engage in that process. One of the goals of this project was to include the patient in the handoff process. The nurse therefore, needed a good understanding of the patient's engagement level if the handoff was to be successful. Additionally, the nurse needed to be able to apply interpersonal skills to encourage engagement in any patient that might have be unwilling to participate in the process.

The final piece of Meleis' Transition Theory that was considered as this project progressed was that each patient has his/her own set of transition conditions. Each patient has external factors that influence his/her ability to transition into new levels of care. Meleis defines these as personal, community, or societal factors (Im, 2010). Personal conditions are those that make the person who they are and include cultural beliefs, socioeconomic status, and knowledge. It was important for the nurse to understand as many of these personal conditions as possible, as failure to do so could dramatically hinder the patient's transition experience. Community and societal

conditions are more likely to enhance the transition experience rather than harm it, but again, only if the provider has a good understanding of those dynamics.

Once the properties and conditions have been explored by the nurse, a detailed care plan can be developed that will help the patient with a good transition. Process indicators, or processes that move the patient toward his/her goal, can then be implemented by the nurse. These include beginning tasks such as connecting with the patient, interacting with the patient, developing confidence, and enhancing coping skills (Im, 2010). As this project progressed, and the standardized handoff tool was developed by the project team, it became more important that these factors were considered and incorporated into the process.

W. Edwards Deming's FOCUS-PDCA Model

The final theory that was utilized as a foundational model for this project is W. Edwards Deming's FOCUS-PDCA Model for quality improvement. Unlike the other theoretical frameworks used during this project, Deming's theory was used to continuously improve the final product and ensure that statistical variation in the outcome was minimized. Deming first developed his theory for quality improvement in post-World War II Japan where he was tasked with developing quality initiatives to help the country rebuild its military and agricultural sectors (Sollecito & Johnson, 2013). His theory, which focuses largely on minimizing statistical variation in quality quickly took hold in other areas of manufacturing, but it was not until the 1980s that his theory took hold in the United States healthcare market.

The FOCUS-PDCA Cycle is made up of five initial steps followed by the PDCA (Plan-Do-Check-Act) Cycle (Clare, Chow-Chua, & Goh, 2000). The five steps include

Focus on a process to improve, Organize, Clarify, Understand, and Select. Focusing on the process to improve is about selecting a process that could stand to be enhanced. This can be any process that the organization or individual believes warrants attention. Organizing involves getting key players and stakeholders to the table to join in the process. Clarifying utilizes statistics, data, chart review, analysis, and other concrete methods to solidify the scope of the problem for the stakeholders. Understanding requires the stakeholders to interpret the data and realize where the current process varies from the expected outcomes, established standards or evidenced based results. Finally, Selecting is about choosing a method for improving the process that will eventually be implemented (Bader et.al, 2003).

After completion of the FOCUS portion of the cycle, the model moves into the circular PDCA part of the process.

Figure 2 – W. Edwards Deming's PDCA Model, (CFMC, 2014).

During the Planning phase, the stakeholders will develop a plan around improving the process. It is important that this is extremely comprehensive and considers all variables. The "Do" part of the process involves actually implementing the plan, followed by

"Checking" to see what results were realized once the plan was fully completed. This involves obtaining new data and analyzing it in comparison with the baseline results. Finally, any changes to the system that must be made as a result of the new data would be implemented in the Act portion of the model, and then again the results would be re-checked and the cycle would continue in an ongoing manner (Bader et.al, 2003).

For this particular project, the FOCUS portion of Deming's model was utilized during the planning phase. Data were shared with project team members who were then able to complete an analysis and select an appropriate handoff tool to be used. The PDCA cycle was then implemented to plan a change, implement the new handoff process, and re-evaluate the nursing perception survey data as compared with the baseline results. This provided the project team with an excellent foundation to make additional changes if necessary until a variation-free handoff model could be fully implemented within the division in the future.

CHAPTER IV

PROJECT PLAN & EVALUATION PLAN

Project Plan

Setting

This project took place at The University of Kansas Hospital during handoffs that occurred between key areas of the Perioperative Division and two inpatient nursing units. The Main Pre/Post (PACU) and Interventional Radiology areas are physically located on the second floor of the main hospital. Inpatient units 51 and 66 are located on the upper floors of the main hospital building. In the established model, as patients are nearing the end of their sedation or anesthesia recovery period, the perioperative nurse would contact the inpatient nurse via telephone to provide a handoff report. This conversation may require several phone call attempts before both nurses were available to have the conversation. Once the connection was made, the sending nurse provided a brief report to the receiving nurse and provided him/her with the opportunity to ask any additional questions. There was no standardized format for these handoffs.

After the verbal report was given, the perioperative staff member used the hospital electronic medical record system to request a transporter, and then awaited patient transport to the inpatient unit. This could sometimes be a delay of up to sixty minutes depending on the availability of transport staff. The patient was then relocated by transport staff members to the inpatient destination.

Intervention

A shared governance model was used to develop a standardized tool that would guide the perioperative nurses as they delivered this verbal report to the inpatient team.

The standardized tool not only created a consistent reporting process, but also ensured that key components of the patient's care and status were not missed during the handoff process. Developing work teams on each of the units for this project was expected to foster improved teamwork and a better understanding of workflows on other units which was expected to improve the nurses' overall satisfaction with the handoff process. For the purposes of this project, a paper version of the tool was administered.

Measurements, Instruments & Activities

Project outcomes were measured in several parts. First, a quantitative structured survey instrument was used to measure nurse perceptions regarding the quality of the handoff report. As there is very little opportunity to directly tie a quality outcome measure to improvements in the nursing handoff process, to adequately assess the success of this project, the *perception* of quality was used to serve as a proxy for handoff quality. An eight-question survey, the Nursing Perception of Handoff Quality, (Appendix A) was administered to frontline staff nurses working in all participating nursing units prior to beginning the project and then again at the conclusion of the sixteen week trial period. This survey was structured using a Yes/No framework. The survey was independently developed, but based on two exemplar surveys that had been completed in other institutions also working on nursing handoff improvement projects, as well as on the recommendations of the Association of Operating Room Nurses (AORN, 2013). Project team members had the opportunity to provide end-user feedback on the survey prior to implementation as validation of the instrument. Sand-Jecklin & Sherman (2013) developed a Nursing Assessment of Shift Report instrument to measure the nurses' perception of the quality of their patient handoff. They incorporated seventeen Likert-

type questions using a 1-5 scale and a narrative option at the end of each question. Similarly, Thomas & Donohue-Porter (2012) asked nurses seven questions using a 1-6 Likert scale format. The difference in the Thomas and Donohue-Porter study was that the survey was completed weekly throughout the trial and results compared throughout. In both cases, the method of evaluation was felt to be adequate to measure the success of the project.

Next, as a method of measuring compliance with the new handoff method and measuring individual handoff results, a survey was completed after each handoff between the participating units. This survey, the Patient Handoff Quality Survey – Individual Encounter (Appendix B) again used a Yes/No framework and asked the sending and receiving nurse to each answer five questions specific to their portion of the patient handoff that just took place. These surveys were collected weekly and entered into a database for further analysis throughout the project.

Timeline

This project took place over an eleven-month period from spring 2014 through spring 2015. The student completed the initial project proposal defense on April 8, 2014. A Letter of Authorization for this project was requested and received from The University of Kansas Hospital nursing leadership on March 17, 2014 (Appendix C). This letter and a completed electronic Internal Review Board (IRB) application were submitted to the University of Nevada, Las Vegas (UNLV) immediately after proposal defense (Appendix D). Once IRB approval was received from UNLV on June 2, 2014, the project was submitted for approval from the Human Subjects Committee at The

University of Kansas Hospital. This approval was received on July 28, 2014 (Appendix E).

Project implementation began in earnest in August of 2014 with the establishment of the project team, development of the survey tools, education of participating unit staff members, and implementation of the handoff tool. The new handoff tool use continued for nine weeks, during which project team members persisted in working with individual staff members to solidify the change process. A post-implementation survey was then conducted at the end of the project starting December 1, 2014 and was left open for completion by participants for a period of four weeks to measure change in perception of the quality of nursing handoffs among the units. The final defense of this project is scheduled to be completed on March 13, 2015 and will be submitted to the Graduate College later that same month. A detailed timeline of events can be found in Appendix F.

Project Tasks & Personnel

Within this project, there were seventeen major project tasks that needed to be completed (Appendix G). While all team members had some responsibility for each of the tasks, the student took on the majority of the ownership. The first phase of the project was the Planning phase and the first task was the formation of the project team. The student began the team formation process in early 2014 by recruiting managers of inpatient units to join the project. Additional members joined the team as the project moved forward. The student was then responsible for developing the meeting schedules, securing meeting rooms, and establishing agendas for the project team to work from.

During the meetings, the project team worked on three individual tasks. First, they needed to validate the proposed survey tool as an instrument to measure nurses'

perceptions about the quality of the current handoff method. Second, select team members reviewed the literature and then the entire team developed a handoff tool that could be standardized to the perioperative division. Finally, this team was responsible for educating the end users on each of the participating units and championing the roll out process.

During the 'Do' stage of Deming's change process, tasks that were completed included the actual implementation of the handoff tool by end users, and participation in the process by patients and families. This is followed by the 'Check' stage, which involved conducting the pre/post implementation surveys as well as the individual handoff surveys. The student was then responsible for completing a detailed analysis of the survey results. The final stage is the 'Act' stage where the results are reviewed with staff members, and changes are made to the system to further improve the process. These tasks will be completed by the student in the coming months.

Potential Risks & Threats

There were two major risks or threats to this project that were considered to ensure a successful implementation. The first risk was that staff members might not perceive that the handoff process contained opportunities for improvement, thereby reducing their willingness to change their workflow. This project was being conducted based on anecdotal information from nursing leaders throughout the division that felt that handoffs had an opportunity to be improved. If staff members who perform this function daily failed to realize this same opportunity, then they would be unable to move past the first stage of Lewin's change theory, which would render this project useless. Pre-implementation surveys were conducted prior to the project start date to use as a baseline

with the hope that the results would validate the initial perceptions of the organization's nursing leaders.

The second major threat to the project was a lack of staff member engagement. While compliance with a new handoff tool can indeed be mandated by department leaders, a true transformational leader is able to create a vision for the change process and inspire staff members to help achieve it (Yukl, 2013). If the student and other project leaders were unable to develop a shared vision that could be adequately transitioned to staff members, then buy-in for this project would have likely been very low and consequently, compliance with the use of the handoff tool would have been low as well.

Evaluation Plan

Marketing Plan

The marketing for this project was completed internally. During the planning phase, meetings were held individually with the nurse managers of all of the participating units. The core concepts and implementation plan were discussed in a casual setting and each manager was offered the opportunity to participate and to identify two staff nurses who would be willing to be 'champions' for their unit. During the implementation phase of the project, the unit-based champions and their manager met with all unit nursing staff during mandatory staff meetings to review the project, set expectations for participation, and provide education for the handoff tool, and the survey tools. In the summer, 2015, the project will be presented to the organization Chief Nursing Officer and the Vice Presidents for Patient Care Services and Perioperative Services for consideration for organization-wide implementation.

Financial Plan

The University of Kansas Hospital agreed to provide the financial support for all personnel participating in the project and supported all office space, supplies, and other equipment for the project. There were no other expenses associated with this project. The University of Kansas Hospital Patient Safety Fund Grant was available as a funding source should additional expenses have developed; however this funding was not needed. A detailed budget can be found in Appendix H.

Institutional Review Board Approval

This project was submitted to the Internal Review Board (IRB) at the University of Nevada, Las Vegas in May 2014 as a Program Evaluation. Exempt status was sought and received for this particular project as no specific patient identifiers were collected. Approval as an exempt status project was awarded by the UNLV IRB on June 2, 2014. Presentation to the Human Subjects Committee (HSC) at The University of Kansas Hospital occurred in late June 2014, also as an exempt status project. Approval from The University of Kansas Hospital was granted on July 28, 2014.

CHAPTER V

SUMMARY & RESULTS

Project Summary

Initiation of the Project

Prior to the start of the project, emails were sent out to all project team members containing reference articles on handoff effectiveness, different formats of handoff tools, and the studies mentioned from the literature review. Team members were instructed to review these resources and arrive at the initial project planning meeting prepared to discuss them in depth. The group met to kick off the project and after an initial discussion, quickly came to consensus that the SBAR format for handoffs would be the most effective considering the patient types and culture of the organization. The team then began examining current handoff tools, the electronic medical record documentation, and other existing sources of information.

Once this review was complete, the group began brainstorming content topics that they felt were critical for inclusion in any patient handoff scenario. Interesting findings occurred during this portion of the process, as it quickly became clear that pieces of patient information that one unit felt was critical to an effective handoff was deemed as unnecessary by other units. For instance, the perioperative teams had always been concerned with informing the inpatient nurse regarding the types and dosages of sedation or anesthesia medications given to the patient during the procedure. The inpatient teams however found this information to be extraneous, since every patient arriving on their unit should have already been completely recovered from any sedation or anesthesia, and they could also easily look up this information in the EMR as needed.

After an exhaustive discussion of each of the handoff items, the group arrived at consensus regarding which items should be included in the standardized patient handoff. These items were then categorized within the SBAR format and developed into a written handoff tool. The group made several edits to this tool over the next few weeks and by mid-August, 2014, a finalized version of the tool had been completed (Appendix I).

Also at this time, project champions were completing education with all staff members on their home units. Done during staff meetings and informal meetings at the start and end of each shift, champions were able to reach all of the appropriate staff members within a few days. During these meetings, the project champions reviewed the need for the project improvement, educated regarding the handoff document, discussed the surveys that would need to be completed, and answered any questions that staff members might have had. After this was completed, the student personally met with every staff member on each of the participating units and completed the informed consent process. Two consents were signed by each nurse that chose to participate – one to complete the Nursing Perception of Handoff Quality Survey, and another to complete the Patient Handoff Quality Survey – Individual Encounter. In total, 90 nurses signed consents to participate in the project, which represents 95.7% of the eligible nurses.

Table 2: Consents

Unit	Total Day Shift Nurses	Nurses Consented	% Participation
Unit 51	18	15	83.3%
Unit 66	21	21	100.0%
Main Pre/Post	36	36	100.0%
Interventional Radiology	19	18	94.7%
Total	94	90	95.7%

At the conclusion of the informed consent process, the Nursing Perception of Handoff Quality Survey was sent via email to all individuals who completed the consents. Participants were given two weeks to complete the survey online. All results of the survey were blinded and no identifiers were used other than the home unit of the employee.

The go live of the standardized handoff process occurred on September 4, 2014. Multiple copies of the handoff tools were placed at each nurse's station on both the Main Pre/Post and Interventional Radiology units. The student met with the Unit Coordinators of each unit on go-live day and encouraged them to ensure compliance with using the tool as patients were admitted to the targeted inpatient units.

Monitoring of the Project

The student monitored the project throughout the duration of the intervention period. Each week, the student rounded on all of the participating units at least twice. During that time, informal discussions were conducted with staff to encourage them to participate in the process and to determine barriers they were having.

During each handoff between the perioperative units and the inpatient units during the intervention period, each nurse was asked to complete the Patient Handoff Quality Survey – Individual Encounter. This allowed the project team to measure each individual handoff and whether or not the handoff was deemed safe by the sending and receiving nurses. As weekly rounds were completed, the student also collected any Patient Handoff Quality Survey – Individual Encounter forms that had been completed. This allowed for a near-real time evaluation of the quantity of handoff tools that were being used so that trends could be monitored.

Threats & Barriers to the Project

As the monitoring of the project continued, several threats and barriers to project success were identified. First, it was quickly noted that participation from the Main Pre/Post staff nurses was inconsistent and that the handoff tool was not being used for all patient transfers to the target inpatient units. At the start of the project it was estimated that between five and ten patients move from the Main Pre/Post unit to the two targeted inpatient units each day. Therefore, between 25 and 50 opportunities existed each week to utilize the handoff tool. Table 3 demonstrates the use of the handoff tool for patients originating in the Main Pre/Post unit for the duration of the project.

Table 3: Main Pre/Post Participation

Week	Times Handoff Tool Used
1	4
2	7
3	1
4	7
5	4
6	2
7	3
8	3
9	2
TOTAL	33

The student and other project team members met with the Main Pre/Post staff weekly to determine what was causing this lower than expected participation. It was discovered that several staff members had not fully engaged in the project or simply forgot to use the handoff tool, thereby causing the number to be unusually low. In addition, hospital census was at an all-time high during several weeks of this project. As such, inpatient

units were at capacity and patients who normally would have been admitted to one of the target inpatient units were admitted to other locations within the hospital, again reducing the number of appropriate candidates for the handoff tool.

A second threat to the project that was identified was construction on Unit 51. Several weeks into the project implementation, construction began to fully renovate Unit 51. As a result, up to 25% of the unit's rooms were closed at any given time which reduced the number of open beds that the unit had available to accept patients from the perioperative units. This too likely had a profound effect on the number of appropriate handoff tool candidates.

A third barrier to the success of this project was survey fatigue. This likely played a factor in the number of post-intervention surveys that were received as a part of this project. The organization had recently completed the NDNQI Nursing Satisfaction Survey which could have been a limiting factor in each nurse's desire to complete yet another online survey.

A final barrier that was discovered during weekly rounding was the sending unit nurses' perception of the overall benefit of completing the standardized handoff. Conversations with staff in the Main Pre/Post unit demonstrated a lack of enthusiasm because while they understood the safety benefits of standardizing transitional handoffs, they viewed the tool as additional work for them with little personal benefit. They did however acknowledge that the tool was appropriate and worked well, and conveyed excitement at the possibility of completing a similar standardization of handoff information for situations when patients are sent *to* the Main Pre/Post area *from* inpatient units. Most of these concerns seemed to dissipate when project team members reminded

them that should this project demonstrate improved safety, it was likely that a similar project could be implemented in the future to standardize the information they received from inpatient units as well.

Data Collection

Three separate data sets were collected throughout this project. Each survey was blinded and no identifiers were used with the exception of the participant's home nursing unit. First, project participants completed the Nursing Perception of Handoff Quality Survey. This survey was conducted using Survey Monkey and consisted of eight Yes/No questions. This survey was completed to provide the project team with a baseline measure of the overall perception of the handoffs among the target units. Results from this survey were entered into a SPSS database for analysis and for comparison against post-intervention results.

The second data set collected was the Patient Handoff Quality Survey – Individual Encounter. This written survey tool was administered each time the standardized handoff tool was used, with both the sending and receiving nurse answering five questions about the quality of that specific handoff. The sending nurse would complete their five questions, and then send the form to the inpatient unit where the receiving nurse would complete the remaining five questions. This form was then placed in a designated collection location on the unit where it was picked up at least weekly by the student. These data were entered into the SPSS database and simple frequency calculations were completed.

The final data set consisted of having all project participants once again complete the Nursing Perception of Handoff Quality Survey at the conclusion of the intervention

period. The data were used to determine changes in the perception of the quality and safety of the handoffs occurring among the target units from the pre-intervention results. These data were entered into Microsoft Excel®, and then reformatted for data analysis.

Data Analysis

SPSS version 22 software was utilized to analyze all data. All questions were dichotomized into 'Yes' and 'No' responses. All missing data were excluded.

An affirmative response on any of the Nursing Perception of Handoff Quality Survey items was assumed to demonstrate a safer handoff than had a 'No' response. Therefore, each response of 'Yes' was given a numerical score of '1' and all 'No' responses were given a score of '0'. The individual items were summed to provide an overall safety score for each completed survey with a range of 0-8 (median of 5). When calculating the mean, any survey that was missing data was excluded in its entirety. The mean score for all surveys both pre- and post-intervention for all units was 4.97 with a standard deviation of 1.934. Paired t-tests were then used to compare these mean safety scores between pre-intervention and post-intervention responses.

Descriptive analysis of the Patient Handoff Quality Survey – Individual Encounter was done using frequencies. As with the Nursing Perception of Handoff Quality Survey, an affirmative response to the question was deemed to be a better indicator of a safe handoff than had the respondent answered 'No'. Frequency analysis was done among these variables to determine how often the key elements of the handoff were met.

Results

Quantitative Data

The Nursing Perception of Handoff Quality survey was utilized to determine whether or not the perception of quality and safety of the handoff improved from the pre-intervention period to the post-intervention period. During the pre-intervention timeframe, 86 participants completed the survey (Unit 51 N=15, Unit 66 N=16, Main Pre/Post N=37, Interventional Radiology N=18). Post-intervention, 46 nurses completed the survey (Unit 51 N= 4, Unit 66 N= 9, Main Pre/Post N= 23, Interventional Radiology N= 10). Paired t-tests were run between the mean scores from the pre- to post-intervention periods which demonstrated a statistically significant difference at the $p < .000$ level.

Table 4: Nursing Perception of Handoff Quality Results

Period	N	Mean	Std Dev	Std Error Mean
Pre-Intervention	86	4.53	1.926	0.208
Post-Intervention	46	5.78*	1.685	0.248

*Significant Difference ($p < .000$)

What might be considered the most relevant of all eight of the Nursing Perception of Handoff Quality Survey questions would be question seven, "Patient handoffs between our units are safe". Table 5 demonstrates a comparison between the pre-intervention and post-intervention results for question seven by individual unit. Though there was a reduction in the number of completed surveys from the pre-intervention to post-intervention period, with the exception of the Interventional Radiology unit, all units demonstrated a dramatic increase in their perception of the safety of handoffs that occurred among the units.

Table 5: Nursing Perception of Handoff Quality - Question 7 Comparison
Question: "Patient handoffs between our units are safe"

	Pre-Intervention		Post-Intervention	
Unit	**N**	**% Affirmative Responses**	**N**	**% Affirmative Responses**
Unit 51	16	50.0%	4	100.0%
Unit 66	15	60.0%	9	77.8%
Main Pre/Post	37	73.0%	23	100.0%
Interventional Radiology	18	94.4%	10	90.0%
Total		**72.1%**		**93.5%**

A frequency analysis was performed on the results from the Patient Handoff Quality Survey – Individual Encounter (Table 6). A total of 53 individual handoffs were evaluated as a part of this process. Fifteen sending nurses failed to complete the survey, as did five receiving nurses. Those handoffs were omitted from the results of the frequency analysis. Sending providers consistently rated their handoffs as safe; 97.4% believed that their report was a good reflection of patient condition and 100% were satisfied with the report they gave. Receiving nurses we also satisfied, but less so; 93.8% of receiving nurses felt that the handoff reflected the patient's condition and their previous care and 89.6% were satisfied with the handoff they received.

Table 6: Patient Handoff Quality Survey – Individual Encounter Frequency Analysis

Sending Providers

Question	N	% Affirmative Responses
1. I used the structured handoff tool to give report on my patient	34	89.5%
2. I believe the information given accurately reflects the condition of my patient and the care received	37	97.4%
3. The information given during the report provides all the information needed to adequately care for the patient	35	92.1%
4. The patient was able to participate in the handoff process	20	52.6%
5. I am satisfied with the handoff I provided	38	100.0%

Receiving Providers

Question	N	% Affirmative Responses
1. I was able to get all my questions answered during the handoff	46	95.8%
2. The handoff provided a good picture of the patient and their condition	45	93.8%
3. The information given during the report provides all the information needed to adequately care for the patient	46	95.8%
4. The sending nurse utilized the standardized handoff tool for the report	40	83.3%
5. I am satisfied with the handoff I received	43	89.6%

Qualitative Data

No qualitative data were collected as a part of this project. However, it should be noted that during rounding and other informal meetings with staff members, nurses expressed an overall satisfaction with the project. Nurses on inpatient units made comments such as “handoffs are more streamlined now” and “I get the information that I

need". Sending unit nurses voiced frustration on using what they considered *another* tool in addition to the many others they were required to complete throughout their busy day, but validated that they did understand the importance of standardizing the handoffs. They also indicated that they would be receptive to additional projects on handoff standardization where their focus would be as the receiving unit rather than the sending.

Conclusions

Each of the initial goals for this project was realized at its conclusion. The implementation of a standardized handoff tool was a success and did positively impact the perceived quality and safety of handoffs being conducted among select units. Surveys completed post-intervention showed a statistically significant positive difference when compared to the pre-intervention surveys. This allowed staff members to ensure that the appropriate information was given during each handoff scenario, and that extraneous information that was not germane to the handoff was eliminated.

Next, the shared governance model for decision making was successfully implemented as a way to build staff ownership of the project and to improve buy-in from front line staff members. Champions were very effective at attending meetings, providing input, and participating in the change process. They provided education to their individual teams and were able to answer questions about the project and its importance because they had participated in the project from its inception. While there were units that were not as engaged as others, weekly, and sometimes daily rounding by project team members on those units did improve participation on a periodic basis.

There are other conclusions that can be drawn as a result of this project as well. First, Lewin's Theory of Planned Change model provides an excellent framework for

conducting a project of this type. The Unfreezing and Moving stages of the project went very well and the project team had little difficulty getting the handoff tool created and the project implemented. However, there has been difficulty with the Refreezing stage. At the conclusion of the intervention period, staff members demonstrated a reluctance to continue to use the standardized tool because it was focused on only a small number of units, and because it was not available in electronic format.

Another conclusion was that the FOCUS-PDCA model fit in nicely with the shared governance structure during the planning process. Project team members were able to implement an intervention, validate the results, and then recommend additional actions for continued success.

A third additional conclusion noted was that the standardization of a handoff tool alone is not enough to encourage patient participation in the handoff process. Despite questions in the survey that directly addressed the need to include the patient in the process, only 52.6% of sending nurses admit to involving the patient. This would demonstrate the need for additional work to be done on subsequent projects to increase the participation of the patient as a part of the handoff process.

Recommendations

Though this project was determined to be a success, there are still several steps that could be implemented to continue to improve the quality and safety of handoffs being conducted at The University of Kansas Hospital. First, this project was limited to only four units in a large teaching hospital. This represents a very small number of the total handoffs that occur at the institution on a daily basis. To be fully effective, it would

be beneficial to implement this type of standardization to all handoffs that occur throughout the organization, regardless of sending or receiving location.

Next, the organization should eliminate the paper version of the standardized handoff tool and incorporate it directly into the hospital's electronic medical record. Not only would this be more aligned with the organizational strategy of moving to a paperless system, but it would also reduce the number of times information has to be transcribed from the EMR onto paper which could reduce errors and should improve the satisfaction of staff members. Additionally, though the time to transcribe the information is relatively short, over the course of thousands of handoffs per day at the organization, this time saving opportunity could yield improved productivity.

Finally, the results of this project demonstrated that the patient was not made an active part of the handoff process on a consistent basis. As Meleis' Transition Theory describes, patient engagement in the transition process is a critical component to ensure effective movement from one location to another. A future recommendation would be to alter the handoff tool in such a way that would require end users to involve the patient in the handoff process. This could be an intervention as simple as adding a question to the tool that only the patient could answer, or could take it to another level by incorporating video technology as discussed earlier to encourage inclusion of the patient and family while being able to do the face-to-face handoff that The Joint Commission recommends.

Dissemination of Results

There are several plans in place to disseminate the results of this project. On an organizational level, the student will be meeting with nursing leadership members including the Chief Nursing Officer, and the Vice Presidents of Patient Care Services and

Perioperative Services to share the project results and discuss implementation house-wide.

Next, the student and one of the front line team members chosen under the shared governance structure have successfully submitted an abstract for a podium presentation of this project at the Kansas City Association of Nurse Executives meeting in April, 2015. This meeting is a local chapter meeting of the American Organization of Nurse Executives (AONE) hosted by several Kansas City area hospital CNOs, where front line staff and leaders come together to hear presentations regarding quality, safety and leadership.

Finally, the student will be submitting an abstract for publication of this information in the Journal of Nursing Administration in the summer of 2015, as well as for podium presentations at the 2016 AONE National Conference, the 2016 Emergency Nurses Association National Conference, and the 2015 National Magnet Conference.

APPENDECIES

Appendix A – Nursing Perception of Handoff Quality Survey

THE UNIVERSITY OF KANSAS HOSPITAL

Nursing Perception of Handoff Quality Survey

This survey is to measure your perception of the quality of the handoffs between IR/PACU and Unit 51/Unit 66 only

1. ***The handoffs between units are done at a time that works well for me***

   □ Yes □ No

2. ***Report is completed in a reasonable time frame***

   □ Yes □ No

3. ***The method of handoff encourages patient involvement in their care***

   □ Yes □ No

4. ***The handoff always includes all of the pertinent information***

   □ Yes □ No

5. ***Patient condition matches what was given/received during the handoff***

   □ Yes □ No

6. ***Any questions I had are answered during the handoff***

   □ Yes □ No

7. ***Patient handoffs between our units are safe***

   □ Yes □ No

8. ***A handoff tool or consistent format is being used for all handoffs***

   □ Yes □ No

Appendix B - Patient Handoff Quality Survey – Individual Encounter

THE UNIVERSITY OF KANSAS HOSPITAL

Patient Handoff Quality Survey

Only answer the side of the survey that pertains to you.

FOR THE INTERVENTIONAL RADIOLOGY OR MAIN PRE/POST NURSE

1. *I used the structured handoff tool to give report on my patient*

   ☐ Yes ☐ No

2. *I believe the information given accurately reflects the condition of my patient and the care they received*

   ☐ Yes ☐ No

3. *The information given during the report provides all of the information needed to adequately care for the patient*

   ☐ Yes ☐ No

4. *The patient was able to participate in the handoff process by validating history, medications, allergies, etc.*

   ☐ Yes ☐ No

5. *I am satisfied with the handoff that I provided*

   ☐ Yes ☐ No

SEND THIS FORM WITH THE PATIENT – INPT NURSE WILL COMPLETE OTHER SIDE

THE UNIVERSITY OF KANSAS HOSPITAL

Patient Handoff Quality Survey

Only answer the side of the survey that pertains to you.

FOR THE UNIT 51 or UNIT 66 NURSE

1. ***I was able to get all my questions answered during the handoff***

   ☐Yes ☐No

2. ***The handoff provided a good picture of the patient and their condition***

   ☐Yes ☐No

3. ***The information given during the report provides all of the information needed to adequately care for the patient***

   ☐Yes ☐No

4. ***The sending nurse utilized the standardized handoff tool for the report***

   ☐Yes ☐No

5. ***I am satisfied with the handoff that I received***

   ☐Yes ☐No

Did the patient or their family participate in the handoff process by validating history, medications, allergies, etc?

☐Yes ☐No

WHEN COMPLETED TURN THIS FORM INTO THE NURSE MANAGER

Appendix C – The University of Kansas Hospital Letter of Authorization

THE UNIVERSITY
OF KANSAS HOSPITAL

University of Nevada, Las Vegas

March 4, 2014

To Whom It May Concern:

Brian Selig is currently enrolled in his Doctor of Nursing Practice program through The University of Nevada, Las Vegas. He is completing a capstone project within the Perioperative Division at The University of Kansas Hospital entitled "Improving Transitions of Care in the Perioperative Setting". This letter is to serve as notice that the organization has been informed of this project and is authorizing Brian to complete this project during the time period of January 2014 through April 2015.

Respectfully,

Rebecca Gearhart, RN, MSN, CNOR
Director of Perioperative Services
The University of Kansas Hospital
3901 Rainbow Blvd
Kansas City, KS 66160
913-588-2847
rgearhart@kumc.edu

Appendix D – UNLV IRB Approval Letter

UNLV
UNIVERSITY OF NEVADA LAS VEGAS

Biomedical IRB – Exempt Review
Deemed Exempt

DATE: June 2, 2014

TO: **Dr. Patricia Smyer,** School of Nursing

FROM: Office of Research Integrity – Human Subjects

RE: Notification of IRB Action
Protocol Title: Program Evaluation: Improving Transitions of Care in the Perioperative Setting
Protocol # 1404-4795

This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46 and deemed exempt under 45 CFR 46.101(b)2.

PLEASE NOTE:
Upon Approval, the research team is responsible for conducting the research as stated in the exempt application reviewed by the ORI – HS and/or the IRB which shall include using the most recently submitted Informed Consent/Assent Forms (Information Sheet) and recruitment materials. The official versions of these forms are indicated by footer which contains the date exempted.

Any changes to the application may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a **Modification Form**. When the above-referenced project has been completed, please submit a **Continuing Review/Progress Completion report** to notify ORI – HS of its closure.

If you have questions or require any assistance, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 895-2794.

Office of Research Integrity – Human Subjects
4505 Maryland Parkway • Box 451047 • Las Vegas, Nevada 89154-1047
(702) 895-2794 • FAX: (702) 895-0805

Appendix E – The University of Kansas Hospital HSC Approval Letter

The University of Kansas Medical Center

Human Research Protection Program

APPROVAL OF PROTOCOL

July 28, 2014

Carol Cleek
913-588-5696
ccleek@kumc.edu

Dear Carol Cleek:

On 7/28/2014, the IRB reviewed the following submission:

Type of Review:	Initial Study
Reviewing IRB:	KUMC
IRB#:	STUDY00001406
Title:	Improving Transitions of Care in the Perioperative Setting
Investigator:	Carol Cleek
Funding:	None
Expedited Category(ies):	(5) Data, documents, records, or specimens
Documents submitted for the above review:	• Unit 66 - Letter of Support.pdf • Unit 51 - Letter of Support.jpg • Patient Handoff Quality Survey • IR Protocol - track changes • Consent - Patient Handoff Quality Survey - track changes • Survey - Pre and Post Survey • IRB Protocol • KU IRB - Exempt Project Description.doc • IRB Protocol - v2 • KU IRB - Full Committee Description.doc • UNLV IRB Approval.pdf • KU IRB - Consent - Pre and Post Surveys - track changes v 2.docx • MPP Letter of Support - signed..tif • KU IRB - Exempt Project Description.doc • KU IRB - Consent - Patient Handoff Quality Surveys - Clean v 2.docx • KU IRB - Consent - Pre and Post Surveys - clean v 2.docx

Mail-Stop 1032, 3901 Rainbow Blvd., Kansas City, KS 66160
Phone: (913) 588-1240 Fax: (913) 588-5771 humansubjects@kumc.edu

Appendix F – Detailed Timeline

Project Timeline

Event	Planned Completion	Actual Completion
Informal contact with project leaders from each unit	2/15/14	2/15/14
Letter of Authorization requested from The University of Kansas Hospital	3/15/14	3/17/14
Letter of Authorization received from The University of Kansas Hospital	4/1/14	3/17/14
Project Proposal Defense	4/8/14	4/8/14
UNLV IRB Approval	6/15/14	6/2/14
The University of Kansas Hospital IRB Approval	7/15/14	7/28/14
Initial project team meeting	8/1/14	8/6/14
Pre/Post Survey review completed and questions validated	8/5/14	8/11/14
Pre-project survey conducted	8/15/14	8/18/14
Handoff tool established	8/21/14	8/18/14
End user education completed	8/31/14	8/31/14
Handoff tool go-live	9/1/14	9/4/14
6-week update to staff members	10/13/14	N/A
Project-end update to staff members	11/24/14	11/24/14
Post-project survey conducted	11/28/14	12/1/14
Data analysis completed	12/31/14	12/31/14
Final Project Defense	2/15/15	3/13/15
Submission of Final Paper to Graduate College	3/31/15	3/13/15

Appendix G – Detailed Project Tasks & Personnel

Project Tasks & Personnel

Task	Personnel
Formation of project team	Student
Review of literature	Student
Validation of survey instruments	Project Team
Development of handoff tool	Project Team
Education of end users	Unit-based champions
Distribution of pre/post implementation surveys	Student
Collection of individual handoff surveys	Inpatient unit managers
Develop project team meeting schedule, arrange locations, develop agendas	Student
Facilitate project team meetings	Student
Provide ongoing support to end users	Student, Inpatient unit managers
Use handoff tool	End users
Engage in handoff process	End users, patients, families
Provide end users with 6- and 12-week updates on project	Student
Complete data analysis	Student
Complete capstone project paper	Student
Project defense	Student
Present results to The University of Kansas Hospital administration	Student

Appendix H – Project Budget

Project Budget

Income	
Projected Grant Funding	$1,500.00
NET INCOME	$1,500.00

Expenses	
Committee Member Salaries	$3,712.20
NET EXPENSES	$3,712.20

Appendix I – Standardized Perioperative Handoff Tool

PERIOPERATIVE POST-SEDATION HANDOFF TOOL

(Not a part of the official medical record)

STEP I: Interpersonal Preparation

☐ Smile. Slow Down. Make sure you are in a positive mood.

STEP II: Report Preparation

☐ Fill out the form below with the information requested

STEP III: Handoff Completion

☐ Call the receiving unit. Speak with the Receiving nurse or the Unit Coordinator. Review the information in the form below with them in the exact order listed. Provide the receiving nurse with the opportunity to ask questions.

☐ Contact Transport.

STEP IV: Survey

☐ IR or MPP nurse to complete the survey attached to this form. Send all pages with transport. On arrival to inpatient unit, inpatient RN will complete second page of survey. Turn in completed form to Nurse Manager.

SITUATION:

Procedure: _____

End Time: _____

Sending Unit: ☐ Main Pre/Post ☐ Interventional Radiology

Receiving Unit: ☐ Unit 51 ☐ Unit 66

Perioperative/IR Nurse: _____ Contact #: _____

BACKGROUND:

Reversal Medications Given: ☐ NO ☐ YES

Time Last Given: _____ Medication: _____ Dose: _____

Time Last Given: _____ Medication: _____ Dose: _____

Post Procedure Medications Given: ☐ NO ☐ YES

Time Last Given: _____ Medication: _____ Dose: _____

Time Last Given: _____ Medication: _____ Dose: _____

Time Last Given: _____ Medication: _____ Dose: _____

Most Recent Vital Signs:

BP _____/_____ HR _____ Rhythm _____ RR _____ SpO2 _____

Significant Vital Sign Changes during procedure: ☐ NO ☐ YES

(TURN OVER)

ASSESSMENT:

Current Level of Consciousness:

☐ Alert ☐ Oriented X _____ ☐ Drowsy ☐ Sedated ☐ Lethargic ☐ Obtunded

Baseline for Patient: ☐ NO ☐ YES

Notable Events that Occurred during Procedure:

_____

_____

Lines/Drains/Implants during procedure:

Device: _____ Location: _____

Device: _____ Location: _____

Device: _____ Location: _____

Wounds:

Location: _____ Closure Device: _____

Location: _____ Closure Device: _____

Pain Control Issues: ☐ NO ☐ YES Comments: _____

Belongings Status: ☐ With family ☐ With Patient ☐ Had No Belongings ☐ In hospital safe

Family Status: ☐ With patient ☐ In IR WR ☐ In Surgery WR #1 ☐ In Surgery WR #2 ☐ Not here

RECOMMENDATIONS:

Post-Procedure Care:

Activity: ☐ Bed rest ☐ Lie Flat ☐ HOB _____ Until: _____ (time)

Groin Checks: Every ____ minutes x _____, then every _____ minutes x _____, then every _____ minutes x _____

Wound Checks: Every ____ minutes x _____, then every _____ minutes x _____

Neuro Checks: Every ____ minutes x _____, then every _____ minutes x _____

Distal Pulse Checks: Every ____ minutes x _____, then every _____ minutes x _____,

Care for Lines/Drains/Wounds/Implants:

In-hospital care:

_____

_____

Discharge Home Care:

_____

_____

Other Comments

_____

_____

_____

_____

_____

_____

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CIRRICULUM VITAE

BRIAN W. SELIG, MHA, BSN, RN, CEN, NEA-BC

Professional Experience

February 2015 - Present ***The University of Kansas Hospital***
Assistant Director *Kansas City, KS 66160*
Perioperative & Procedural Services *(913) 588-5000*

- Direct reports include Cath Lab, EP Lab, GI Lab, CTR, & IR managers & 184 FTE's
- Leadership support for entire Perioperative Division which includes 15 unit managers and over 600 employees

September 2013 – February 2015 ***The University of Kansas Hospital***
Nurse Manager *Kansas City, KS 66160*
Interventional Radiology & Radiology Nursing *(913) 588-5000*

- 3 cost centers with 85 FTEs and $22M annual budget
- Includes hospital department and 6 satellite clinics
- Over 12,000 annual procedures
- One of the busiest IR departments in the United States
- Accomplishments
    - Redesigned & improved patient scheduling process
    - Development of improved staffing model
    - 36% increase in NDNQI nursing satisfaction scores

October 2011 – September 2013 ***University Medical Center of Southern Nevada***
Director of Emergency Services *Las Vegas, NV 89102*
(702) 383-2000

- *Director of Emergency Services for 2 separate ED's*
- *125,000 annual visit, 132 FTE's, 8 direct report, $22M annual budget*
- *Level I Adult, Level II Pediatric ACS Certified Trauma Center*
- *Position reports directly to organization CNO*
- *Achievements:*
    - *11% reduction in Door-to-Doc time*
    - *7.5% reduction in Admission Length of Stay*
    - *22% increase in NDNQI scores*

November 2003 – October 2011 ***The University of Kansas Hospital***
Nurse Manager *Kansas City, KS 66160*
Emergency Services & Community Health Partnerships *(913) 588-5000*

<u>Emergency Department</u>

- 83 FTEs and $7M annual budget; over 46,000 annual visits
- Level I trauma Center
- Facilitated quality outcomes goals
    - Reduced diversion by 99%
    - Door to balloon time average under 60 min
    - Improved LWBS rate by over 50%

<u>Community Health Partnerships</u>

- Direct infield and first-aid medical operations at the Kansas Speedway for NASCAR and INDY Racing League events
- Coordinate all on-site medical activities for the Kansas City Royals

May 2001 – November 2003 ***LifeNet Air Medical Transport***
Flight Nurse – St. Joseph, MO Base *Olathe, KS 66062*
(913) 397-9335

August 1998 – November 2003 ***The University of Kansas Hospital***
Staff Nurse – Emergency Department *Kansas City, KS 66160*
(913)588-5000

Educational Experience

August 2012 – May 2015	*UNLV, Las Vegas, NV* *Doctor of Nursing Practice* *Expected Award May 16, 2015*
June 2005 – May 2007	*The University of Phoenix, Phoenix, AZ* Master of Health Administration Awarded May 21, 2007
August 1996 – May 1998	*The University of Kansas, Kansas City, KS* B.S. – Nursing Awarded May 17, 1998
August 1991 – May 1995	*The University of Kansas, Lawrence, KS* B.A. – Human Biology Awarded May 14, 1995

Licensure

Registered Nurse – Nevada
Registered Nurse – Kansas
Registered Nurse – Missouri

Publications

Selig, B., Hastings, M., Cannon, C., Allin, D., Klaus, S., & Diaz, F. (2011). Effect of weather on patient volume in medical care at Kansas Speedway mass gatherings. *Journal of Emergency Nursing. Published online, Dec 2011.*

Selig, B. (2011). Magnetized in Phoenix: A nurse manager's perspective on the National Magnet Conference. *Journal of Nursing Management.* (19), 160-163.

Major Projects & Accomplishments

Commissioner – ANCC Commission on Magnet Recognition 2009-2017
Executive Committee Member 2013-2016

- Member of 11-person Commission for the ANCC. Review and make final determinations on all applications from organizations applying for Magnet Status. Help determine policies and processes for Magnet application and determine criteria used to evaluate applications.

Strategic Partner – Kansas Action Coalition since 2015
Nurse Leadership Residency Program

Member – Kansas Action Coalition since 2013
Member: Leading Change Subcommittee since 2013

Member – Nevada Action Coalition 2012-2013
Chair: Leading Change Subcommittee 2013

Team Leader – UMC ED McKesson EHR Implementation 2012-2013

Member – UMC Capacity Throughput Council 2011-2012

Member – UMC Hospital PI Committee 2011-2012

Member – UMC Quality & Patient Safety Council 2011-2012

Implementation Partner – Kansas City Chiefs First Aid 2011

- Assisted a team of 25 staff members to begin first aid services at the Kansas City Chiefs Arrowhead Stadium for all NFL games. Completely outfitted 7 first aid stations, developed orientation and training program, completed orientation, developed forms, guidelines and protocols.

Implementation Partner – Kansas City Royals First Aid 2011

- Led a team of 9 managers and over 80 staff to begin first aid services at the Kansas City Royals Major League Baseball Club. Completely outfitted 2 first aid stations, developed orientation and training program, completed orientation, developed forms, guidelines and protocols.

Co-Chair – Emergency Department Admitting FMEA 2011

Chair – KU Emergency Department Throughput Project 2008-2011

Chair – KU Organizational Throughput Committee 2008-2011

Member – KU Code Blue/Rapid Response Committee 2007-2011

Chair – ED Team STEPPS Implementation Committee 2010-2011

- Coordinated a team of 6 master trainers, 15 coaches, and other staff members to implement Team STEPPS in the ED to improve throughput, communication, safety, and teamwork.

Item Writer – AONE/ANCC Certification Exam	2008 & 2010
Fellow – American Organization of Nurse Executives	2008

- Inaugural class of nurse manager fellows to build future leaders.

Coach – ABC Frontline Leadership Intensive	2006-07 & 2009-10
Member – Wyandotte County SANE/SART Task Force	2008-2011
Chair – KU & UMC ED Interdisciplinary Workgroup	2008-2012
Member – KU Traumatic Brian Injury Team	2008
Chair – KU ED EPIC Implementation Team	2006-2010
Member – KU Clinical Transformation Leadership Team	2006-2010
Chair – KU Management Council	2006-2007
Chair-elect – KU Management Council	2005-2006
Member - KU KUNA Contract Negotiation Team	2006-07 & 2009-10
Team Lead - KU Design & Construction of new ED	2004-2006
Member - KU Level I Trauma Center Re-verification Team	2004, 2006, & 2009
Member – KU Magnet Designation Verification Team	2007 & 2010
Member – KU Hospital Grievance Committee	2009-11 & 2013-14

Honors & Awards

March of Dimes	
NV Nurse Leader of the Year Nominee	2012
National Jonas Scholar	2012-2014
Blue Jay Consulting/ENA	
Nurse Leader of the Year Award Nominee	2011
ENA Lantern Award Winning Department	2011-2013
Healthgrades Top 5% Emergency Department	2011
Healthgrades Top 5% Emergency Department	2010
Sigma Theta Tau Induction	2008
KU MED Outstanding Nurse Leader Nominee	2009
KU MED Outstanding Nurse Leader Nominee	2006
LifeNet Outstanding Dedication Award	2003
LifeNet Crewmember of the Year	2003
LifeNet Instructor of the Year	2002
LifeNet Crewmember of the Year	2002
LifeNet Crewmember of the Year	2001

Professional Memberships

ANCC Commission on Magnet Recognition	2009-2017
• Executive Committee Member	2013-2016
Kansas Organization of Nurse Leaders	since 2014
Kansas Action Coalition	since 2013
Nevada Action Coalition	2012-2013
• Leading Change Subcommittee Chair	2012-2013
Nevada Emergency Nurses Association	2011-2013
• Nevada ENA Membership Chair	2011-2012
Nevada Organization of Nurse Leaders	2013-2013
Kansas Emergency Nurses Association	2007-2011, 2013-present
• KENA State Council President	2011
• KENA State Council President-Elect	2010
• KENA State Council Secretary	2009
• KENA Government Affairs Committee	2007-2011
• KENA Practice Committee	2007-2008
• KENA Bylaws Committee	2009-2010
Kansas Hospital Association	2008-2011
• Emergency Technical Advisory Team	2008-2011
American Nurses Association	since 2009
Nevada Nurses Association	2012-2013
Kansas Nurses Association	since 2009
Sigma Theta Tau Honor Society	since 2008
American Organization of Nurse Executives	since 2008
• PAC Committee Member	2008-2011
National Emergency Nurses Association	since 2005
• General Assembly Delegate	2010,2011
Safe Kids Kansas	2008-2011
Eastern Kansas Emergency Nurses Association	2007-2011
• EKENA Chapter Secretary	2009-2010
National Foundation for Trauma Care	2008-2011

Advanced Certifications

Certified Nurse Executive - Advanced (ANCC)	since 2012
Certified Nurse Executive (ANCC)	2007-2012
Certified Emergency Nurse	since 2001
Basic Life Support Provider	since 1996
Basic Life Support Instructor	2005-2013
Advanced Cardiac Life Support Provider	since 1998
Advanced Cardiac Life Support Instructor	2003-2013
Pediatric Advanced Life Support Provider	since 1998
Pediatric Advanced Life Support Instructor	2006-2013
Trauma Nurse Core Course Provider	since 1998
Trauma Nurse Core Course Instructor	since 2006
Advanced Burn Life Support Provider	2005-2011
Rural Trauma Team Development Course Inst.	since 2006
Team STEPPS Master Trainer	since 2010

Presentations Delivered

National Conferences

Magnet Program Update

- Q&A Panel Member at *The ANCC National Magnet Conference in Los Angeles, CA on Oct 11, 2012*
- 7,000 Attendees at session

Improving Patient & Staff Safety by Implementing a Behavior Response Team

- Presented at *The Emergency Nurses Association National Convention Scientific Assembly* in Tampa, FL on Sept 23, 2011

A Systems Approach to Organizational Throughput

- Presented at *The AONE National Convention* in Indianapolis, IN on April 10-11, 2010

Expanding Throughput Beyond the ED: Creating Efficient System-Wide Throughput to Ensure Sustainability

- Presented at *The Emergency Management Summit* in Boston, MA on Dec 7 & 8, 2009

Policy & Advocacy Experience

AONE Political Action Committee Member	since 2009
Kansas ENA Government Affairs Committee Member	2007-2011
Kansas ENA Bylaws Committee Member	2009-2011
Kansas Hospital Association Council on Education Member	2009-2011
National Foundation for Trauma Care Advocacy Committee	2008-2011
Safe Kids Kansas Public Policy Committee Member	2008-2011
AHRQ Hospital Emergency Preparedness Expert Panel	2009

Volunteer Activities

RUSH Soccer Festival, Olathe, KS — 2009, 2010

- Coordinated and provided volunteer medical services to high school soccer players during 4 day event

The University of Kansas Hospital — 2009, 2010

- Provided flu shots to the community at the hospital's annual drive-by flu shot event

References

Available on request