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Improving Nursing Communication Through Handoff Tool Education: A Staff Education Project

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Walden University

College of Nursing

This is to certify that the doctoral study by

Linda Anderson

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2024

Abstract

Improving Nursing Communication Through Handoff Tool Education:

A Staff Education Project

by

Linda H. Anderson

MSN, Marymount University, 1986

BSN, University of North Carolina, Chapel Hill, 1981

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2024

Abstract

The common practice of handoff of care communication is an integral part of patient care. However, ineffective handoff communication is associated with significant risks to patient outcomes. The issue of ineffective handoff of care is a local practice problem as well as a national issue. Strategies including standardized verbal, written, and electronic clinical handoff tools are emerging. However, many nurses are not knowledgeable regarding use of these standardized handoff of care tools. Therefore, the practice-focused question for this doctoral project asked whether an educational program on use of a standardized handoff tool could increase nursing knowledge as compared pre- and post-education. The purpose of this doctoral project was to increase nursing knowledge of a standardized handoff tool. Lewin's change theory was used to inform this project. A literature review was conducted using databases including PUBMED, OVID, Medline, CINAHL, Walden University Library, and Google Scholar. Ten registered nurses from an inpatient medical-surgical participated in this staff education project. Nursing knowledge of the standardized illness severity, patient information, action list, situational awareness and contingency plans, and synthesis by receiver (I-PASS) tool were assessed before and after the intervention. The mean of the pretest group was 65.0 and the posttest mean was 79.0. Results via paired *t* test were 2.26, reflecting significance of improved knowledge. This project contributed to social change by providing nursing education that increased knowledge of standardized handoff tools. This can improve communication and safety during handoff of patient care and therefore has potential to improve patient care.

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Dedication

This project is dedicated to the memory of my late parents, Ardo C. Holt, Sr. (1910–1962) and Julia Margaret Bartley Holt (1921–1996), in addition to the many friends and family who have supported me along the way.

Acknowledgments

I wish to thank my higher power for His grace and mercy towards me over the course of this study. I would also like to acknowledge my project committee chair, Dr. Patricia Schweickert, without whose professional knowledge, caring, and support this project would not have come to completion. Additionally, my committee member, Dr. Sandra Wise, is recognized for being instrumental in providing guidance to enhance the quality of this project. It took a village to complete this project, and I am grateful to all who played a part, no matter how big or how small, in the successful conclusion of this DNP project.

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Section 1: Nature of the Project

Introduction

For hospitalized patient, handoff of care is defined as the transfer of patient information, responsibility, and authority between clinicians (Halm, 2013; Lim & Pajarillo, 2016). The nursing handoff of care process is based on communicating clinical information necessary for ongoing and consistent patient care. A nursing handoff of care is used in change of shift report, when transferring a patient from one unit to another unit, or to transfer a patient to another team due to a change in level of care within a hospital setting (Galatzan & Carrington, 2018). Failure of accurate patient communication between nurses can result in adverse patient outcomes (Starmer et al., 2017). Ineffective communication is the most frequently cited root cause of sentinel events, highlighting the significance of the nursing communication process that can impact patient safety and quality care (Groves et al., 2017). Therefore, this doctoral project aimed to improve nursing knowledge related to handoff of care communication at a local hospital in the northeastern United States. This project has the potential to inform nursing of the impact that effective communication during patient handoff has on positive patient outcomes and enhanced communication across the continuum of care. Significant social changes that this project may contribute to are improved patient safety, decreased hospital stays, and enhanced fiscal responsibility of our healthcare facilities valuable resources.

Problem Statement

The consequences of ineffective nursing communications at nursing handoff of care can result in adverse events such as medication errors and even death (Groves et al.,

2017). Eliminating miscommunications can contribute significantly to patient safety through decreased errors (The Joint Commission[TJC], 2017). Miscommunications among nurses during shift report on the local medical-surgical units was identified as a focus for improvement during quality improvement surveys. Additionally, the Hospital Consumer Assessment of Health Providers and System (HCAHPS) scores indicated that improvements in a purposeful, timely, and more accurate exchange of information at the bedside was required to enhance the patient experience (Mosley, 2019). HCAHPS provides a nationally recognized standardized survey instrument and data collection methodology for measuring patients' perspectives on hospital care (June, 2020). Evaluating patient satisfaction has become one of the critical quality indicators monitored by many hospitals. When used properly, patient satisfaction monitoring can provide valuable insight into how healthcare facilities can improve patient safety and impact quality outcomes.

In today's complex healthcare environment, a major practice problem is a lack of knowledge on the use of handoff tools that can lead to missed information, adverse patient outcomes and a decline in patient safety (Padgett, 2018). An established or standardized tool can be defined as a communication strategy that entails clear and concise structure for obtaining and sharing relevant information. For example, a communication strategy from TeamSTEPPS (Agency for Healthcare Research and Quality [AHRQ], 2008) an evidence-based framework designed to improve teamwork and enhance the exchange of information during transitions in care proposes the mnemonic I-PASS (I = introduction/illness severity, P = patient, A = assessment, S =

situation, and S = safety concerns) as a structured form of nurse-to-nurse communication. I-PASS organizes provision of patient-centered information in a logical, stepwise manner. The use of a mnemonic enables preparation before the communication process and allows the sender and receiver to share the same mental model: enhancing understanding, and awareness (Müller et al., 2018).

By contrast, nonstandard handoff of care can be defined as the use of multiple or unstructured communication methods for conveying patient information (Galatzan & Carrington, 2018). In particular, the use of nonstandardized methods can contribute to decreased patient outcomes related to omissions of critical information or fragmentation of messaging. Adverse patient outcomes due to communication omissions can lead to unnecessary treatments, and decreased patient safety related to this transfer of incomplete, inaccurate, or omitted information (Lee et al., 2016; Padgett, 2018). The consequences of miscommunications can result in other adverse events such as delayed, incorrect, or non-performed procedures (da Silva dos Santos et al., 2018). Additionally, deaths, prolonged hospital stays, and increased costs of treatment in U.S. healthcare facilities are associated with communication errors (Groves et al., 2017).

Preventing communication failures begins with a structured communication process as structured communication rules or the exchange of information can contribute to improved handoff of care and through a culture of patient safety (Groves et al., 2017). Currently, the local hospital has adopted a standardized approach, using the I-PASS method in combination with medication information from the electronic health record (EHR). The identified problem was a lack knowledge in the use of the tool among

registered nurses on medical-surgical units. Standard protocols identify essential information for reliable handoffs and thus reduce nurses' use of their discretion which often leads to variability of the information that is conveyed from one registered nurse to another (Shahian et al., 2017). High reliability handoffs incorporate three elements: (a) face-to-face two-way communication, (b) structured written or electronic forms and (c) organizational commitment toward improving communication (TJC, 2017). Therefore, the gap in nursing practice identified as the focus of this doctoral project is the lack of nursing knowledge among RNs in a medical-surgical unit of effective utilization of an evidence-based framework designed to enhance communication and performance across the continuum of patient care through education on I-PASS, a standardized handoff method (AHRQ, 2008; Starmer et al., 2017). Closing this gap in nursing practice served to improve accuracy of nursing communication and ultimately improve patient safety by decreasing errors.

On the organizational level, the problem with implementing and sustaining nurse-to-nurse communication during handoff of patient care, utilizing the I-PASS model, was the misconception that the process is too lengthy and not practical due to the perceived shortage of nursing staff. Additionally, the target population for education was comprised of nurses with less than 2 years of clinical experience who often feel overwhelmed with direct patient care and therefore find verbal and written communication an added burden. Although evidence-based practice is the corner stone of the 26-week nurse residency program for all new accessions with less than 6 months clinical experience, behavioral changes were difficult to sustain once the nurses integrate into the units and begin to

practice independently (Rosenbluth, 2018). The Process Improvement (PI) office has cited miscommunications among nurses during handoff of care as a significant contributor to clinical errors. The chief nurse desired to improve nurse-to-nurse communication and patient safety by re-educating nurses on the benefits of a standardized communication tool such as I-PASS.

Purpose Statement

The purpose of this staff education project was to increase knowledge among registered nurses on a medical-surgical unit on the use of the I-PASS tool. Current nursing staff often did not demonstrate knowledge regarding consistent and pertinent patient information for a meaningful shift report to transfer care as noted by chart audits conducted on the units by unit managers. Additionally, nursing turnover was high due to promotion, career opportunities, the COVID-19 pandemic, and nursing transfers to another unit. This has resulted in the need for continuing education on the I-PASS model for improved handoff of care communication. This gap in practice was addressed through the staff education program focusing on the I-PASS and integrated EHR patient medical information. The practice-focused question for this project asks whether a staff education program on handoff of care communication using the I-PASS mnemonic can increase the registered nurses' knowledge on a standardized method of relaying critical medical information in patient management. This project is important, as it will assist registered nurses' handoff of care through effectively identifying and gathering critical patient healthcare information and conveying that information in a structured manner, decreasing miscommunications resulting in preventable patient harm.

Nature of the Doctoral Project

Evidence suggests that failure in communications between healthcare providers relative to the use of multiple tools is a significant threat to patient safety (Padgett, 2018). Databases used for evidence to support this project include MEDLINE, CINAHL, PubMed, Google Scholar, the On-line Journal of Knowledge Synthesis in Nursing and Best Practices, the Joanna Briggs Institute (JBI), Clinical Key, Nursing Consult, and OvidMD, Journals to support the evidence included *Joint Commission Journal on Quality and Patient Safety*, *American Journal of Critical Care*, *Quality Safety Healthcare*, *Journal of Nursing Care Quality*, *The European Journal of Medical Sciences*, *Journal of Nursing Administration*, and the *New England Journal of Medicine*. Scholarly articles from professional organizations such as the American Association of Colleges of Nursing (AACN), TJC, American Nurses Association (ANA), National Guideline Clearinghouse (NGC), the Veterans Administration and Department of Defense, and the Centers for Disease Control and Prevention (CDC), also provide sources of evidence. The key words included communication, miscommunication, patient handoff of care, nurse report, shift report, sign-outs, verbal report, written handoff tools, medical error, transfers, I-PASS, SBAR, patient outcomes, avoidable events, and EHR. There was inconclusive evidence that the inclusion of a standardized verbal or electronic handoff method will improve communication. However, improved communication was associated with the best outcomes for patients (Spooner et al., 2018).

This educational program followed the Walden Staff Education Manual. The general approach to obtain the information needed to complete the doctoral project was a

staff education project utilizing a pre-post questionnaire to evaluate nursing knowledge and a source of evidence for content evaluation. A panel of experts assessed the educational program for best practices and the questionnaires for content validity via the item level content validity index (I-CVI) and the scale level content validity index (S-CVI; Polit & Beck, 2006). Nursing staff from one inpatient medical-surgical unit were invited to participate in the nursing education program.

Significance

Stakeholders are those individuals who have a vested interest in the project outcome and their buy-in was imperative during the project development and implementation. When stakeholders understand the value of the project to the organization and are engaged in its development, a more comprehensive and useful project can be developed. Stakeholders in this project included patients, registered nurses, the nurse manager for the unit, and the director for Nursing Services. The expectation was that a proper understanding and use of the I-PASS tool would heighten the sense of responsibility, values, and supportive behavior required to enhance communication and patient safety during patient handoff. Since RNs spend more time engaged in direct patient care than other disciplines, they have primary responsibility in shaping an effective communication exchange. The local nurse manager encouraged a supportive environment that ensured the chosen communication tool was applied accurately and consistently. The director of nursing contributed to policy and procedures that decreased barriers that challenged the use of the I-PASS model and utilized best practices to apply lessons learned across the continuum of care (Lee et al., 2016). The stakeholder group

evaluated the questionnaire and educational program, as they have primary responsibility for ensuring best practices are adhered to during handoff communication. Decreasing medical errors related to non-standardized handoff methods has the potential to improve patients' outcomes and quality of patient care on the medical-surgical unit (TJC, 2017). Nurses received education that enhanced their knowledge and improved their ability to organize the workflow of patient care. Handoff communication education enhanced their ability to provide accurate patient assessment for ongoing care for the next shift or a transfer into a new level of care.

Summary

Section 1 addressed a gap in nursing knowledge in implementing best practices that improve effective communication among nurses during patient handoff. This staff education project discussed the practice problem of ineffective handoff communication among medical-surgical nurses. Section 1 defined the purpose of the project, which was to improve nursing knowledge of use of I-PASS through synthesis of the literature for best practices related to handoff communication and development of a staff education program. Section 2 will focus on the theoretical framework to support this project, the relevance to nursing practice and my role as the Doctor of Nursing Practice (DNP) student.

Section 2: Background and Context

Introduction

The absence of standardized communication among nurses during handoff of patient care contributes to a decrease in the quality of care and an increase in avoidable medical errors (da Silva dos Santos et al., 2018). A common problem with the transfer of patient information from one nurse to another during transition of care centers around a lack of clear and concise communication (Galatzan & Carrington, 2018). In addition to medical errors that range from minor to severe, miscommunications during handoff can lead to both patient and staff dissatisfaction (Galatzan & Carrington, 2018). Research and quality improvement efforts have centered on verbal and electronic tools and processes for improving handoffs. Educating nurses on standardized evidence-based methods of communication during transitions of care aided in conveying patient specific information from one nurse to another to ensure continuity and patient safety. Thus, the purpose of this DNP project was to determine whether an educational intervention increases nursing knowledge of an evidence-based, standardized handoff tool on a medical-surgical unit with the aim of enhancing handoff communication among nurses.

Concepts, Models, and Theories

This evidence-based project focused on educating nurses on a standardized verbal and electronic handoff tool that can improve communication during the transfer of patient care. The aim was to improve compliance with the organization's chosen method of handoff. Although nursing report during any transition of patient care is a core

competency for medical-surgical nursing, the use of a standardized handoff tool ensured that concise pertinent healthcare information is conveyed in an effective manner.

Kurt Lewin's change theory guided the project in assessing medical-surgical nurses' knowledge of standardized patient handoff tools. Lewin's model, also known as changing as three steps (CATS), was introduced as a concept for change management in 1947 (Cummings et al., 2016). Although some scholars criticize the simplicity of the model, its foundational significance remains undisputed (Cummings et al., 2016). The change management theory consists of the three steps of unfreezing, change, and refreezing. The model has evolved over time although the basic tenants remain constant. Individuals pass through these patterns of behavior in order to effect change. Unfreezing consists of finding a method by which nurses can change the current pattern of behavior as it relates to nurse-to-nurse communication during handoff of patient care. In the change phase, individuals become knowledgeable of solutions to bring about change, gather resources, and implement a plan. During the refreezing phase, the change is assessed for adoption by the nurses on the medical-surgical unit as an established standard of practice.

The Analyze, Design, Development, Implement and Evaluate (ADDIE) model is an educational program framework recommended by Walden University, Manual of Staff Education for Doctor of Nursing Practice (DNP) Scholarly Projects (Walden University, 2019). Although there are numerous models for instructional design, the ADDIE model is commonly used among healthcare professionals (Jeffery, 2015) and the ADDIE model will be used to inform this project. During the analysis phase, the organization identified

the need to improve nurse-to-nurse communication during handoff of patient care. A significant number of patient safety reports were related to miscommunications among nurses during handoff of patient care that resulted to avoidable harm to patients. The percentage of errors was in line with TJC's observation that communication failures is the root cause of most sentinel events and responsible for as high as 80% of avoidable medical errors among all disciplines (Blazin et al., 2020). In designing and developing the educational offering the observations and needs of the Department of Nursing, Chief Nursing Officer, Nurse Informatics Specialist, and Project Improvement Officer were considered in structuring the learning activity (Jeffery, 2015). Lewin's change theory and the ADDIE model added a theoretical framework and model for focus, structure, and design.

Implementation of the project included a classroom presentation as well as a recorded electronic presentation that allowed nurses who work nights and weekends to participate. The Hospital Education Department assisted in advertising the offering, registering participants, and administering the pretest questionnaire. During the evaluation phase, participants completed the same survey administered prior to the offering and growth was measured. The results were useful to the stakeholders in developing future programs to resolve the problem.

Relevance to Nursing Practice

Nurses have a key role in ensuring patient safety. The use of multiple handoff tools or improper use can lead to inconsistencies in conveying pertinent clinical information that is key to a patient's safety and plan of care (Padgett, 2018). A

standardized method of communication can be a safeguard to optimum patient outcomes. The DNP is uniquely qualified to research best practices and use that knowledge to foster critical thinking and inform nursing on effective standardized handoff tools. While healthcare practices have become increasingly more complex, communication processing have not kept pace. I provided education on state-of-the-art best practices of the I-PASS handoff tool. Handoff miscommunications are a leading contributor to adverse patient outcomes, and it is incumbent upon nurses to provide the first line of defense in reducing medical errors related to omissions and errors related to the lack of standardization in communication (Starmer et al., 2017).

There is a lack of widely disseminated research on popular handoff tools such as I-PASS. However, the evidence (Müller et al., 2018) suggested that moderate gains in communication resulted from the use of standardized handoff of care communication tool. A body of research inclusive of studies from high-reliability groups have discovered common features that characterize an optimal handoff (Shahian et al., 2017). Factors such as key leadership involvement, formal education and training, cultural change, standardized structure, interactive verbal communication, and verification of information contributed to enhanced communication. The evidence (Shahian et al., 2017) further suggested that a comprehensive implementation of the I-PASS model provided that structure and was adaptable to workflows in the EHR. Müller et al. (2018) argued that more than 60% of adverse events reported by TJC could be attributed to poor communication. The use of a standardized handoff tool reduced the risks to patient safety

by providing structure and the opportunity for face to face verification and feedback of information (Shahian et al., 2017).

Local Background and Context

This project was conducted at a 250-bed medical treatment facility that is a training platform for novice nurses, both RNs and LPNs, and graduate medical education (GME) students from other disciplines. The focus was on one medical-surgical nursing unit that has a significant number of registered nurses with less than 2 years of clinical experience. For the purposes of this study, *inexperienced* refers to nurses with less than 2 years of clinical practice on an inpatient medical-surgical unit. According to patient safety reports at this facility, the majority of the patient handoff miscommunications occur on the medical-surgical units that have the greatest number of inexperienced nurses. Since the facility is a training platform for novice nurses who will eventually serve in hospitals throughout the world, it was imperative that they develop sound standardized communication skills as it relates to providing pertinent information about their patients' plan of care. Reducing errors related to inadequate communication during patient handoff was one of this facility's risk management top three priorities for staff education and quality improvement on inpatient nursing units. Decreasing the gap between nursing communication improved patient outcomes (Bonds, 2018) and was a priority in creating a therapeutic milieu.

The use of a standardized handoff tool—whether verbal, written, or electronic—enhanced communication among nurses and promoted patient safety (Lim & Pajarillo, 2016). Common handoff tools included processes and mnemonics such as I-PASS;

situation, background, assessment, recommendation (SBAR); and Huddle (Shahian et al., 2017). The local facility has chosen the I-PASS tool, so this project utilized I-PASS for the educational intervention and outcome. A group education project served as a strategy to increase nursing knowledge of effective handoff tools shown to improve nurse communication and patient safety.

The following terms are defined for the purpose of this clinical practice project:

- *I-PASS*: a mnemonic to standardize verbal handoffs. It provides a framework for the patient handoff process as follows: I: Introduction/Illness severity, P: Patient summary, A: Action list, S: Situational awareness and contingency planning and S: Synthesis of the receiver (Starmer et al., 2017).
- *SBAR*: An acronym for “situational, background, assessment, recommendation” developed by Doug Bonacum, vice president of Kaiser Permanente and former safety officer on a nuclear submarine in 2002. SBAR has gained popularity in the healthcare setting. The format of SBAR allows for a brief, organize transfer of information between nurses (Achrekar et al., 2016).
- *TeamSTEPPS*: An acronym for “team strategies and tools to enhance performance and patient safety.” It is an evidence-based framework designed to optimize team performance. It is based on team structure and four teachable skills: communication, leadership, situation monitoring, and mutual support (AHRQ, 2008)

- *Handoff of care*: Also known as hand-over or shift report in the clinical setting involves the transfer of professional responsibility and accountability for some or all aspect of care for a patient, or groups of patients, to another person or professional group on a temporary or permanent basis (Lee et al., 2016).
- *Huddle*: A team huddle is defined as a quick meeting of a functional group to set the day/shift in motion via commentary with key personnel. Huddles are microsystem meetings with a specific focus, based on the function of a particular unit and team (Dingley, 2008).
- *Communication*: The exchange of information, thoughts, and feelings among people using speech and other means (Kourkouta, 2014).

Role of the DNP Student

The aim of this project was to improve the knowledge of medical-surgical registered nurses on an evidence-based, standardized handoff of patient care tool. As a nurse consultant for this facility in administration and a DNP candidate, I readily assimilate the AACN's (2006) *DNP Essentials of Doctoral Education for Advanced Nursing Practice*. Although effective communication impacts cross the continuum of clinical practice, the skills outlined in Essential I, II, III and V address leaderships role in a comprehensive approach to the standardization of a patient handoff tool that enhanced communication among nurses and ultimately improved patient outcomes. As a DNP student, I searched the literature for best practices and consulted with nursing leadership to develop an educational offering that enhanced nursing knowledge on best practices for transition of patient care between nurses. New knowledge fostered compliance with use

of the selected methodology on all medical-surgical units and eventually throughout the organization.

Role of the Project Team

The project team consisted of a unit manager, clinical nurse specialist, and a nursing informatic specialist. The unit manager identified the problem of nurse-to-nurse miscommunications during patient handoff based on patient safety reports and chart audits. She had the overall responsibility for oversight of clinical practice and patient safety on the unit. She oversaw unit orientation conducted by a senior clinical nurse.

The clinical nurse specialist identified best practices in the area of handoff communication and shared those findings with the registered nurses on the medical-surgical units. She conducted small group education and training, monitored compliance with the facilities chosen method of handoff communication, and participated in the development of policies and procedures that customize handoff communication on the unit.

The nurse informatic specialist developed workflows in the EHR that facilitated the use of the I-PASS model for nurse-to-nurse communication during patient handoff. Her role was pivotal in ensuring structured communication that is readily accessible to all disciplines, accurate, comprehensive, and user friendly. In particular, she served as a primary nursing resource for incorporating the I-PASS model into nursing documentation modules. She identified issues with workflows, collected data and shared best practices designed to increase nursing knowledge of the handoff process.

The stakeholders for this project worked collaboratively to ensure a structured patient handoff of care communication education among nurses was developed and based on best evidence for practice. Stakeholders served as subject matter experts and reviewed and approved the staff education offering for the local facility approved by the Walden Institutional Review Board (IRB). Due to the continuous nursing turnover on the selected unit, reeducation on the I-PASS model for handoff communication will require continuous monitoring and reinforcement. The subject matter experts on the unit will play a pivotal role in sustaining the gains from the training. Their buy-in and participation boosts compliance and exhibits collaboration and teamwork that was well received by the registered nurses delivering direct patient care.

Summary

Inadequate communication among healthcare providers at the change of shift or anytime during a transition of patient care from one nurse to another, contributes to adverse patient outcomes (Shahian et al., 2017). The consistent use of a standardized handoff tool has been shown to decrease omissions, errors, and miscommunications thereby improving patient safety (Blazin et al., 2020). Section 3 details the practice-focused question and presents the sources of evidence that support the use of a standardized patient handoff tool on medical-surgical units and across the continuum of care.

Section 3: Collection and Analysis of Evidence

Introduction

Miscommunication occurs routinely in our everyday lives; however, it is particularly impactful when a message that is not conveyed properly results in harm to an individual, group of individuals, or an enterprise. In health care, patient handoffs of care are a routine practice implemented by nurses at the change of shift or whenever a patient is moved from one level of care to another. Ineffective communication during these handoffs of patient care have been associated with avoidable medical errors that could affect patient outcomes (Groves et al., 2017).

The purpose of the staff education project was to increase knowledge among registered nurses on a medical-surgical unit on the use of the I-PASS tool. Miscommunication among nurses during shift report on the local medical-surgical units was identified as a focus for improvement during quality improvement surveys. Additionally, the HCAHPS scores indicated that improvements in a purposeful, timely, and more accurate exchange of information at the bedside was required to enhance the patient experience (Mosley, 2019). Due to the potential impact on patient safety, it was imperative to develop an educational offering that included verbal and electronic versions of the I-PASS tools that are the facility's chosen method to enhance the accuracy of nurse-to-nurse communication on medical-surgical units. Improving nursing knowledge regarding standardized communication will potentially save time, reduce stress among nurses, and enhance patient safety.

Communication in nursing is referred to as a structured process by which patient care information is clearly and accurately exchanged among registered nurses (AHRQ, 2013). A structured model for communication among nurses during handoff of patient care reduced miscommunications and thereby enhance patient safety. The mnemonic I-PASS was selected as the facility's standard method of communication during handoff of patient care from one registered nurse to another. The "I" stands for introduction, greeting the patient and explaining the nurse's role. "P" is the patient to include personal identifiers, name, sex and location. The "A" focuses on the primary complaint, diagnosis, and vital statistics of the patient. The first "S" references the situation inclusive of the patient status, circumstances, and response to treatment, while the second "S" addresses safety concerns such as lab values, allergies, alerts, and socioeconomic factors (AHRQ, 2013). The overall objective of using this user-friendly tool was to enhance communication among registered nurses during handoff of patient care, promote patient-centered care and prevent avoidable medical errors related to miscommunication on medical-surgical units that are a training platform for inexperienced nurses. Section 3 includes sources of evidence that were used to address the practice-focused question of this DNP project. Participants, procedures that describe the tool, and techniques used to collect the evidence will be discussed.

Practice-Focused Question

The practice-focused question for this staff education project asked whether a staff education offering on use of the I-PASS tool enhanced registered nurses' knowledge of I-PASS standardized communication for handoff of patient care as evaluated by the

pre-post education. My intent was to help inform and improve knowledge using current evidence (see Jeffery, 2015). The growing number of adverse clinical events linked to miscommunication among nurses raised concern by the local facility nursing leadership on a medical-surgical unit. Handoff of care involves the transfer of information, responsibility, and authority among nurses during clinical practice (Lee et al., 2016). The clinical area setting was a busy 27-bed unit that averages more than 40 handoffs per 12 hours shift. It is also a unit with a significant number of nurses who have less than 2 years of clinical experience. The high patient acuity, robust patient turnover, perceived staffing shortages, and nursing inexperience also contribute to miscommunications and reinforced the importance of a standardized method for communication.

The gap in practice addressed by this project was the lack of nursing knowledge regarding the use of the I-PASS standardized communication tool for handoff of patient care. A staff education offering in a group setting was selected as the approach for increasing nurses' knowledge of the patient handoff tool. The purpose of the project was to increase knowledge among registered nurses on a medical-surgical unit on the use of the I-PASS standardized communication tool. This project was selected due to the high turnover of medical-surgical nurses. The facility is a training platform for graduate nurses. The nurse residency program enrolls approximately 20 registered nurses every 26 weeks. These newly licensed nurses with less than 6 months of clinical practice are assigned to medical-surgical units upon successful completion of the nurse residency program. A standardized method of communication during handoff of patient care will save time, enhance the accuracy of the information being conveyed, and reduce the

incidence of avoidable medical errors. Effective handoff of patient care communication is a core competency for registered nurses. The proper use of a standardized patient handoff of care tool that enhances higher level thinking and clinical reasoning is basic in clinical education and nursing practice (Lim & Pajarillo, 2016). Nurses have a primary role in ensuring patient safety. Therefore, it is incumbent upon nurses to follow best practices in all aspects of patient care. The evidence suggests that proper use of a standardized method of handoff of care enhanced communication among registered nurses (Starmer et al., 2017).

Sources of Evidence

The individuals who contributed evidence to address the practice-focused question were newly licensed registered nurses with less than 2 years of clinical experience. The project population consisted of a convenience sample of 10 registered nurses working on one medical-surgical unit in a 250-bed northeastern medical center. The facility was a U.S. government medical treatment facility with a significant GME program for physicians, nurses, pharmacists, nurse practitioners and other disciplines. Additionally, the facility is certified as a Level I trauma center. Inclusion criteria for the sample included registered nurses with less than 2 years of clinical experience assigned to a medical-surgical unit who routinely participate in handoffs of patient care as part of their daily practice. Implementation of the project occurred at one setting. All registered nurses with less than 2 years of clinical experience on a medical-surgical unit were invited to participate. Registered nurses who met the criteria for selection received a pretest survey to evaluate their knowledge of the I-PASS communication tool via

Microsoft Teams. Then the staff educational offering was delivered. Afterward, the participants were provided the posttest to complete immediately following the presentation.

Participants and Procedures

A convenience sample of registered nurses with less than 2 years of clinical experience and assigned to a large medical-surgical unit was invited to attend the staff education offering. The offering was advertised electronically on the Hospital Education and Training webpage as well as by fliers posted on the unit's professional education opportunities information board. The flier detailed the purpose and rationale for the project. All interested participants voluntarily registered to attend the offering and participate in the group education offering. The facility is a training platform for novice nurses the majority of whom are assigned to medical-surgical units and participate in handoffs of patient care multiple times each shift.

Nursing maintains high standards of clinical practice and works diligently to provide a safe patient care environment by adhering to evidence-based best practices. However, a common problem that threatens patient safety is the lack of clear and concise communication among nurses particularly during patient handoff of care. To address the practice-focused question, I conducted a search of the literature to identify studies relevant to nursing communication during patient handoff and staff education programs. Databases such as PUBMED, OVID, Medline, CINAHL, Walden University Library, and Google Scholar were searched. The key descriptors that were used to focus the search were nurse, handoff, communication, shift report, communication tools, I-PASS,

and handover, The word “and” was used to connect key words and broaden the search for scholarly articles. The evidence suggests that the use of a standardized tool during the handoff of patient care enhances safe communication, and reduces omissions of critical information, miscommunications, distractions, and errors thereby improving staff satisfaction and enhancing patient safety (AHRQ, 2008; Halm, 2013; Padgett, 2018; Schirm, 2017; Shahian et al., 2017; Starmer et al., 2017; Rosenbluth, 2018; Zavodnick, 2019).

The literature search criteria included articles in full text, in English, and published within the last 5 years, whereas those published earlier will only be used if the information contained remains relevant. The literature search further included exploration of barriers and facilitators to implementing an evidence-based, standardized method of nurse-to-nurse communication on a medical-surgical nursing unit. The articles were selected based on their application to staff education projects to enhance communication among nurses by improving nursing knowledge of communication tools. The evidence collected was critically appraised and synthesized. Synthesized evidence was used to inform and develop this staff education project. The evidence collected supports the purpose of the project in that it informs registered nurses on medical-surgical units of a standardized method of verbal communication for handoff of patient care. The evidence further suggests that standardized methods of communication enhanced patient safety (Starmer et al., 2017). Collection and analysis of the evidence addresses the practice-focused question: Will a staff education offering on the proper use of the I-PASS tool for

handoff of patient care improve knowledge of registered nurses of a standardized method of communication?

The principles of Staff Education from the Walden University Manual for Staff Education, Doctor of Nursing Practice (DNP) Scholarly Project (Walden University, 2019) were used to inform the planning, implementation, and evaluation of this project. The stakeholders assisted in identifying the organization's requirement for improving communication among registered nurses utilizing a standardized method of communication, I-PASS, and oversee the development of the inservice program, as well as the evaluation of data collection. An ethics approval from the university's IRB, site approval, and the consent for anonymous questionnaires were obtained, as required, prior to presentation of the program. Permission from the project site Chief of Graduate Medical Education was obtained to conduct this project. For this project, I developed a questionnaire to specifically address standardized nursing communication during handoff of care, using the I-PASS mnemonic. This questionnaire was then validated by subject matter experts within the medical center who are members of the stakeholder group. This stakeholder group evaluated the questionnaire for content validity using the CVI. The I-CVI targets results of >0.79 for the item to be considered relevant. Scores for items between 0.70 and 0.79 need revision. Items with values below 0.70 need to be eliminated. The content of the staff education program for enhancing nursing knowledge of patient handoff communication was also evaluated by the stakeholder group. Stakeholder group evaluation was completed once IRB approval had been received.

The purpose of this intervention was to determine whether participants have improved knowledge of the proper use of the I-PASS tool after a staff education intervention. An initial assessment of the mnemonic I-PASS was presented followed by a case study to assess knowledge of nursing communication utilizing the handoff of care tool I-PASS. Following the intervention, which included verbal communication and role playing of a patient handoff of care case study utilizing I-PASS, an assessment of any improvements in nursing knowledge using the I-PASS tool was collected. The percent difference pre and post intervention of nursing communication skills utilizing I-PASS was assessed. Registered nurses on a medical-surgical unit were invited to attend the staff education offering. The aim of the project was to determine whether an educational intervention would be useful in enhancing knowledge regarding the proper use of the I-PASS standardized method of communication during handoff of care.

The literature review included discussions of the evidence that inform this project with my chair, the Walden University librarian, and the faculty from the DNP Intensive. Much of the literature regarding nursing handoff of patient care communication is dated. Despite special emphasis on nurse communication by the Institute of Medicine and TJC as early as 2006, miscommunication among nurses remains a focus for improvement in the clinical setting (Galatzan & Carrington, 2018). This project is aligned with the Walden University Manual for Staff Education, Doctor of Nursing Practice Scholarly Project manual, dated May 2019. IRB approval and all proper consents from the facility and the staff education participants were obtained. The facility was requested to sign a site approval form for implementation of the project. Participation was voluntary and all

participants signed a consent form prior to participation. The pretest staff education questionnaire regarding current knowledge of the I-PASS handoff of patient care communication process among registered nurses was administered. The staff education offering was conducted immediately following the receipt of the completed pretest questionnaire. The posttest questionnaire was provided immediately following the presentation. The participants received the educational offering in person and via Microsoft Teams platform. Microsoft Teams is a business application that is commonly used for video conferencing and offered a platform to communicate with nurses who desire to participate in the offering from remote locations. They were able to text, chat, and participate in the classroom presentation. The presentation included an overview of the practice project and instructions for completing the pre and post offering questionnaire.

Protections

All doctoral projects at Walden University are required to have ethics approval prior to implementation. The DNP program has established a blanket ethics pre-approval for Staff Education Doctoral Projects that meet the criteria outlined in the universities Manual of Staff Education (University, 2019). Participants are assured that all personal protected information will be kept confidential, and that no personally identifiable information is required for the completion of this project. Since participation is strictly voluntary, registrants can decline to participate further at any time. I maintained and secured any personal protected information related to this study. Data were stored in a password-protected database maintained by me.

Analysis and Synthesis

A pre-posttest design was used to analyze nursing knowledge of the I-PASS model for handoff of care before and after the staff education offering. Data were collected from participants before and after intervention. The intent was to determine the effectiveness of the staff education offering to improve knowledge through the analysis of the responses from the pre- and post-intervention questionnaire. Demographic data were collected before the intervention to characterize the participant group and were analyzed by frequency and mean. Data to answer the project question were analyzed by paired *t* test. The survey instrument underwent validation by the stakeholder group. I-PASS implementation was associated with significant improvements in verbal communication among nurses during handoff of patient care (Starmer et al., 2017). Data collected was managed and secured on a password-protected Excel spreadsheet, entered into SPSS, and analyzed to determine the percent difference in knowledge between the pre and post questionnaires. All registered nurses on medical-surgical units were invited to attend via the monthly Hospital Staff Education and Training webpage and fliers placed on the unit at the nurses' station. All consents and permissions were obtained prior to the educational offering through collaboration of the unit director or direct contact with the individuals who register to attend. The educational platform will use Microsoft Teams so that nurses that are unable to attend the face-to-face classroom presentation can participate in the training remotely.

Summary

In Section 3, I defined the approach used to conduct the staff education in-service presentation on standardized communication among registered nurses during handoff of patient care utilizing the I-PASS tool. I identified the local problem, listed the sources of evidence to address the practice-focused question and discussed development of a staff education program utilizing the ADDIE model (Jeffery, 2015).

Based on the evidence, structured handoff communication enhances patient safety and the quality of communication among nurses during transition of care (Starmer et al., 2017). Use of the I-PASS tool was associated with significant improvements in verbal communication, enhanced workflow, and potentially reduces the incidence of avoidable medical errors (Starmer et al., 2017). Section 4 addresses the findings and recommendations that result from analysis and synthesis of the evidence that was being collected.

Section 4: Findings and Recommendations

Introduction

For the hospitalized patient, proper communication among nurses during the handoff of patient care is an important process for patient safety. To maintain a high standard of nursing practice, nurse-to-nurse communications among registered nurses during handoff of care plays a vital role in meeting the needs of the patient. The purpose of this staff education project was to increase knowledge among registered nurses on a medical-surgical unit on the use of the I-PASS tool. The gap in practice is that current nursing staff often did not demonstrate knowledge regarding consistent and pertinent patient information for a meaningful shift report to transfer care as noted by chart audits conducted on the units by unit managers. The practice-focused question for this project asks whether a staff education program on handoff of care communication using the I-PASS mnemonic can increase the registered nurses' knowledge on a standardized method of relaying critical medical information in patient management. The purpose of this staff education project was to increase knowledge among registered nurses on a medical-surgical unit on the use of the I-PASS tool.

A comprehensive literature review on the topic of standardized nurse-to-nurse communication tools was conducted as the first step. Secondly, Shareholders were invited to participate in the project to share their major concerns related to the lack of standardized nurse-to-nurse communication during the handoff of patient care and the resulting increase in patient safety reports. Shareholders also play a vital role in planning, implementation, and sustainment of the project findings. To address the practice-focused

question a search of the literature was conducted to identify studies relevant to nursing communication during patient handoff and staff education programs. Databases such as PUBMED, OVID, Medline, CINAHL, Walden University Library, and Google Scholar were searched. The evidence suggests that the use of a standardized tool during the handoff of patient care enhances safe communication, and reduces omissions of critical information, miscommunications, distractions, and errors thereby improving staff satisfaction and enhancing patient safety (AHRQ, 2008; Halm, 2013; Padgett, 2018; Schirm, 2017; Shahian et al., 2017; Starmer et al., 2017; Rosenbluth, 2018; Zavodnick, 2019).

Findings and Implications

The overall aim of this staff education project was to determine the effectiveness of an educational offering developed to improve the knowledge of registered nurses on the standardized handoff of patient care communication tool I-PASS, that was supported by the organization. A pre-posttest design was used to analyze nursing knowledge of the I-PASS model for handoff of care pre and post the staff education offering. Data were collected from participants before and after the intervention through the analysis of their responses on the pre- and post-intervention survey, both of which were administered to the participants in a classroom setting. Ten of the nurse participants met the criteria of novice nurse with less than 2 years of clinical experience and working on a medical-surgical unit. Table 1 presents a summary of the demographics of the participants. Table 2 presents a summary of the responses by percent difference in the pre and posttest assessment of the offering.

The implications resulting from the findings in terms of individuals, communities, institutions, and systems follows. The consistent use of a standardized handoff tool has been shown to decrease omissions, errors, and miscommunications, thereby improving patient safety and nurse satisfaction (Blazin et al., 2020). The healthcare conglomerate experienced higher nurse retention, increased job satisfaction, decreased medical errors, and increased patient safety during the handoff of care from one registered nurse to another utilizing I-PASS as a standardized communication tool in clinical areas. The system experienced continuity of care, decreased hospital stays due to avoidable medical errors, and costs savings related to length of stay and legal or quality concerns.

Implications for social change include modifications in human behavior and attitudes towards changes in clinical practice. Lewin's change theory guided the project in assessing medical-surgical nurses' knowledge of standardized patient handoff tools. Lewin's model, also known as changing as three steps (CATS), was introduced as a concept for change management in 1947 (Cummings et al., 2016). The change management theory consists of the three steps of unfreezing, change, and refreezing. Individuals pass through these patterns of behavior to effect change. Unfreezing consists of finding a method by which nurses can change the current pattern of behavior as it relates to nurse-to-nurse communication during handoff of patient care. In the change phase, individuals become knowledgeable of solutions to inadequate nurse-to-nurse communication by implementation of a standardized communication mnemonic, I-PASS. During the refreezing phase, the change is assessed for adoption by the nurses on the medical-surgical unit as an established standard of practice. Nurses on medical-surgical

units have utilized a variety of patient handoff methods that have resulted in miscommunications among registered nurses. Staff education on the I-PASS model for communication enhanced knowledge of the importance of standardized nurse communication. The adherence to the hospital-preferred method of information sharing promoted communication across the continuum of care, saved time, decreased medical errors, decreased the cost of hospitalization, enhanced staff satisfaction and improved patient outcomes.

In the convenience sample of 10 participants, most (60%) were female. All were under the age of 30 and 100% of the participants had less than 2 years of clinical experience on a medical-surgical unit. All the nurses held a Baccalaureate Degree in Nursing and two had earned a Master of Science Degree in Nursing. Four were certified in medical-surgical nursing by the ANA and all had been exposed to evidence-based practice during the entry level nursing education or through a nurse residency program at their facility (see Table 1).

Table 1

Demographics of Project Participants (N = 10)

Characteristic	<i>n</i>	%
Female	6	60.0
Male	4	40.0
Under 30 years old	10	100
BSN	10	100
MSN	4	40.0
Years of experience	< 2	100

A pretest was administered as a knowledge baseline to the staff education presentation. The staff education presentation was 50 minutes in a classroom setting. The

posttest was administered immediately following the presentation and subsequent period of discussion. Table 2 demonstrates results using a paired *t*-test methodology.

Table 2

Improving Nursing Communication Through Handoff Tool Education

Questions	Pretest (X1)	Posttest (X2)	Difference/Change - D (X1 - X2)	D2
1	60	70	10	100
2	80	100	20	400
3	40	70	30	900
4	60	70	10	100
5	70	70	0	NS
6	80	100	20	200
7	80	80	0	NS
8	60	70	10	100
9	60	80	20	400
10	60	80	20	400
Cumulative	650	790	140	2600
			Avg Increase = 14 pts	

Note. *SD* = 16.99

The cumulative baseline score on the pretest was 650 points and the cumulative score on the posttest was 790 points. The 140-point increase was significant using a paired dependent samples *t* test. In this example, the hypothesis being tested is: Hypothesis 0 (H_0) population mean population one (direct method) is equal to that population two. Hypothesis 1 (H_1) states that the mean of population one (indirect method) is not equal to that of population two. Since the populations are the same, to test these hypotheses a dependent groups *t*-test was performed. The population mean of the pretest group was 65.0 and the posttest mean was 79.0. The different scores were then summed and squared. The degrees of freedom were ($N - 1$) or 9 in this case. The *t*-test

results for the dependent groups was higher than the table value in Statistics and Data Analysis for Nursing Research. (Polit, D.F., 1996). Consulting table A2, Critical Values for the t-distribution, *page* 412 (Polit, D.F., 1996), 2.26 with a significance level of ($p > .05$) and a confidence of 95%, the two-tailed test was 2.26. The tabled value was therefore less than the computed value, so the decision is to reject the null hypothesis and conclude that there is significant evidence that a staff education program, aimed at improving nurse knowledge of the communication tool I-PASS, made a significant difference in nurses knowledge.

During the discussion period, participants pointed out the detail of the I-PASS model of nurse-to-nurse communication as a negative due to workload, staffing shortages, time required to address each aspect of the acronym, and resistance to change. On the other hand the participants acknowledged the positive aspects of using a standardized model of communication in terms of the consistent relay of pertinent information in an organized manner, a decrease in medical errors related to omissions, and increased patient safety. All 10 nurses who completed the survey indicated that standardized nurse-to-nurse communication was a best practice model.

Recommendations

The utilization of I-PASS, a structured nurse communication strategy, during the handoff of patient care is an effective method of nurse-to-nurse communication. Utilization of a standardized method of communication enhances staff satisfaction and improves patient safety (Hasan, 2016). Periodic staff education offerings was recommended due to the high nurse turnover on medical-surgical unit. The I-PASS

method of communication should be utilized at the bedside as well as incorporated into the EHR. Recommendations for process change are within the scope of the stakeholders. The cost of incorporating changes to the EHR was funded. A shift in knowledge regarding the proper use of the I-PASS mnemonic was noted when the participants acknowledged the risk to patient safety and adequate communication among nurses during the handoff of patient care resulting from the use of non-standard communication methods. Stakeholders across the continuum of care are knowledgeable and support the use of the I-PASS tool over any other method of standardized nurse-to-nurse communication on inpatient medical-surgical units. All acknowledge that training must be ongoing and adaptive to the clinical environment.

Contribution of the Doctoral Project Team

The project team was engaged from start to finish with this staff education project. The Director for nursing services identified a gap in clinical practice as it relates to nurses knowledge on the importance of utilizing method of nurse-to-nurse communication such as I-PASS in the clinical setting. The unit manager on the medical-surgical units noted the inconsistent use of the facilities preferred method of communication during the handoff of patient care and sought ways to enhance nurses' knowledge on the I-PASS tool. The nurse informatics specialist was engaged in providing data related to the ease of the use of the tool and modified both verbal and electronic tools that mad the use of the I-PASS tool intuitive and relevant to the medical-surgical units mission. The chiefs of both the Quality Improvement and the Staff Education departments provided data identifying the gap in practice and a platform to

present my project. The overall support of the Doctoral Project Team was enthusiastic and well received. The presentation was recorded so that it can be utilized on the alternate shifts and weekends at the convenience of the nursing staff. Additionally, slides from the presentation were made available to the Staff Education Department, and I was invited to return for future education of staff.

Strengths and Limitations of the Project

Strengths of this project were that the facility had already identified and put into practice a preferred method of nurse-to-nurse communication during the handoff of patient care. Nursing staff were familiar with the model and had received training prior to working on the medical-surgical unit for the first time. Novice nurses with less than 2 years of clinical experience have not been influenced by seasoned nurses and were therefore more likely receptive to applying the model the way it was intended to be used. The younger generation of nurses are technologically savvy, educated on evidence-based practice, and find comfort in practice when utilizing standardized methods of communication and practice. Limitations to this study included the small group size. While there were more than 50 participants attending the educational offering, only 10 met the criteria of novice nurse with less than 2 years of clinical experience and currently working on a medical-surgical unit. Another limitation is that Patient Safety Reports obtained from the Quality Improvement office that cited medical errors related to poor nurse-to-nurse communication or incomplete documentation associated with misuse of the I-PASS model did not specify the experience level of the registered nurse involved in the patient safety incident. A final limitation to this project is that use of the I-PASS

model is not corporate wide and therefore nurses transferring in from facilities that use other nurse-to-nurse communication tools that they prefer, resisted change.

Section 5: Dissemination Plan

The evidence-based staff education project was left in the hands of the Hospital Education Department for incorporation into the orientation of new or inexperienced nurses. The department will be responsible for updating the presentation and disseminating the training as required to sustain the gains in proper application and understanding of the importance of a standardized method of nurse-to-nurse communication during handoff of patient care such as, the I-PASS model. The presentation slides are also available on the Hospital Education training site. All nursing staff would benefit from periodic follow-up on understanding and compliance to the concepts of the I-PASS model.

Analysis of Self

As an individual with more than 40 years of nursing experience in a variety of clinical, educational, and administrative settings, I am uniquely prepared to identify problems, analyze them, and prepare measures that will result in the best outcomes for all impacted by the identified gap in practice. My practice environments are wide ranging and include practice in hospitals, clinics, medical-surgical nursing, perioperative nursing, critical care nursing and nursing in humanitarian and combat environments around the globe. In each setting, adequate communication among nurses has been the key approach to patient safety and optimum patient outcomes. As a practitioner, I have gained the core competencies for advanced nursing practice from the DNP Essentials of Nursing Practice, which has prepared me for specialized nursing practice. The knowledge gained during this educational experience has prepared me to make a significant impact on clinical

practice through evidence-based studies, practice guidelines, presentations, and written policy. The DNP program has enhanced my scholarly knowledge of conducting studies utilizing the library resources, databases, writing center, academic advisor, stakeholders, academic chairperson and a host of resources available for conducting evidence-based studies. The knowledge and skills acquired have enhanced my clinical practice and uniquely prepared me to make a positive impact on the future practice of nursing. As a project manager, I was acutely aware of the impact of standardized nurse-to-nurse communication during the handoff of patient care. The DNP program allowed me to identify a gap in practice and develop a method for resolving the problem. The solution was in the development of a staff education project on the communication model that will undoubtedly improve staff satisfaction and patient outcomes when applied properly. The connection between this project experience, present state, and long-term professional goals was that theory, evidence-based practice, and the future of advanced practice nursing came together in a project that has long-term implications for nurse-to-nurse communication and patient safety.

The challenges of completing this project were mainly due to inability to settle on a project type. I experienced several approaches to my project, inclusive of a quality improvement project and a literature review before settling on a staff education project. The approach to the study should be decided at the beginning of the of the DNP and all papers written throughout the course of study should be focused on the final DNP project.

Summary

Clinical nursing practice will benefit from the use of a standardized communication tool among nurses during the handoff of patient care. The I-PASS tool provides an intuitive comprehensive mnemonic for streamlined communication of pertinent patient information. Use of the I-PASS tool is evidence based and comprehensive. The impact of a standardized communication tool is evident in patient outcomes, costs, lengths of stay, and staff satisfaction. The continuing education of nurses on the importance of structured communication requires judicious re-education, follow up and presentation of the evidence or outcomes to sustain compliance. Verbal communication must transfer easily to the EHR so that there is not the appearance of unnecessary duplication of effort. Top down buy-in by all stakeholders is essential to the success of standardized communication during handoff of patient care.

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