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Best Practice for a Standardized and Safe Registered Nurse Shift Handoff

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Best Practice for a Standardized and Safe Registered Nurse Shift Handoff

by

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Accepted by:

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Mary Boyd, Committee Member

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Dedication

This work is dedicated to my nursing students - past, current, and future - whose

excitement about learning and the nursing profession is a constant source of

encouragement and happiness for me. My hope is that this project will be a stimulus for

you to never stop learning.

Acknowledgements

I express my sincere appreciation to Dr. Stephanie Burgess and Dr. Mary Boyd for their critique of, and instruction in this work.

My love and appreciation to my husband Billy Ewing, and to family, friends, and colleagues who showed continual support and encouragement throughout this educational journey. A special thank you to my friend Karen Hardin who helped me keep this project in perspective and not give up.

Abstract

One of the most important times for the delivery of patient care occurs during the change

of shift handoff between professional nurses. This complex interchange of information

and responsibility carries with it distinct possibilities for error that can adversely affect a

patient's hospitalization, safety, and the quality of patient care outcomes (Blouin, 2011;

Hilligoss & Cohen, 2011). Communication errors, including errors during shift handoff,

account for more than 70% of sentinel events that occur in the provision of healthcare in

the acute care setting (Federwisch, 2007; Streeter, 2010). Poorly conducted and

unstructured shift handoffs are known to result in delayed or inappropriate treatment,

increased length of stay (Blouin, 2011), gaps in patient care, and failures in patient safety

which include medication errors, wrong site surgery, and patient death (Friesen, White &

Byers, 2009). Experts in healthcare such as the Agency for Healthcare Research and

Quality (AHRQ) have recommended the use of a standardized approach to shift handoffs

(Hughes & Clancy, 2005) and have targeted communication as a quality-of-care

indicator, with The Joint Commission (TJC) specifically requiring United States (U.S.)

hospitals to implement a standardized approach to handoff communication. (Dufault,

Duquette, Ehmann, Hehl, Lavin, Martin, …Willey, 2010). A synthesis of the literature

was performed to answer the PICO question: "In the medical/surgical care setting, what

is the best standardized process and tool for professional registered nurse shift handoffs

that incorporates a bedside component and enhances patient safety?" While little

rigorous research was found, significant clinically important information was gleaned from the literature resulting in best practice recommendations. There is a great opportunity for collaboration between the research and practice doctors of nursing to continue to refine the process of RN change of shift handoffs.

Keywords: handoff, bedside handoff, nursing handoff, communication, patient safety

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List of Abbreviations

AHRQ ....Agency for Healthcare Research and Quality

ANA..American Nurses Association

CASP...Critical Appraisal Skills Programme

DNP... Doctor of Nursing Practice

DoD.. Department of Defense

GRIP ....Getting Research Into Practice

HCAHPS.................Hospital Consumer Assessment of Healthcare Providers and Systems

ICU... Intensive Care Unit

IOM...Institute of Medicine

IV ....Intravenous

JBI..Joanna Briggs Institute

MCT...MICU Communication Tool

MICU .... Medical Intensive Care Unit

NPSG ....National Patient Safety Goal

PACES ....Practical Application of Clinical Evidence System

PhD ....Doctor of Philosophy

PICO .... Population, Intervention, Comparison, Outcome

QSEN .... Quality and Safety Education in Nursing

Chapter 1 Introduction

Preface

Accurate and timely communication of vital information between professional registered nurses is essential to assure patient safety. One of the most important times for nurse-to-nurse communication is during the shift handoff when information is exchanged and the responsibility of care for the patient is transferred (Hilligoss & Cohen, 2011). Sharing of pertinent information during nursing shift handoff provides for continuity of care, promotion of safety, and the elimination of preventable errors (Klee, et al., 2012). According to The Joint Commission (TJC), the key objective of a handoff is to convey accurate care, treatment, and service information to the oncoming health professional. Current condition and any recent or anticipated changes should be included (Stuart-Shor, 2010). Yet, communication errors, including errors during shift handoff, still account for more than 70% of sentinel events that occur in the provision of healthcare in the acute care setting (Federwisch, 2007; Streeter, 2010). Unfortunately, each shift handoff presents distinct possibilities for error that can adversely affect a patient's hospitalization, safety, and the quality of patient care outcomes (Blouin, 2011).

Purpose of Project

The purpose of this project is to (a) analyze and synthesize the research literature to determine the best standardized process and tool for the professional registered nurse

shift handoff; and (b) propose a policy and procedural process for shift hand off practice for an acute care medical surgical unit.

Background

Concerns related to handoff communication are well documented in the literature (Benson, et al., 2007; Hughes & Clancy, 2007; Welsh, Flanagan & Ebright, 2010). Poorly conducted and unstructured shift handoffs are known to result in delayed or inappropriate treatment, increased length of stay (Blouin, 2011), gaps in patient care, and failures in patient safety which include medication errors, wrong site surgery, and patient death (Friesen, White & Byers, 2009). The study estimated that between 44,000 and 98,000 individuals died each year from potentially preventable injuries related to communication errors (Kohn, Corrigan & Donaldson, 1999). Medication errors resulting in adverse events (preventable medical errors resulting in injury) are alone estimated to result in over 7000 patient deaths annually (Van Den Bos, Rustagi, Gray, Halford, Ziemkiewicz & Shreve, 2011). According to the Institute of Medicine (IOM), total national costs of adverse events represented by lost income, lost household production, disability and increased healthcare costs, are estimated to be between 17 and 29 billion dollars. Over one half of this estimate represents increased healthcare costs. Lastly, medical errors result in a loss of trust in the healthcare system and decreased satisfaction among patients, families, and healthcare professionals (2011).

To address these concerns, experts in healthcare such as the Agency for Healthcare Research and Quality (AHRQ), and The Joint Commission (TJC) (Table 1.1), have recommended the use of a standardized approach to shift handoffs (Hughes & Clancy, 2005). Standardization defines a specific order in which a verbal handoff is

conducted and specifies the information to be relayed. Further, accreditation and regulatory agencies have targeted communication as a quality-of-care indicator, with TJC specifically requiring United States (U.S.) hospitals to implement a standardized approach to handoff communication. (Dufault, Duquette, Ehmann, Hehl, Lavin, Martin, …Willey, 2010). The benefits of standardized handoffs have been documented in the literature. Standardizing shift handoffs has been shown to minimize the demand on working memory, planning, and problem solving (Jukkala, James, Autry & Azuero, 2012). In a prospective cohort study of trauma and surgical intensive care unit (ICU) teams, Stahl, et al., (2009) found that a structured checklist of essential facts to relay to an oncoming provider significantly reduced errors due to lost information and communication lapses between trauma ICU team members during care handoff. Standardized tools have also shown to reduce costs. For example, after implementing a bedside shift report project on a 23-bed inpatient unit, Cairns, Dudjak, Hoffmann, & Lorenz (2013) documented positive outcomes in call light usage, patient satisfaction, and shift overtime. A 10-minute per day decrease in overtime, at an average hourly rate of $26 to $39, represented an annual savings of $96,000 to $144,000 (2013).

Barriers to effective communication during shift handoff, in addition to an absence of standardization, include a lack of effective verbal and written communication skills, lack of formal training in communication and handoff processes (Hughes & Clancy, 2007; Friesen, et al., 2009) and an absence of knowledge regarding effective handoff processes and strategies (2009). A survey of nurses by Welsh, et al., (2010) further identified the following barriers to effective communication during shift handoffs:

- Too little information

- Too much information

- Inconsistent quality

- Limited opportunity to ask questions

- Equipment failure

- Interruptions

Consideration should also be given to the level of education, expertise, and comprehension of those registered nurses who are involved in a handoff. Novice nurses differ in the type and amount of information needed and in the way that information is used (Friesen, et al., 2009).

Handoff procedures that facilitate effective communication as noted by Welsh, et al., (2010) include:

- Face-to-face interactions with outgoing nurse

- Pertinent content

- Structured forms and/or checklists

- Space for written notes on forms to facilitate recall.

Other facilitators include having a designated staff member to intercept phone calls and call lights, a quiet dedicated space for handoff with decreased interruptions, increased organization of the flow of information and a protocol prototype for transmitting essential information (Patterson & Wears, 2010).

Handoff tools function to communicate accounts of historical events deemed significant by the clinicians present at the time of the event and serve to aid memory. Cognitive artifacts such as whiteboards can also facilitate effective communication and

are frequently used in nursing and healthcare to coordinate work and serve as communication tools (Collins, Mamykina, Jordan, Stein, Shine, Reyfman, & Kaufman, 2012). In the case of handoffs, mnemonics are frequently used to increase memory of important steps and provide a structured process to follow (Riesenberg, Leitzsch & Little, 2009).

A multitude of structured processes and tools have been developed in healthcare to facilitate handoffs that are more effective. The more well-known include SBAR (Situation-Background- Assessment-Recommendation), P-Vital (Present patient, Vital signs, Input/output, Treatment/diagnosis, Admission/discharge, and Legal/documentation) and I PASS the BATON (Introduction, Patient, Assessment, Situation, Safety concerns, Background, Actions, Timing, Ownership, Next) (Runy, 2008; Riesenberg, Leitzsch & Little, 2009; Thomas & Donohue-Porter 2012). Table 1.2 shows those tools most suited for use by nurses along with explanations of each.

The incorporation of a bedside component into the shift handoff also facilitates effective communication. Performing a portion of the handoff at the bedside allows for a team assessment of pertinent patient needs by off-going and on-coming personnel, review of key safety issues, clarification of information, and remedy of errors (Friesen, White & Byers, 2009). Bedside handoffs have also been shown to enhance patient satisfaction by increasing involvement in their plan of care (Baker, 2010). Patients see and hear from the team of professionals who are providing their care and, as a result, feel more comfortable asking questions or voicing concerns; patients and families are reassured knowing that the team is sharing information; their increased knowledge of the plan makes them less anxious and more compliant with the plan of care. Bedside shift report

is also shown to build teamwork, ownership, and accountability in employees (Rush, 2012).

The need for more effective communication during care transitions is well documented in the literature and has contributed to accreditation requirements for standardization. Improved communication can decrease the number of errors and sentinel events that occur in the healthcare setting, reducing costs, increasing patient safety, and reducing mortality.

Significance of Problem

The 1998 Institute of Medicine (IOM) report *To Err is Human* exposed serious problems related to patient safety in the healthcare system in the United States (Carayon & Wood, p. 23, 2009). This report demonstrated that patients were unnecessarily and unintentionally being harmed in hospitals due to preventable communication errors during transitions in care such as the handoff shift report. The IOM Report stressed that system flaws rather than individual mistakes were the major contributor to errors and injuries in healthcare (Kohn, Corrigan & Donaldson, 1999; Ralston & Larson, 2005; Freitag & Carrol, 2011). In 2001, the IOM report, *Crossing the Quality Chasm*, was released which was followed by recommendations for innovative solutions to the problems highlighted by *To Err is Human*. This report indicated that safety failures often first occur at the time of patient shift handoffs (Freitag & Carroll, 2011). The IOM further found poor communication, which can result in lost, forgotten, or unattainable information, to be a major causative factor in errors resulting in patient injury. In response to the IOM reports, TJC in 2003 released the first National Patient Safety Goals (NPSG). In October of 2005, goal 2E was added to include a "standardized approach to

hand off communications, including an opportunity to ask and respond to questions"
(Catalano, 2009, p. 266).

Shift handoff is a high-risk process due to the interruption in continuity and the
required transfer of relevant information, authority and responsibility between two or
more professional registered nurses who have received little formal education in
communication techniques (Sherwood & Drenkard, 2007; Carayon & Wood, 2009).
Communication failures are cited by TJC as the most frequently reported identified root
cause of sentinel events between 1995 and 2008 (Sherwood & Barnsteiner, 2012).

Despite the significant impact of shift handoff on patient safety, there is little
consistency in current processes. The method of shift handoff can be determined by
provider preference or time-honored habits of the unit and hospital. Commonly used
methods of communication handoffs are face-to-face verbal, recorded, written, and
combinations of the three. Typical venues for shift handoffs are at or near the nurses'
station, in a break room, or hallway. Shift handoff techniques can vary from hospital to
hospital and unit to unit within a hospital. Time frames for handoff vary from 15 to 45
minutes. These methods and variable techniques result in a handoff more prone to error
due to the potential variability in form and content of information relayed during the
process (Benson, et al., 2007; Hughes & Clancy, 2007; Manser & Foster, 2011).

PICO Description and Definitions

The PICO format provides a framework for examining this issue. Melnyk and
Fineout-Overholt (2005) identified the PICO format that was used to create the clinical
question as well as provide best evidence in this project. The four components include
(a) population of interest, (b) intervention of interest, (c) comparison of interest and (d)

outcome of interest (p. 29). The population of interest for this project was the professional registered nurse in the medical-surgical care setting. The intervention of interest was performance of the shift handoff of patients using a standardized process and tool with a bedside component. Comparison of interest is the unstructured process for handoffs that occurs away from the bedside. The outcome of interest looked at the impact this new tool and process would have on patient safety. The PICO question is as follows: "In the medical/surgical care setting, what is the best standardized process and tool for professional registered nurse shift handoffs that incorporates a bedside component and enhances patient safety?"

Table 1.1
PICO Table

Population	Intervention of Interest	Comparison of Interest	Outcome of Interest
Professional Registered Nurses	Standardized nurse shift handoff process and tool with bedside component.	Unstructured handoff process	Best practice for standardized shift handoff process and tool with bedside component that enhances patient safety.

- *Acute Care:* A pattern of health care in which a patient is treated for a brief but severe episode of illness, for the sequelae of an accident, or during recovery from surgery; usually given in a hospital by specialized personnel using complex and sophisticated technical equipment and materials. This pattern of care is often necessary for only a short time, unlike chronic care (Mosby, 2009).

- *Acute Care Setting:* Care unit in a hospital for patients requiring 24 or more hours of care for patients admitted with varied levels of medical or surgical diagnoses (Trzpuc, 2010).

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- *Adverse event:* An injury resulting from a patient's medical management rather than he underlying condition itself (*Medical Dictionary for the Health Professions and Nursing*. 2012).

- *Bedside handoff or component:* The portion of transfer of care that occurs at the bedside and allows for assessment by off-going and on-coming personnel (team assessment) of pertinent patient needs, key safety issues and collaboration with patient and family in plan of care.

- *Communication:* the exchange of thoughts, messages, or information, as by speech, signals, writing, or behavior (*American Heritage® Dictionary of the English Language, Fifth Edition*, 2011).

- *Failed or Missed Communication*: The inadvertent deficiency or omission of sharing a pertinent patient data element at a crucial time, which causes or has a high potential to result in an adverse event (Dowding, 2001; Leonard, Graham & Bonacum, 2004).

- *Handoff*: Transfer to another person or group of professionals, responsibility, and accountability for some or all aspects of care on a temporary or permanent basis (Manser & Foster, 2011).

- *Patient safety*: freedom from accidental injury (Ralston & Larson, 2005).

- *Registered Nurse*: An individual registered or licensed by a state, commonwealth, territory, government, or other regulatory body to practice as a registered nurse (ANA, 2010).

- *Shift change:* The period during which one or more personnel are beginning or ending work.

- *Standardized handoff communication*: a process in which information about patient/client/resident care is communicated in a consistent manner from one healthcare provider to another (Friesen, et al., 2009).

- *Standardized process:* Defining a specific order in which a verbal handoff is conducted and specifying the information to be handed off (Manser & Foster, 2011).

- *Standardized tool*: A procedure style that provides a step-by-step description of how and when to perform a specific task and uses redundancy to prevent errors (Rooney et al., 2002; Rogerson & Tremethick, 2004).

Search Process

Articles of interest are those related to nursing shift handoff, bedside handoff, handoff tools, forms for standardization of shift handoff, patient safety, and communication. The time frame was limited to those articles published between 2007 and 2012. A Gamecock Power Search of multiple databases in the University of South Carolina Cooper Library using the key-words nursing shift report, nursing handoff, patient handoff, bedside handoff, handoff tools, standardized tools for nursing handoff resulted in 717 hits from Academic Search Complete, Applied Social Sciences Index and Abstracts (ASSIA), Biography Resource Center, Biological Sciences, H. W. Wilson Business Abstracts, CINAHL Plus, EBSCOhost Electronic Journal Service (EJS), ERIC (EBSCO), Health Source: Nursing/Academic Edition, IngentaConnect, Project Muse, ProQuest Dissertations & Theses, PubMed-Medline, Social Sciences Citation Index, Science Citation Index Expanded, ScienceDirect Sociological Abstracts, Web of Science and WorldCat.

A subsequent search of the literature was conducted using primary keywords: patient safety, missed nursing care, and patient safety during handoffs using the following databases: Academic Search, CINAHL Plus, Cochrane Database of Systematic Reviews (CDSR), ERIC, Health Source: Nursing/Academic, MEDLINE. The rationale for this search was to find articles that related the handoff process directly to patient safety.

Relevant articles for this project were those papers published in English, with reported research on nursing handoffs and/or the relevance of communication and safety to the handoff process. Additionally, articles relating to the standardization of the handoff process, standardized tools for the handoff process with a bedside component, and their relationship to patient safety were included. Any study design was deemed relevant and any method whether qualitative, descriptive or experimental. Studies were excluded if they were focused entirely on transfers within units, interfacility transfers, or long-term care.

Searches of the literature on these topics revealed anecdotal information; pilot studies; systematic reviews; qualitative and quantitative research related to the importance of handoffs; current handoff methods; standardized tools; bedside handoffs; and measure of outcomes post bedside handoffs and/or use of standardized tools. Literature was also retrieved citing the handoff processes in high-risk industries. Several literature reviews indicated there is little nursing research evidence supporting the standardization of information included in handoffs and the use of standardized tools for handoffs; thus, there is a lack of meta-analyses available (Staggers & Blaz, 2012).

Summary

Patient safety within the healthcare system is of utmost importance but continues to be compromised due to communication gaps and errors. Transitions in care, which includes the nurse shift handoff, are filled with communication failures that can compromise patient safety and result in adverse events including medication errors and patient death. Poorly constructed handoffs and inefficient communication result in delayed or inappropriate treatment and increased length of stay (Blouin, 2011); gaps in patient care, failures in patient safety, including medication errors, wrong site surgery, and patient death (Friesen, White & Byers, 2009). According to the IOM (Van Den Bos, et al., 2011), total national costs (lost income, lost household production, disability and healthcare costs) of preventable medical errors that result in injury (adverse events) are estimated to be between $17 billion and $29 billion with over one-half of this estimate representing healthcare costs. Patient deaths resulting from medication errors alone are estimated to result in over 7000 deaths annually (IOM, 2004). The use of standardized processes and tools at the bedside for shift handoff report has shown to decrease communication errors such as missed nursing care (i.e. dressing changes, turning), medication errors, patient falls, and skin breakdown. Improved communication during shift hand off reports has been shown in one study to reduce costs related to nurse overtime at an annual savings of $96,000 to $144,000 (Cairns, Dudjak, Hoffmann, & Lorenz, 2013). Evidence also suggests that patients involved in their care, even in hospital settings, are more satisfied and litigate less (Anderson & Mangino, 2006). The result of improved shift handoff reports are increased nurse accountability and teamwork, patient satisfaction and most importantly — patient safety.

Table 1.2
TJC Elements of Performance (EP's) for 2009 NPSG 09.05.01

"The [organization] implements a standardized approach to hand-off communications, including an opportunity to ask and respond to questions."

1	The hospital's process for effective hand-off communication includes the following: Interactive communication that allows for the opportunity for questioning between the giver and receiver of patient information.
2	The hospital's process for effective hand-off communication includes the following: Up-to-date information regarding the patient's condition, care, treatment, medications, services, and any recent or anticipated changes.
3	The hospital's process for effective hand-off communication includes the following: A method to verify the received information, including repeat-back or read-back techniques.
4	The hospital's process for effective hand-off communication includes the following: An opportunity for the receiver of the hand-off information to review relevant patient's historical data, which may include precious care, treatment, and services
5	Interruptions during hand-offs are limited to minimize the possibility that information fails to be conveyed or is forgotten.

Table 1.3

Handoff Mnemonics Identified in the English-Language (adapted from Riesenberg et al., 2009)

Mnemonic	Discipline / Department		Description
AIDET	Perioperative staff, including nurses, anesthesiologists, physicians, and surgical technologists	A I D E T	Acknowledge the patient Introduce yourself Duration of the procedure Explanation of process and what happens next Thank you for choosing our hospital (note: handoff done at bedside)
CUBAN	Emergency department nurses, nurses, perioperative staff	C U B A N	Confidential Uninterrupted Brief Accurate Named personnel
GRRRR	Nurses	G R R R R	Greeting Respectful listening Review Recommend or request more information Reward

I PASS the BATON	General nurses	I	Introduction: introduce yourself and your role
		P	Patient: name, identifiers, age, sex, location
		A	Assessment: presenting chief complaint, vital signs, symptoms, diagnosis
		S	Situation: current status and circumstances; including codes status, level of certainty, recent changes, and response to treatment
		S	Safety concerns: critical lab values and reports, socioeconomic factors,
		the	allergies, alerts (e.g., falls, isolation)
		B	Background: comorbidities, previous episodes, current medications, family history
		A	Actions: which were taken or are required, providing brief rationale
		T	Timing: level of urgency, explicit timing, and prioritization of actions
		O	Ownership: who is responsible (e.g., nurse, doctor, team), including patient or family responsibilities
		N	Next: what happens next (e.g., any anticipated changes in condition or care, the plan, any contingency plans)
Just Go NUTS	Nurses, physicians, transporters, and other clinical staff	N	Name of patient, diagnosis, room number
		U	Unusual or unique; variances identified on the individual care plan including critical lab values, pain management, etc
		T	Tubes such as IV, NG, catheters, drains, ostomies
		S	Safety concerns such as falls, medication reconciliation

PACE	Nurses	P A C E	Patient/problem Assessment/actions Continuing/changes Evaluation
SBAR	Anesthesiologists, mid-level practitioners, nurse assistants, nurses, nursing students, OR staff, PACU staff, perioperative staff, pharmacists, physical therapists, physicians, transporters, radiologists	S B A R	Situation Background Assessment Recommendation
I-SBAR	Nurses, physicians, transporters	I S B A R	Introduction Situation Background Assessment Recommendation
SBARR	Nurses, physicians	S B A R R	Situation Background Assessment Recommendation Response or read back
SBAR-T	Nurses	S B A R T	Situation Background Assessment Recommendation Thank patients for opportunity to work with them (note: handoff done at bedside)
SHARED	Emergency department, surgery, PACU, and other nurses; pharmacists, physical therapists, physicians, respiratory therapists, and other staff	S H A R E D	Situation History Assessment Request Evaluate Document

SHARQ	Perioperative nurses	S H A R Q	Situation: describe the situation History: medical history, allergies, home medications Assessment: current medications, intake, output, status Recommendations: results, discharge planning Questions: opportunity to ask questions
SOAP	Ambulance/emergency department	S O A P	Subjective information about the patient's concerns, sensations, and/or behavior related to the problem. Objective information related to the problem (e.g., level of consciousness, activity tolerance, effect of medication received, post procedure signs, laboratory values). Assessment of the patient's condition as substantiated with the data from *S* (subjective) and *O* (objective) and an indication of the direction of change in the patient's condition. Plan of what has or should be done for/with the patient.
STICC	Nurses	S T I C C	Situation Task Intent Concern Calibrate
4 P's	Nurses	P P P P	Purpose: Why is the patient here? What priorities does she have? Picture: What results are we looking for, both short-term and long-term? How can we picture the patient's current condition? Plan: What did or did not work? Part: What part can you play during the next shift?

5P's v.1	General nurses, perioperative nurses	P	Patient identity
		P	Plan of care
		P	Purpose of plan: clinical findings supporting plan of care
		P	Problems: abnormal findings, pain scale, vital signs
		P	Precaution: isolation, falls, etc
5P's v.2	Perioperative nurses	P	Patient: identify
		P	Precautions: allergies, isolation, falls, specialty bed
		P	Plan of care: fluids, intake, output, IV access
		P	Problems: assessment, review of systems, pain scale
		P	Purpose: goals to be achieved

IV, intravenous; NG, nasogastric; OR, operating room; PACU, post-anesthesia care unit; DNR, do not resuscitate; DNI, do not intubate.

Chapter 2 – Literature

Introduction

The purpose of this chapter is to appraise the quality of the literature to answer the PICO question "In the medical/surgical care setting, what is the best standardized process and tool for professional registered nurse shift handoff that incorporates a bedside component and enhances patient safety?" The goal is to determine best practice based upon clinically relevant evidence for shift handoffs (Melnyk & Fineout-Overholt, 2005).

Method of Analysis and Search Process

Articles of interest are those related to nursing shift handoff, standardized shift handoff, handoff tools, bedside handoff, patient safety, and communication. The time frame was limited to those articles published between 2007 and 2012. A Gamecock Power Search of multiple databases in the University of South Carolina Cooper Library using the key-words nursing shift report, nursing handoff, patient handoff, bedside handoff, handoff tools, standardized tools for nursing handoff resulted in 717 citations from Academic Search Complete, Applied Social Sciences Index and Abstracts (ASSIA), Biography Resource Center, Biological Sciences, H. W. Wilson Business Abstracts, CINAHL Plus, EBSCOhost Electronic Journal Service (EJS), ERIC (EBSCO), Health Source: Nursing/Academic Edition, IngentaConnect, Project Muse, ProQuest Dissertations & Theses, PubMed-Medline, Social Sciences Citation Index, Science

Citation Index Expanded, ScienceDirect Sociological Abstracts, Web of Science and WorldCat.

A subsequent search of the literature was conducted using primary keywords: patient safety, missed nursing care, and patient safety during handoffs using the following databases: Academic Search, CINAHL Plus, Cochrane Database of Systematic Reviews (CDSR), ERIC, Health Source: Nursing/Academic, MEDLINE. The rationale for this search was to find articles that related the handoff process directly to patient safety.

Relevant articles for this project were those papers published in English, with reported research on nursing handoffs and/or the relevance of communication and safety to the handoff process. Additionally, articles relating to the standardization of the handoff process, standardized tools for the handoff process with a bedside component, and their relationship to patient safety were included. Any study design was deemed relevant including multi-methods such as qualitative, quantitative or triangulation. Studies were excluded if they were focused entirely on transfers within units, interfacility transfers, or physician handoffs.

Searches of the literature uncovered anecdotal information, pilot studies, systematic reviews, qualitative and quantitative research related to the importance of handoffs, current handoff methods, standardized tools, bedside handoffs and measurement of outcomes post bedside handoffs and/or use of standardized tools. Literature was also retrieved relating to the handoff processes in high-risk industries. Several literature reviews indicated there is little nursing research evidence supporting the standardization of information included in handoffs and the use of standardized tools

for handoffs; thus, there is a lack of meta-analyses available (Staggers & Blaz, 2012).

Because of this, articles before 2007 were eventually included in the review.

The substantive review showed a large number of articles and qualitative studies

pertaining to the PICO question yet little high-quality nursing research in the area of

handoffs or the relationship of bedside reporting to an increased level of patient safety.

Articles chosen for further review were those addressing handoff or handover, bedside

reporting or handoff, change of shift handoff, enhancement of communication between

RNs, barriers and facilitators to communication, barriers and facilitators to the change

process, tool or templates to assist in a standardized handoff process and enhancement of

patient safety through use of a standardized process and/or bedside handoff.

Development of Evidence Table

A table was formatted (Table 2.1) to compare the evidence (Girden & Kabacoff,

2011; Melnyk & Fineout-Overholt, 2011). Quality was assessed using the Critical

Appraisal Skills Programme (CASP) Qualitative Research Checklist and Systematic

Review Checklist (Appendices A & B). This method was chosen as it offered precise

tools for critical appraisal. The CASP tools ask ten "yes or no" questions to assist in

analyzing a document in three main areas of appraisal: 1) Are the results valid? 2) What

are the results? 3) Will the results help locally (CASP, 2011)? Articles chosen for

inclusion were entered into the evidence table with the following headings:

- Brief reference

- Purpose of study or literature

- Design and/or Methods

- Sample

- Are the results of the review valid? (CASP)

- What are the results? (CASP)

- Will the results help locally? (CASP)

Summary

Analysis of the literature yielded 27 articles of varying quality and clinical significance regarding handoffs and RN communication. Following is the synthesis of this literature in search of the highest quality evidence to support a best practice in RN shift handoff.

Table 2.1
Literature

Brief Reference	Purpose of study or literature	Design/ Methods	Sample	1. Are the results of the review valid? (CASP)	2. What are the results? (CASP)	3. Will the results help locally? (CASP)
Reviews						
Halm, M., (2013) Nursing handoffs: Ensuring safe passage for patients.	To address the PICO question: What effect do standardized nursing handoffs have on patients', clinicians', and financial outcomes?	Clinical Evidence review	A CINAHL and MEDLINE search from 2007 – 2012 yielded 7 research and QI studies	Appraisal tool: American Association of Critical-Care Nurses (AACN) evidence-leveling system; weak "level C" evidence, yet demonstration of positive impact in the three areas of PICO question.	Clinician: improved communica-tion, increased knowledge and satisfaction, decreased technical errors; Patient: increased satisfaction, improved understanding of condition; Financial: decreased overtime from more effective use of time and shorter duration of handoff.	Yes. This current review is further validation of previous positive findings regarding standardization of nursing handoff.

Holly, C., Poletick, E., (2013). A systematic review on the transfer of information during nurse transitions in care.	To examine qualitative evidence on dynamics of knowledge transfer during transitions in care in acute care hospitals	Literature review-Systematic. Qualitative studies (1988-2012) were sought; 50 retrieved for appraisal by two independent reviewers for methodological quality prior to inclusion in review using a standardized appraisal instrument from the Joanna Briggs Institute.	Final sample consisted of 29 qualitative studies representing over 800 RN handoffs and 300 RN interviews; only literature that described what and how information was transferred during handoff was included.	Findings identified and grouped into 16 categories that were subjected to a metasynthesis producing two synthesized findings to be used as basis for EBP: 1) individual nurses influence patient care by acting as gatekeeper of information handed off; 2) there is an embedded hierarchy in handoff of information that serves as method of enculturation into a nursing unit.	Evidence showed report as a complex social interaction; sensitive to context and cultural norms; multiple essential functions that extend beyond safety and quality. Subject to variability in method and information shared. Major findings were the different ways nurses act as gatekeepers and exert influence in patient care.	Yes. Review provided evidence that a consistent guideline may provide an optimal shift report.
Patterson, E., Wears, R., (2010).	To classify the literature as an aid to health	Literature review	Reviews in October 2008 and 2009;		There is a lack of consensus regarding the	Yes. The findings reiterate the varied

Patient Handoffs: Standardized and reliable measurement tools remain elusive.	care personnel in measuring the impact of changes to patient handoff procedures.		December 2009; approx. 400 relevant articles identified.		primary purpose of handoff and how to improve processes. The authors identified seven primary framings for handoffs that imply different interventions for process.	functions of the handoff in addition to the exchange of information. The findings can assist in the evaluation of handoff tools or templates.
Riesenberg, L., Leitzch, J., Cunningham, J. (2010). Nursing Handoffs: a systematic review of the literature.	To identify features of effective structured handoffs; conduct a qualitative review of barriers and strategies for effective handoffs.	Literature review- Systematic. Review of English-language articles, published between January 1, 1987, and August 4, 2008, that focused on nursing handoffs in the United	Ninety-five articles met inclusion criteria with 55 (58%) published between January 1, 2006 and August 4, 2008. Quality assessment scores for the research studies ranged from 2 to 12 (possible	Per authors, the explicit search strategy, clear inclusion criteria, and systematic process strengthened the quality of the review.	Identification of barriers to effective handoffs; strategies for effective handoffs. Consistency in anecdotally suggested strategies despite little supportive evidence.	Yes. Indicates need for and suggests areas for high-quality studies of handoff outcomes.

			States. Search strategy yielded 2,649 articles. After title review, 460 were obtained for further review by trained abstractors.	range, 1 to 16). Majority of studies on nursing handoffs (17 studies; 85%) received quality scores at or below 8; only three achieved scores above 10. Ten (50%) studies included measures of handoff effectiveness.		
Riesenberg, L. A., Leitzsch, J., & Little, B. W. (2009). Systematic review of handoff mnemonics literature.	To identify all handoff mnemonics, describe use, and summarize the outcome data from studies using the mnemonics.	Literature review-systematic	Studies from English-language articles 1987 – June 4, 2008. 46 articles met inclusion criteria.	Only 4 of the 46 reviewed articles (8.7%) collected data on handoff mnemonics; these had small sample sizes; did not use validated instruments or didn't conduct validation of	The authors reiterate that there is a lack of published research on structured handoffs; small studies and anecdotal reports do not yield sufficient information	Yes. Recommenda-tions made for future handoff studies to include use of Standards for Quality Improvement Reporting Excellence (SQUIRE)

					upon which to base practice changes; yet, they recognize randomized controlled trial isn't a reasonable study design in this case.	guidelines.
Staggers, N. & Blaz, J., (2012). Research on nursing handoffs for medical and surgical settings: an integrative review.	To synthesize research on handoffs to guide future computeriza-tion on the process on medical and surgical units.	Literature review, integrative	Studies from 1980 – March 2011 in peer-reviewed journals. Thirty articles met relevance criteria.	Per author, the quality of the quantitative studies was low and few experimental studies were available for review.	Review suggest three areas of focus: 1) funding to be made available to support nursing research on handoffs; 2) nurse managers and executives to be made aware of the intense interest in handoffs and the possibility that some settings may not be amenable to bedside	Yes. This review was thorough in its discussion of the concept, function, content of handoffs; implications for future research, practice and policy.

					handoff; 3) clinical nurses should be a part of the transformation.	
Wong, M. C., Yee, K. C., Turner, P., (2008). A structured evidence-based literature review regarding the effectiveness of improvement interventions in clinical handovers.	To present summaries of papers, review the strength of evidence and synthesize major themes and issues. Review is specifically focused on clinical handovers within the healthcare sector.	Literature Review	Review of 218 materials; 110 discussed in article.		Structures analysis and discussion of literature on clinical handover and the effectiveness and transferability of improvement interventions into three main sections: High Risk Scenarios in Clinical Handover; Interventions, Critical Success Factors and Effectiveness; and, Evidence Gaps in Clinical Handover.	Yes. Essential information to guide current practice and future research

Qualitative or Quantitative Studies

Anderson, C., Mangino, R., (2006). Nurse shift report: who says you can't talk in front of the patient.	To review challenges and rewards of implementing bedside nurse shift-to-shift handoff on a 32-bed general surgical unit - part of a 600-bed tertiary care hospital	Quasi-experimental; One group pre/post survey. Describes a change management strategy for implementing bedside component during RN shift to shift handoff.	Unreported number of nurses on a general surgical unit in a US medical centre; Unreported number of patient participants.	Recruitment strategy targeted a team with history of positive attitude toward change; Pre-implementation, post-implementation surveys X 2 completed. Unreported reliability of survey tool.	Significant positive perceptions from patients and staff. Reduced amount of overtime by >100 hours leading to significant financial benefits. Data showed increased RN satisfaction in all 6 survey areas. Increased patient satisfaction ratings in 4 key areas.	Yes. Despite the unreported participants, well-designed study demonstrating positive outcomes from an effective bedside handover. Excellent example of change process.
Bradley, S., Mott, S., (2012). Handover: Faster and	To introduce to and study the process and outcomes of bedside	Quasi-experimental; mixed-method; pre-post-test;	Forty-eight self-selected RN staff in three acute hospital units	Small sample size; mixed method approach does not allow for a	Total number of incidents down from 18 to 7; decrease in total time for	Yes. Findings of a decrease in "incidents" - defined as burns, medication

Safer?	handoff in three rural South Australian hospitals	qualitative and quantitative elements		comprehensive exploration	handoff decreased between 13% and 70% (site dependent)	incidents, skin tears, falls – shows a positive impact on patient safety related to bedside handoff.
Chapman, K., (2009). Improving communication among nurses, patients, & physicians.	Transforming Care at the Bedside (TCAB) Project	Mixed method; Pilot study using quantitative data from patient surveys and qualitative data from nursing surveys on a 28-bed medical surgical telemetry unit.	Small sample size: 20 RN, MD, RPh, CM, education specialists, supervisor; Anecdotal reports from RNs; quantitative data obtained from patients via existing patient satisfaction surveys.	Poor study control: RNs had difficulty adapting to change and regressed into old handoff habits during study. Approach changed during study and refined again after two months of trial.	Article reports various positive outcomes related to nursing care and process; does not specify how outcomes were measured. (Increased RN-to-RN and RN-to-patient engagement; increased discussion of patient condition, interventions, care plans. Decreased time in handoff; improvement in quality of	No. Despite the report of positive outcomes related to the handoff process, the study was not well organized or controlled. Author acknowledges that the TCAB approach of "one nurse, one patient, one day" was not followed and starting small and progressing slowly would have enhanced the opportunity for early identification of

					patient information exchanged; enhanced continuity of care.	areas for improvement.
Chung, K., Davis, I., Moughrabi, S., Gawlinski, A., (2011). Use of and evidence-based shift report tool to improve nurses' communica-tion	To develop and evaluate a standardized change-of-shift handoff tool	Quasi-experimental; One group pre/post-surveys; Evidence-based change project following the Iowa Model of Evidence Based Practice.	22 RN volunteers	Per author, results and tool may only apply to similar settings; small, non-random sample.	Using paired t-tests, authors identified statistically significant improvements in areas of thoroughness of handoff, decreasing frequency of missed information, deceased time spent searching for missed information; decreased delays in starting shift and use of overtime.	Yes. Example of the tool available; evidence of positive outcomes using handoff tool

Jukkala, A., James, D., Autrey, P., Azuero, A., & Miltner, R., (2012). Developing a standardized tool to improve nurse communication during shift report.	To develop and pilot test a standardized tool to improve communication among RNs during shift handoff.	Quasi-experimental; One group pre/post test; Quality Improvement project. A communication scale - MICU Shift Report (MSR) Scale was developed to collect data on nurses' perceptions of communication during handoff. Baseline data collected; scale repeated post completion of three 12-hr shifts that utilized report tool developed by QI team.	Pretest completed by 43 (61.4%)RNs from a 25 bed MICU in large academic health center (n=70). Post-test completed by 34 RNs (48.5%).	Self-report instrument used (subject to social desirability bias); possibility of Hawthorne effect; implemented on one nursing unit with a small sample size; Unreported v/r of MSR scale.	Post -survey shift report subscale showed lower scores following implementation of the new report tool (18.75 vs. 17.72) (t = 2.23; P = .03) indicating improvement in the perception of communication during shift report.	Yes. Quality & safety improvement through staff involvement; improved perceived communication in general & related to shift report with standardized tool. Stressed the importance of organizational support of change process.

Kerr, D., Lu, S., McKinlay, L., (2013). Bedside handover enhances completion of nursing care and documenta-tion	To investigate whether rates of completion for specific nursing are tasks and documentation improved after the impletion of a modified handover practice.	Quasi-experimental; One group pre-and post-intervention.	Three clinical units participated; Five handover episodes per unit (n=15) were observed pre and post implementatio n.	Limitations per author: lack of control group; questionable internal validity due to maturation effect; possible Hawthorne effect.	Significant improvements in completion of nursing tasks and nursing documentation. Non-significant decrease in handoff duration.	Yes. Study showed completion of nursing tasks and documentation were enhanced by bedside handoff.
Laws, D., Amato, S., (2010) Incorporating bedside reporting in to change-of-shift report.	To report how a nursing unit implemented bedside RN shift report with goals of providing adequate information to promote patient safety & involve patients in plan of care.	Quasi-experimental: Pre survey: data collection; post survey: survey four months post initiation of project.	Implemented on a stroke rehab unit. Sample size (# of RNs or patients involved) was not noted; no indication of # of patients involved.	Validity questionable due to unknown sample size; unknown # of patients involved; no information on V/R of survey tool.	Results showed most RNs felt new method had improved safety & provided patients with opportunity to discuss plan of care. Areas of improvement identified: starting bedside report at beginning of each shift; night shift reports	No; results were those that were be desired, yet, to use them in the development of a new process would not bring strength to the work.

					were recorded & not conducted at bedside. However, due to lack of unknown # of participants, this work cannot be considered.	
Maxson, P., Derby, K., Wrobleski, D., Foss, D., (2012). Bedside nurse-to-nurse handoff promotes patient safety.	To 1) determine if bedside RN handoff increased patient satisfaction with plan of care and increased perception of teamwork; 2) determine if bedside handoff increases staff satisfaction with	Quasi-experimental; Pre/post-survey with two arms: 1) patient–pre-post with comparison group; 2) RN – one group, pre/post.	Convenience sample of 30 patients pre-implementation and 30 one month post; pre and post surveys completed by 15 RNs	Limitations include convenience sample on one unit only; small # of RNs and patients participating; further research needed to generalize findings.	Post-practice change survey showed all questions receiving a mean score of 1 *(best)*. All but one question in survey had statistical significance (p<0.05) Significance was noted in question referring to the patient being informed of his	Yes. Bedside component increased nurse awareness of the impact of communication on patient safety and satisfaction; demonstrated change of shift discussions have the potential to decrease med errors as well enhance communication.

	communica-tion and accountability.				or her plan of care for the day (p=0.02). Indicated bedside handoff had a positive impact for patients and RNs.	
Poh, C. L., Parasuram, R., & Kannusamy, P., (2013). Nursing inter-shift handover process in mental health settings: a best practice implementation project.	Project aims to 1) examine existing handover practices/process in the tertiary mental health institution; 2) determine the strengths and limitations of the existing handover practice/process; and 3) identify, implement and evaluate an evidence-based nursing	Quasi-experimental; Pre/post survey Process improvement project conducted in three phases using Joanna Briggs Institute (JBI) Practical Application of Clinical Evidence System (PACES) and Getting Research Into Practice	212 handovers observed in four wards, (once a week for 1 month, by separate auditors) pre and post implementation of changes in handoff	The JBI tools utilized are evidence-based, valid and reliable. Large sample size;	Post-implementation audit findings show rate of compliance had improved significantly for the four criteria: increase of 49% rate of compliance in use of standardized documentation during shift handover session; increase of 74% compliance in proper identification of	Yes. Continuous evidence-based evaluation, identification, and implementation of nursing intershift handover process enhances patient safety and service delivery.

	inter-shift handover process to enhance patient safety and service delivery.	(GRIP) programs: audit, problem identification, action planning, action implementation and re-audit process.				patient at the start of each case report; a 31% increase in proper handing over of significant patient's history; and 18% increased compliance in providing detailed observation of patients.
Radtke, K., (2013). Improving patient satisfaction with nursing communication using bedside shift report.	To determine if standardizing shift report utilizing a beside component, improves patient satisfaction with nursing communication when compared to the current	Correlation study; Pilot study - a bedside shift handoff process was developed on a medical/surgi-cal intermediate care unit to improve patient satisfaction	Average of 100 patient surveys prior to implementation were audited; Post-implementation: 64 patient surveys over 3 months (Hospital participates in external monitoring of	The patient survey tool used by the hospital is not reported so we are not aware of its validity/reliabili-ty. Correlation study results do not imply causality.	Post-implementation, surveys monitored monthly X 3, showing a rise in satisfaction scores from 75% to 87.6%. Positive comments on bedside procedure from RNs and patients.	Yes. Although this project focused on an increase in patient satisfaction, the recommendations for developing a change process, identifying barriers to change, and assisting staff in holding reticent

	practice of a centralized report with no patient involvement.	scores using Peplau's interpersonal relations theory and Lewin's Change Theory.	patient satisfaction).			peers accountable for participation will assist others in undertaking a change.
Sand-Jecklin, K., Sherman, J., (2013). Incorporating bedside report into nursing handoff: evaluation of change in practice.	To investigate a means for improving the RN handover process (blended bedside and recorded) and implement based upon the evidence.	Quasi-experimental; Pre/post-test with comparison group design Practice change evaluation project .	Convenience sample of patients scheduled for discharge on a specific day on all medical/surgical units. (n=302 pre-implementation)(n=250 post implementation); RN surveyed pre (n=148) and post-(n=98) implementation.	Overall reliability for Nursing Assessment of Shift Report tool = .90; Limitations include: convenience sample may not be representative; no identifiers collected on RN survey; inconsistent RN implementation of process.	Patients: independent t-test comparisons showed significantly higher scores post implementation on "made sure I knew who my nurse was;" "include in shift report discussion;"& "communicated important information about care from shift to shift." RN (n=98) independent t-	Yes. Other outcomes of the study were a 13% reduction in fall rates and 50% reduction in medication errors from pre to post-implementation. Positive nurse perceptions were those involving safety checks, earlier assessment of patient, improved accountability, increased patient involvement.

						test showed significant positive difference in 2 of 7 items.
Thomas, L., Donohue-Porter, P., (2012). Blending Evidence & innovation: improving inter-shift handoffs in a multihospital setting.	To design a standardized handoff process that will minimize risk of error, implement evidence based processes, involve patient and family; create a user-friendly process that will facilitate implement-tion.	Quasi-experimental; Pre/post patient surveys (Press Ganey Patient Satisfaction Surveys); RN satisfaction surveys pre and post implementation. Pilot for shift handoff to test for improvements after implementation of a redesigned intershift handoff.	Seven hospitals of a multi-site system; although the specific # of RNs & patients involved was not published, a total of 7 nursing units representing 195 patient beds were involved in the process	Unknown # of RNs & patients involved in study; Appropriate design and recruitment of participants. Sufficient data to support findings. Press Ganey possesses validity and reliability; Report Satisfaction Survey (Anderson & Mangino, 2006) measured nurse outcomes.	Improvements in RN & patient satisfaction; new graduates reported feeling empowered by the I PASS The BATON template, as it cued them to essential information in the handoff. Satisfaction was related to opportunity for patient teaching at point of care; partnered assessment of pressure ulcers, IV sites, room and device set up. Patient	Yes. Sharing successes inspired participants who were experiencing handoff difficulties in their hospital; quality & safety scores showed sustained improvement; provided a model of how to bridge gap in Patient Safety Goal implementation.

					satisfaction scores improved with bedside component.	
Tidwell, T. et. al. (2011). A Nursing Pilot Study on Bedside Reporting to Promote Best Practice and Patient/Family -Centered Care.	To evaluate effectiveness of bedside nursing report implementation on a pediatric neuroscience unit.	Quasi-experimental; Pre/post surveys. Patient and nurse satisfaction and nursing overtime measured 6 months before and after implementation; data analyzed using paired t test, chi-square, and Fisher's exact test to determine significant changes.	All patients and their families (participation voluntary) admitted to the Neuroscience Unit from April 2007 – September 2007; non-English-speaking patients and caregivers excluded; All RNs on the unit participated.	Low response rates from patients (35% pre; 24% post); response rates from RNs pre were high (74%; n=23) but significantly lower post (59%; n=17); Survey(s) reliability not established.	Increased satisfaction reported by patients, families and nurses post implementation of bedside report; Decreased overtime resulted in cost saving of nearly $13,000 annually.	Yes. Results show positive outcomes in patient and RN satisfaction; are consistent with other study findings; a decrease in overtime shown indicating less time spent in handoff; limitations offer suggestions for changes in process.

Surveys; Case studies

Benson, E., Rippin-Sisler, C., Jabusch, K., Keast, S., (2007). Improving nursing shift-to-shift report.	A description of current practice of handoff practices in Canada and the final product of a nursing shift-to-shift report subproject team..	Survey; Pre-implementation survey of handoff practices across Canada and within Winnipeg Regional Health Authority (WRHA). Post-implementation survey yet to be completed.	Convenience sample of RN staff at discussion forums (60 total participants) to elicit feedback on reconfigured framework for proposed new handoff process.	Study design weak; small sample size	Developed definition of shift-to-shift report, principles, and guidelines.	Yes; although this is not a research study and little data was or has been collected, their literature review and subsequent work resulted in recommendation of guidelines for report, tool, educational strategies and evaluation plan for handoff process.
Chaboyer, W., McMurray, A., Wallis, M., (2010). Bedside nursing handover: a case study.	To describe the structures, processes and perceptions of outcomes of bedside handover in nursing.	Descriptive; Case study; Semi-structured observations and interviews.	532 bedside handovers were observed and 34 RN interviews conducted.	Sampling appropriate to the type of study; case study design appropriate as it asks 'what', 'why' and 'how' questions in a natural	Perceived outcomes were categorized as improving accuracy and service delivery, and promoting patient-centered	Yes. Project resulted in generation of a template of the structures, processes and outcomes of bedside handover. The findings can be

				environment to analyze existing situations.	care.	used as a basis for the development of standard operating protocols for implementation of bedside handoff.
O'Connell, B., Macdonald, K., Kelly, C., (2008). Nursing handover: It's time for a change.	To report on the first stage of a multi-phase project to examine RN perception of handoff; determine strengths and limitations of handoff process.	Survey; About 500 copies of The Clinical Handover Staff Survey were distributed on all wards of an Australian metropolitan tertiary hospital.	176 RNs representing 21 wards returned the survey anonymously	Face validity of survey tool was established by distributing to five expert nurses; it was piloted with five nurses to establish face validity. Volunteer status of respondents is a limitation of study.	RNs considered handoff subjective, time consuming, repetitious; Consider: 1) handoff guideline to promote report of relevant, objective info; 2) should be conducted by RN who cared for patient; 3) develop strategies to streamline and shorten process.	Yes. Authors used a valid tool to measure RN perceptions of handoff that resulted in quantitative findings establishing the inconsistencies in format and quality of handoffs.

Patterson, E.S., Roth, E.M., Woods, D.D., Chow, R., Gomes, J., (2004). Handoff strategies in settings with consequences for failure: lessons for healthcare operations.	To describe strategies employed during handoffs in four settings with high consequences for failure.	Ethnographic observational; Analysis of data	Subjects in each of the following settings: space shuttle mission control, nuclear power, railroad dispatching and ambulance dispatching.	Observers took steps to assure the validity and reliability of the inferences in their observations; per author, findings were dependent upon conceptual frameworks so likely did not find all strategies that were in use; evidence supporting a strategy might have been overlooked or evidence for a strategy might have been given too much weight.	Understanding how handoffs are conducted in settings with high consequences for failure can encourage endeavors to modify handoffs to improve patient safety. The settings investigated have similar characteristics of the health acre industry: composed of highly complex interconnected systems driven by events under high pressure with constraints on resources.	Healthcare does not have information "at a glance;" Handoffs vary according to coverage and responsibility. Recommendations: face to face reporting, include others in handoff so one person does not have all the information; flagging items of great importance in the chart, and reduce Interruptions.

Randell, R., Wilson, S., Woodward, P., (2011). The importance of the verbal shift handover report: A multi-site case study.	To describe current practices for the conduct of shift handovers and use this as a basis for considering the role that technology may play in supporting handover.	Case study; Observation of medical and nursing shift handovers.	Three case sites across two providers in England. Ethics Committee approval for study; written consent from patients and staff. Total of 48 handovers observed (33 nursing). A total of 368 hours of observation.	Study design lacks rigor.	Technology should support – not replace – verbal shift report, which is practically focused, supports teaching and team cohesion, provides opportunity for reflection and discussion with patients and families.	Yes; this article includes information on context, content, and purpose of handoff; essential information when revising procedures.
Staggers, N., Jennings, B., (2009). The content and context of change of shift report on medical / surgical units.	To describe the content and context of change of shift report (CoSR) on medical and surgical units and assess whether nurses use Electronic Health Records	Descriptive; Content analysis, qualitative; Reports were audio taped and observed by investigators; Tapes transcribed verbatim. Field notes	Purposive sample of 38 nurses involved in 53 patient reports over a period of 3 months	Per author, content and context for handoff reports may vary in different geographic locations.	Investigators found CoSR content to be informal, unstructured, and reliant upon nurses' memories. Context showed interruptions were common, big picture of care on unit	Yes. Recommendations made for improvements to handoff include standardization, customizing handoff for particular units, reducing interruptions and noise, and deter-mining content

(EHRs) during report.	recorded to capture features about context i.e. setting, nonverbal aspects of report, other activities.				largely lacking, and noise levels high. Electronic health records (EHRs) were not an adjunct to report.	amenable to computerization.

Expert Opinion

Catalano, K., (2009). Handoff communica-tion does affect patient safety.	Focus on need for handoff communica-tion that is methodical yet flexible & promotes patient safety.	Expert opinion	N/A	N/A	Lack of adequate handoff communication can and does lead to litigation. Verified that patient safety & quality of care can be improved with enhanced communica-tion.	Yes. Documented the impact of enhanced communication during handoff. The safeguards promoted by TJC, WHO, AHRQ can promote patient safety and quality of care.

Chapter 3 - Analysis of Literature

Analysis

An attempt was made to limit the literature to that published within the past five years. Countries of publication included the United States (70%), Australia (15%), United Kingdom (11%), and Ireland (.04%), (SCImago Journal & Country Rank, 2007). The majority of the literature reviewed is related to the outcome of patient and nurse satisfaction rather than patient safety. Because of this and the existence of seminal work preceding 2007, this author included literature older than five years; thus, the evidence table is composed of seven literature reviews, thirteen qualitative studies, six case studies or surveys and one expert opinion spanning the years from 2004 – 2013.

Most studies were lacking in data regarding post-implementation outcomes, the reported use of validated measurement instruments, or statistically significant data that justify changes in handoff processes. The use of small convenience samples and pre-experimental study designs was also problematic for generalizing findings in some studies. In fact, most studies reported only anecdotal data. A final review of literature focused on articles or studies related to the medical-surgical area, standardization of processes and content, incorporation of a bedside component, utilization of a tool to assist in an orderly process, and outcomes related to patient safety. It was considered important as well to look at change management practices within these studies and reviews as moving from the varied unstructured handoff practices currently in place will involve major planning for implementation for new, poorly-understood methods of handoff

After the search and review of the literature, it was found that all of the previously mentioned elements were rarely included in a single study or article. Changes in a handoff procedure may have been undertaken to include change to a standard process but no standard content. The handoff might have been moved to the bedside but with no reported standardization in content or process. Eight studies occurred specifically in a medical-surgical unit (Chaboyer, McMurray & Wallis, 2010; Chapman, 2009; Chung, Davis, Moughrabi & Gawlinski, 2011; Maxson, Derby, Wrobleski & Foss, 2012; Radtke, 2013; Sand-Jecklin & Sherman, 2013; Staggers & Jennings, 2009; Thomas & Donohue-Porter 2012). Many articles reported on changes of handoff procedures in other areas such as critical care units, pediatric, telemetry, rehabilitation, and psychiatric wards. These studies were included in the review as they contained important information on shift handoff change processes and patient safety outcomes. The literature was analyzed and synthesized in order to answer the PICO question.

Of the thirteen qualitative, quantitative, or mixed studies, only five reported results that were statistically significant. For example, Bradley and Mott (2012) investigated a bedside handoff in three small, rural South Australian hospitals. They administered a 7-point Likert scale questionnaire (19 items) and ethnographic interview questions to 48 self-selected RNs to determine RN satisfaction with pre and post-handover processes, incident frequency, and time to conduct handoff. Incidents were defined as burns, medication incidents, skin tears, slips, trips and falls. Overall, there was a 1.2-hour decrease in time to conduct handoff from pre to post-intervention. The authors considered the effect for time ($p = 0.057$) 'nearly significant.' The three sites showed average time to conduct handoff reductions of 13%, 67%, and 70% respectively. Results

also indicated a pre to post trend of reduced injury-causing incidents. A Poisson distribution was used which showed timed as negative (-.0714243) and statistically significant.

A quasi-experimental, pre and post-test design pilot reported by Jukkala, et al. (2012) tested a standardized Medical Intensive Care Unit (MICU) communication tool [MICU Communication Tool (MCT)] that was developed to improve RN shift handoff communication specific to body systems, lab results, procedures and family concerns. The tool served as a guide for a standardized content and information flow for the handoff. The team also developed a MICU Shift Report Communication Scale (MSR) (James et al., unpublished data, February 2012) to gather handoff information in three domains: communication openness, quality of information, and shift report. The pre-test was completed by 43 RNs and the post-test by 34 RNs. Nine items were each measured on a Likert scale of one (strongly agree) to four (strongly disagree). Post-intervention scores on the shift report sub-scale were lower (8.21 vs. 7.55) ($t = 0.7$; $P = .02$), while other subscales did not significantly change. The project team utilized the Clinical Microsystems Framework to guide the handoff procedure change. As the clinical microsystem is the "point at which patient and healthcare professionals intersect and care is delivered", the assumption by authors (Jukkala, et al., p. 2, 2012) was that quality, safety, and cost outcomes are produced at this point. Based upon staff involvement in the project, and the clinical microsystems assumptions, the authors reported an improvement in quality and safety. Self-reports by the RNs involved in the study were the only indication of improved communication specific to shift report. The authors concluded that a formalized process was important to handoff communication. Moreover, they

underscored the need for organizational support to integrating a formal process in shift handoffs.

In order to determine if bedside RN handoff increased patient satisfaction with the plan of care and increased the perception of teamwork and communication, Maxson, et al., (2012) conducted a quasi-experimental study with pre/post-surveys involving a convenience sample of 30 patients pre-implementation and 30 patients 1 month post-implementation. Fifteen RNs took part in the study pre/post-implementation. The patient survey consisted of five items on a Likert scale of 1 (strongly agree) to 4 (strongly disagree). The scale measured patient perception of open communication between team members, professionalism and confidentiality during handoff, satisfaction related to the amount of input they had in their plan of care, and if they were informed about the plan of care for the day. Results were tabulated using Wilcoxon rank-sum test with responses to only one question — I was informed about my plan of care for the day — showing significant pre-post differences ($p < 0.02$). The RN survey consisted of five items on a Likert scale of 1 (strongly agree) to 4 (strongly disagree) and measured changes in accountability, adequacy of communication at handoff, workload prioritization, medication reconciliation, and ability to communicate with other providers immediately after handoff. There were significant pre and post differences to all but one question — shift report helps me prioritize my workload. Authors concluded that bedside handoff had a positive impact for patients and RNs by increasing nurse awareness of the importance of communication on patient safety and satisfaction. It also demonstrated the handoff discussions have the potential to decrease medication errors due to increased medication reconciliation and enhanced communication.

Using a quasi-experimental pre and post survey design, a process improvement project was conducted by Poh, et al., (2013) in three phases using Joanna Briggs Institute (JBI) Practical Application of Clinical Evidence System (PACES) and Getting Research Into Practice (GRIP) program. The purpose was to 1) examine existing handover practices and processes in the tertiary mental health institution; 2) determine the strengths and limitations of the existing handover practice and processes; and 3) identify, implement and evaluate an evidence-based nursing inter-shift handover process to enhance patient safety and service delivery. After observing 212 handovers, pre/post-implementation of changes in handoff audit findings showed the rate of compliance had improved significantly for the four criteria: increase of 49% in rate of compliance in use of standardized documentation during shift handover session; increase of 74% compliance in proper identification of patient at the start of each case report; a 31% increase in proper handing over of significant patient history; and 18% increased compliance in providing detailed observation of patients. The PACES program is an audit tool that reports compliance in percentages. No other statistical data was included in the article.

To determine if standardizing shift report utilizing a bedside component improves patient satisfaction with nursing communication when compared to the current practice of a centralized report with no patient involvement, Radtke (2013) utilized a correlation study design. A bedside shift handoff process was developed on a medical/surgical intermediate care unit to improve patient satisfaction scores using Peplau's Interpersonal Relations Theory and Lewin's Change Theory. Post-implementation surveys monitored for three months showed a rise in satisfaction scores from 75% to 87.6%. This data was

obtained from an outside source used for monitoring patient satisfaction based on the

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey

as part of Medicare reporting standards.

The research utilization team at West Virginia University Healthcare

implemented a practice change from a totally recorded handoff report to a blended

version that incorporated a bedside component with a short recording (Sand-Jecklin &

Sherman, 2013). Educational sessions and handouts prior to initiation of the new process

described for the RNs what to include in the bedside handoff:

- Introductions and request for permission to perform the bedside report (to address
  privacy concerns).

- Brief description of situation, schedules tests, procedures.

- Assessment of pain.

- Plan of care for upcoming shifts.

- Updates since taping the recorded portion of report.

- Safety check: observation of incisions, intravenous catheters and drains, restraints,
  positioning, potential safety precautions, high-alert medications.

Results from a patient survey post implementation in the areas of (a) made sure I knew

who my nurse was (p=. 029), (b) included in shift report discussion (p=. 017), and (c)

communicated important information about care from shift-to-shift (p=. 016) all showed

significant differences compared to the pre-implementation survey. Nurse perceptions of

the bedside report were measured pre and post-implementation. Significant differences

were found in the following areas: (a) is an effective means of communication (p<. 001),

(b) is an efficient means of communication (p<. 001), (c) is relatively stress free (p<.

001), (d) helps prevent delays in patient care (p=. 025), (e) is completed in a reasonable time (p<. 001), (f) ensures accountability (p=. 003), and (g) promotes patient involvement in care (p<. 001). In the month before beginning bedside report and again three months post implementation for one month, patient falls during shift change and documented medication errors were measured. A 35% reduction in falls and a 50% reduction in medication errors were found. These reduced rates were not considered statistically significant but were of clinical significance.

A large-scale, multisite pilot project was undertaken by North Shore Long Island Jewish Health System to improve and redesign RN intershift report (Thomas, Donohue-Porter, 2012). One nursing unit from each of seven facilities within the Health System participated in the project, which represented 195 patient beds. The total number of RNs and patients participating was not documented in the article.

The improvement goal was to 1) standardize the format of report, 2) standardize the process, and 3) invite the patient and family to participate. This approach met the provisions of regulatory agencies regarding standardization of patient handoffs improving communication, and promoting patient-centered care through the inclusion of patients and families in the shift handoff (Stuart-Shor, 2010). The implementation of the pilot project coincided with the health systems adoption of AHRQ's TeamSTEPPS® evidence based system for improving patient safety, communication, and teamwork skills in the healthcare setting (AHRQ, 2013). A handoff tool —I PASS the BATON — provided through TeamSTEPPS was chosen for use in the pilot. This tool provided the key elements desired by the pilot team to guide the RNs in the standard process and communication focus for handoff. A critical element of this tool cues the partnered

assessment of skin, IV sites, tubes, room and device set up and other safety-related

patient care issues during handoff. Outcome measures were nurse satisfaction and patient

satisfaction. Nurse satisfaction was measured using the Report Satisfaction Survey

(Anderson & Mangino, 2006), a 6-item Likert scale with a seventh question added by the

team to assess nurse satisfaction with the change. Nurse satisfaction across the seven

hospitals showed improvements in all indicators (2012, p. 122). Patient satisfaction was

measured using the Press Ganey survey already in place in the system. Increases in three

patient satisfaction indicators were seen after implementation of the bedside handoff

(Thomas & Donohue-Porter, 2012, p 121).

Themes Noted in the Literature

Four major themes emerged in the development of a best practice process for the

RN shift handoff for a medical-surgical unit: 1) definition of handoff and/or bedside

handoff, 2) standardization of the handoff process and content, 3) incorporation of a

bedside component during handoff, and 4) reported safety outcomes of any practice

changes.

Definitions of handoff and/or bedside handoff.

All articles were assessed for a working definition of handoff. Thirteen articles

(48%) included a stated definition (as opposed to implied) for "handoff", with the most

consistent one being attributed to the Australian Medical Association (Wong, Turner &

Yee, 2008). Poh, Parasuram & Kannusamy (p. 26, 2013) used the definition verbatim:

"the transfer of professional responsibility and accountability for some or all aspects of

care for a patient, or group of patients, to another person or professional group on a

temporary or permanent basis". Chaboyer, et al., (2010) abbreviated this definition as

'the transfer of responsibility and/or accountability for patient care from one provider or team of providers to another.' Wong, et al., (2008) noted the Australian Medical Association definition of handoff is not universally recognized. The lack of a specific definition was reiterated by Staggers and Blaz (2012) who found them inconsistent or absent in a review of thirty articles. Only one author, Halm (2013), included *how* the handoff goals were accomplished, specifically stating "through effective communication".

Of the nine studies that included a bedside handoff or component, only two (20%) included a specific definition for "bedside handoff". Anderson & Mangino (p.114, 2006) calls bedside nurse shift report "a process where nurses provide shift-to-shift report at the patient's bedside, so the patient can be more involved in his or her care". Thomas and Donohue-Porter (p. 117, 2012) define the bedside 'intershift report' as "a handoff strategy in which the oncoming nurse and the outgoing nurse transfer information about the patient's current condition, treatment, and recent changes at the patient's bedside". Authors varied in explaining what should be accomplished with a bedside handoff, what content should be included and others did not address these subjects at all (Table 3.1).

Standardization of handoff process and content.

Standardized handoff communication is defined as a process in which information about patient/client/resident care is communicated in a consistent manner from one healthcare provider to another (Friesen, et al., 2009). Each study was assessed for a specific handoff process and the required use of a tool during handoff. Standardization of the handoff process was specifically described in three of the thirteen qualitative studies (Laws & Amato, 2010; Maxson, et al., 2012; Sand-Jecklin & Sherman, 2013; Thomas &

Donohue-Porter, 2012) and one survey by Benson, Rippin-Sisler, Jabusch & Keast, (2007). Despite the explicit recommendations of TJC and AHRQ to use a standardized approach to shift handoffs (Hughes & Clancy, 2005), ten studies eliminated this focus from the changes made to their processes as it was either absent (Bradley & Mott, 2012; Kerr, Lu, & McKinlay, 2013; Maxson, et al., 2012; Radtke, 2013; Tidwell, Edwards, Snider, Lindsey, Reed, Scroggins, Zarski & Brigance, 2011) or poorly defined (Anderson, & Mangino, 2006; Chapman, 2009; Chung, et al., 2011; Jukkala, et al., 2012; Poh, et al., 2013). Standard content within the handoff as evidenced by the use of a handoff tool was documented by six studies (Benson, et al., 2007; Chung, 2011; Jukkala, et al., 2012; Laws & Amato, 2010; Sand-Jecklin & Sherman, 2013; Thomas & Donohue-Porter, 2012). The remaining had no standard processes or tools (Maxson, et al., 2012; Tidwell, et al., 2011), poorly defined content (Anderson & Mangino, 2006; Poh, et al., 2013), or the use of a tool was only "suggested" or "encouraged" (Chaboyer, et al., 2010; Chapman, 2009; Radtke, 2013). These findings are reflected in reviews of the literature by Staggers and Blaz (2012) and Riesenberg, et al., (2012).

According to Staggers and Blaz (2012), the evidence to support the use of tools that dictate content and structure of handoffs is weak. The Joint Commission recommends the use of SBAR (Situation-Background-Assessment-Result) to guide RN shift handoffs, yet this tool has not been adequately researched for this use (Holly & Poletick, 2013). The SBAR format was intended for use as a communication tool for nurses to communicate patient care issues to physicians (Staggers & Blaz, 2012); thus its use as an RN shift handoff tool necessitates adaptations which may decrease its value and confuse users to the original intent. Holly and Politick (2013) conclude that a consistent

guideline may provide for the best possible handoff given the findings of inconsistent, inaccurate and absent information of the typical handoff.

Incorporation of a bedside component during handoff.

Of the qualitative, case studies and surveys reviewed, ten reported on the use of a bedside handoff component (Bradley & Mott, 2012; Anderson & Mangino, 2006; Chaboyer, et al., 2010; Chapman, 2009; Laws & Amato, 2010; Maxson, 2012; Radtke, 2013; Sand-Jecklin & Sherman, 2013; Thomas & Donohue-Porter, 2012; Tidwell, et al., 2011). Thomas & Donohue-Porter (2012) utilized a TeamSTEPPS handoff tool —I PASS the BATON — that incorporates a bedside team assessment of safety issues. Sand-Jecklin & Sherman (2013) used SBAR for the bedside component and added a list of specific safety issues to assess. Chaboyer, et al., (2010) reported on the development of a standardized process with shift-to-shift report principles and report guidelines that directed content. The principles acted as the underlying values for report that were applicable to all care areas of the system. The guidelines were to assist the RN with a consistent focus for handoff yet allow for flexibility needed for different patient circumstances. Of note, a bedside "walk around" was only suggested in this process. Benson, et al., (2007) developed guidelines for shift report which suggested the "use of a tool may be beneficial". Of the ten studies reporting use of a bedside handoff component, three (Laws & Amato, 2010; Thomas & Donohue-Porter, 2012; Sand-Jecklin, 2013) specifically included a bedside safety check to be performed by the on-coming and off-going nurses. This safety check may include verifying patient identification, intravenous fluids, invasive lines, tubes and connections, fall risks, resuscitation orders and other safety issues.

Reported safety outcomes of practice changes.

The importance of safety as an outcome measure was established early on in this paper (Kohn, Corrigan & Donaldson, 1999; TJC, 2005; Federwisch, 2007; Friesen, White & Byers, 2009; Streeter, 2010; Blouin, 2011). Recommendations for practice and findings in the literature reviews conclude that standardized handoffs can have a positive impact in the reduction of complications and adverse outcomes (Halm, 2013) and may be important to quality care and patient safety (Bradley & Mott, 2012; Catalano, 2009; Holly & Poletick, 2013; Jukkala, et al., 2012; Maxson, et al., 2012; Thomas & Donohue-Porter, 2012). Riesenberg, Leitzsch & Cunningham (2010), suggest a reduction of handoff errors can be used as a measure for improved patient safety. Despite this importance, only Sand-Jecklin & Sherman (2013) reported specific safety outcomes in the form of a decreased number of medication errors and decreased number of patient falls post implementation of an intervention. There were several references within the qualitative studies to "perceived safety" or patient reports of "I feel safe" yet no data to support these perceptions. Any other mentions of "safety" in the remaining studies are references to findings and information documented elsewhere.

Summary

The review of the literature demonstrates that the RN shift handoff is an integral component of nursing care and a highly complex process of information transfer and improving patient safety outcomes. Having accurate, essential information is crucial to providing high standards of care. Standardization of the handoff process has demonstrated a decrease in the loss of patient information and an enhancement in effective communication. Use of mnemonics or a standard handoff template can ensure

information redundancy and error checking. Movement of a portion of this process to the bedside allows for a team safety assessment and can result in increased patient safety, patient satisfaction, and patient and family involvement in plan of care.

Despite the varied interesting articles, anecdotal evidence and results of qualitative studies, the need for high quality research in the area of handoff context and content cannot be understated. Using the reviewed literature to answer the PICO question - "In the medical/surgical care setting, what is the best standardized process and tool for professional registered nurse shift handoff that incorporates a bedside component and enhances patient safety?" may not be completely possible. Based upon the literature, the "best process" has yet to be found. The "best tool" will be the one that assists the RN in completing the handoff with minimal gaps in information exchange, enhancing inclusion of the patient and family and increasing positive safety outcomes. This tool could vary between institutions with "best" defined as the tool that provides the RN with the most appropriate assistance in his or her particular setting. Collaboration between the DNP professional and a PhD colleague experienced in experimental design would greatly enhance the development and implementation of a RN shift handoff change process that could begin to establish the necessary evidence upon which to base future changes.

Conclusion

Multitudes of processes and tools have been developed for use in RN shift change handoffs. Although much of the research is less than rigorous, there is valuable information throughout the literature regarding the importance and benefits of a standardized processes and content for handoff and inclusion of a bedside component. High-quality evidence based upon rigorous quantitative and qualitative evaluations is

lacking. Scott, Ross and Pyrtherch (2012) suggest the benefits of using weak evidence to implement changes in the presently poor handoff processes outweighs any harm, while Riesenberg, et al., (2009) call for "rigorous outcome studies" to establish the usefulness of mnemonics, the elements of handoff and implementation strategies that lead to improved outcomes and best practice.

Findings from this literature review show the following:

- Nursing shift report handoff is a period of high-risk communication.

- Communication failures result in missed nursing care, medication errors, decreased patient safety, and nurse dissatisfaction.

- Improved communication leads to increased patient safety and satisfaction, along with nurse collaboration and job satisfaction.

- Standardization of processes enhances nurse communication and promotes increased patient safety.

- Bedside handoff results in increased patient safety along with increased patient & family satisfaction and involvement in plan of care.

- Continued rigorous research studies are needed to guide practice change.

Table 3.1
Comparison of Definitions

Author	Definition of handoff	Purpose or function	Content of handoff	Definition of bedside handoff	Purpose of function	Content of handoff
Reviews						
Halm, M., (2013). Nursing handoffs: Ensuring safe passage for patients	Transfer and acceptance of responsibility for patient are that is achieved *through effective communication*; a real-time process of passing patient-specific information from one caregiver to another or from one team of caregiver to another to ensure the continuity and safety of that patients care.	Social bonding; coaching, teaching team-building; information processing	No	No	Introduce oncoming nurse; address patients' concerns; perform quality/safety checks; check for missing formation and ask final questions; rectify unexpected findings in real time.	No
Holly, C., Poletick, E., (2013). A systematic review on the transfer of	No	Opportunity for nurse-to-nurse communication about a patients' state;	No	No	No	No

information during nurse transitions in care.		prioritization of patient care. Continuity of care; provision of safe care.				
Patterson, E., Wears, R., (2010). Patient Handoffs: Standardized and reliable measurement tools remain elusive.	The process of transferring primary authority and responsibility for providing clinical care to a patient from one departing caregiver to one oncoming caregiver.	To provide accurate information about care, treatment, services, current condition, and any recent or anticipated changes; information communicated is accurate in order to meet patient safety goals.	No	No	No	No
Riesenberg, L., Leitzch, J., Cunningham, J., (2010). Nursing Handoffs: a systematic	A process in which information about patient/client/resident care is communicated in a consistent manner from one health care	No	Strategies for Effective Handoffs	N/A	N/A	

review of the literature.	provider to another.					
Staggers, N. & Blaz, J., (2012). Research on nursing handoffs for medical and surgical settings: an integrative review.	The exchange between health professionals of information about a patient accompanying either a transfer of control over, or of responsibility.	Information transfer; education; group cohesion; socialization of novice nurses.	No	No	No	No
Wong, M. C., Yee, K. C., Turner, P., (2008). A structured evidence-based literature review regarding the effectiveness of improvement interventions in clinical handovers.	The transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.	No	No	No	No	No

Qualitative

Anderson, C., Mangino, R., (2006). Nurse shift report: who says you can't talk in front of the patient.	No	Exchange patient information; continuity of care during transitions of care; meet patient needs.	No	A process where nurses provide shift-to-shift report at the patient's bedside so the patient can be more involved in his or her care.	Increase patient satisfaction; relationship building between staff; prioritization of care; allow patient access to care and health information.	Not clear
Bradley, S., Mott, S., (2012). Handover: Faster and Safer?	A leading source of clinical information that directs nursing practice as well as providing opportunities for other activities.	No	No	No	A superior method of handover, leading to increased safety and proficient economic benefits to the organizations involved.	No

Chapman, K., (2009). Improving communication among nurses, patients, & physicians.	No	No	No	No	Save time; increase accountability; involve patients in information exchange.	No
Chung, K., Davis, I., Moughrabi, S., Gawlinski, A., (2011). Use of and evidence-based shift report tool to improve nurses' communication.	The part of daily practice when nurses ending their shift transfer critical information to nurses starting the nest shift to ensure the delivery of safe, holistic patient care.	Promote continuity of care; facilitate decision making to prioritize patient needs.	Yes; report tool with check-boxes and fill-in-blank for specific information	No	No	No
Jukkala, A., James, D., Autrey, P., Azuero, A., & Miltner, R., (2012). Developing a standardized tool to improve nurse communication during shift	The process of transferring care and accountability for a patient from one health care professional to another.	No	Yes; paper communication tool with demographics; systems assessment; other	No	No	No

report.

Kerr, D., Lu, S., McKinlay, L., (2013). Bedside handover enhances completion of nursing care and documentation.	Communication of pertinent patient information between health care providers	Facilitate continuity of patient care	No	No	No	No
Laws & Amato, D., Amato, S., (2010). Incorporating bedside reporting in to change-of-shift report.	No	Promote patient safety; involve patient in plan of care	No	No	Get a baseline assessment; prioritize care; increase patient involvement in care;	Report tool; content not provided
Maxson, P., Derby, K., Wrobleski, D., Foss, D., (2012). Bedside nurse-to-nurse handoff	No	Allows the exchange of necessary patient information; ensures continuity of care; promotes	Patient diagnosis; procedures performed; hemodynamic stability; plan of care; topics for discussion	No	Allows visualization of patient and opportunity to ask questions of off-going nurse and patient;	No

promotes patient safety.		patient safety.	during physician rounds.		encourages patient involvement in plan of care.	
Poh, C. L., Parasuram, R., & Kannusamy, P. (2013). Nursing inter-shift handover process in mental health settings: a best practice implementation project.	The transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.	No	Patient identification; relevant history of patient stated; detailed observation (assessment?) of patient stated; plan of care.	No	No	No
Radtke, K., (2013). Improving patient satisfaction with nursing communication using bedside shift report.	No	Exchange information from nurse to nurse.	No	No	Improve communication between nurses, patients, families; assist in provision of patient-centered care; build therapeutic relationship; increase	ISBAR: introduction, situation; background; assessment; recommendation.

						patient satisfaction.
Sand-Jecklin, K., Sherman, J., (2013). Incorporating bedside report into nursing handoff: evaluation of change in practice.	No	No	No	No	Improve patient satisfaction and nurse patient relationship; increase report accuracy; improve patient outcomes and safety; Reduce discharge.	Introduction; scheduled tests/procedures; safety check; assess pain; plan of care
Thomas, L., Donohue-Porter, P., (2012). Blending Evidence & innovation: improving inter-shift handoffs in a multihospital setting.	No	Promote continuity of care and safe transfer of patient from nurse to nurse; debriefing; education; socialization to profession establish teamwork; involve patient in plan of care;	No	A handoff strategy in which the oncoming nurse and outgoing nurse transfer information about the patient's current condition, treatment	No	I PASS BATON

		immediate visualization of patient.		and recent changes at the bedside.		
Tidwell, T., et.al., (2011). A Nursing Pilot Study on Bedside Reporting to Promote Best Practice and Patient/Family-Centered Care	No	Promote continuity of care; enhance patient safety; deliver best practices	No	No	Promote a collaborative, family-centered approach to care.	No
Surveys; Case Studies						
Benson, E., Rippin-Sisler, C., Jabusch, K., Keast, S., (2007). Improving nursing shift-to-shift report.	An important information sharing process *for ensuring and maintaining continuity and quality of safe patient care;* complies with legal and professional practice standards.	Incorporated within definition	Demographic data; safety/security issues; unusual occurrences; D/C plans; significant observations; pending labs, treatment, consults; medication stats or PRN	No	No	No

			and outcomes; family needs.			
Chaboyer, W., McMurray, A., Wallis, M., (2010). Bedside nursing handover: a case study.	The transfer of responsibility and/or accountability for patient care from one provider or team of providers to another.	No	No	No	A strategy to improve patient-centered care.	No
O'Connell, B., Macdonald, K., Kelly, C., (2008). Nursing handover: It's time for a change.	A routine part of nursing practice where information relating to patient care is passed on from one nurse to another at the change over of shift.	Exchange of information; socialization; organization; education.	No	No	Patient involvement in care; easy nurse assessment of patient.	No
Patterson, E.S., Roth, E.M., Woods, D.D., Chow, R., Gomes, J. (2004). Handoff strategies in settings with	No	Accurate transfer of information about a patient's state and care plan; increase team cohesiveness, training,	No	N/A	N/A	N/A

consequences for failure: lessons for healthcare operations.		socialization, emotional catharsis				
Randell, R., Wilson, S., Woodward, P., (2011). The importance of the verbal shift handover report: A multi-site case study.	A process that involves the passing and acceptance of responsibility for some or all aspects of care for a patient, or group of patients, and the sharing of relevant information.	Ensure continuity of information and care	No	N/A	N/A	N/A
Staggers, N., Jennings, B., (2009). The content and context of change of shift report on medical / surgical units.	No	Information exchange; social, organizational, educational emotional. function;	No	N/A	N/A	N/A

Expert opinion

Catalano, K., (2009) Handoff communication does affect patient safety.	The transfer of information (along with authority and responsibility) during transitions in care across the continuum; to include an opportunity to ask questions, clarify and confirm.	The aim of handoff communication is for all parties involved to deem that the information exchanged and received has been understood correctly by everyone.	TJC Elements of Performance (see Table 1.2) Information that is up-to-date regarding condition, care, treatment, medications, services, recent or anticipated changes to condition.	N/A	N/A	N/A

* Indicates those articles whose major focus was bedside handoff

Chapter 4 – Product

Introduction

Upon analysis and synthesis of the literature, it is evident that little consensus

exists on a best practice or a best tool to facilitate a high quality, safe, RN shift handoff.

The literature consisted of descriptive studies with small sample sizes, a few reports of

data, or single case studies. Systematic reviews noted the quality of numerous studies to

be low and the most prevalent consensus throughout was the need for rigorous research

on standardization of processes, communication during handoff, and moving the

procedure to the bedside (Riesenberg, et al., 2010; Staggers & Blaz, 2012; Patterson &

Wears, 2010; Wong, et al., 2008). The recommendations were rated for evidence using

Melnyk and Fineout-Overholt (2006) *Rating System for the Hierarchy of Evidence*

(Table 4.1). The grades of the strength of the recommendations were assigned *using* the

Strength of Recommendation Taxonomy (SORT) algorithm for determining the strength of

a recommendation based on a body of evidence (Appendix C).

Considering the mandates and/or recommendations of TJC (2006) and AHRQ

(Hughes & Clancy, 2005), changes in RN shift handoff need to be made despite the lack

of strong evidence to support these changes. Scott, Ross, and Pyrtherch (2012) suggested

the benefits of using weak evidence to implement changes in the presently poor handoff

processes outweighed any harm.

The recommended product is a standardized process for RN shift handoff that

promotes effective RN communication and incorporates a bedside component to promote

patient centered care, a decrease in adverse events, and increased patient safety. The

bedside handoff should include a safety check by the on-coming and off-going nurses

(Thomas & Donohue-Porter, 2012; Sand-Jecklin & Sherman, 2013). A tool, or template,

is recommended to facilitate and guide the standardization of the process and the

information to be communicated in the handoff (Staggers and Jennings, 2009; Holly and

Politick, 2013).

Evidence Linked to Recommendations (Table 4.2)

Guideline

Guideline for a safe RN shift handoff that results in standardization of processes and

communication, patient-centered care, and a decrease in adverse patient events.

Recommendation I: A standardized process will be followed by RNs during each

handoff.   Strength of recommendation: C

Recommendation II: The majority of the handoff will take place at the patient bedside

with off-going and on-coming RN participating.   Strength of recommendation: C

Recommendation III: A standardized tool will guide RN communication and a team-

approach safety check during shift handoff. Strength of recommendation: C

Recommendation IV: The patient and family will be included in the handoff

conversation. Strength of recommendation: C

Supporting Tools

Policy

Policies and procedures in any business are a means for accomplishing important

goals and objectives in an organized and consistent manner (Nagelkirk, 2005). Nursing

policies and procedures reflect the latest research and evidence and therefore direct

evidence-based practice (Becker, et al., 2012). A policy describes general guidelines for a

procedure, with the procedure explaining the specific steps taken to carry out the policy

(2005). A policy and procedure was developed utilizing a standard format (Appendix D).

The guidelines serve as *policy* and TeamSTEPPS® handoff tool, I PASS the BATON,

serves as the *procedure*. The first guideline specifies standardization of the process. This

will begin with the oncoming RN obtaining a patient assignment, which will prepare him

or her with name, room number, and admitting physician at a minimum. During this

time, RNs will have the opportunity to print any available computerized supporting

documents. Many times these documents contain lab results and vital signs for the last

24 hours, a list of medications, and space for note-taking. At this point, the oncoming

RN will meet with the off-going RN to begin the report process. If necessary, sensitive

information can be shared in the event the patients' privacy may be comprised if

discussed at the bedside.

The majority of the handoff will take place at the patient bedside with off-going

and on-coming RN participating. The entire handoff can occur at the bedside unless there

are privacy issues as noted previously. Research has shown that involving the patient

during handoff results in increased satisfaction and involvement in care (Thomas &

Donohue-Porter, 2012).

Procedure

Registered nurse communication will be facilitated using the TeamSTEPPS® I

PASS the BATON handoff tool, which has been tested by DoD and AHRQ, and assists

RNs in standardization of the process. Incorporated into this tool is the safety check to be

performed as a team. The well-defined safety check will assist in the detection of safety

issues, prevention of missed care, and a reduction in adverse events.

The patient and family will be included in the handoff conversation to facilitate

patient-centered care. RNs will follow the tool, acknowledge the patient, ask questions,

and encourage participation. The bedside handoff will allow the patient and family to be

active participants in care and assist in meeting guidelines for patient centered care

(Patterson & Wears, 2010).

The handoff tool, I PASS the BATON, was deemed the most appropriate

communication tool to assist in a concise, focused, and safe handoff. This tool is found

in TeamSTEPPS®, an evidence-based system developed by the DoD and AHRQ to

improve teamwork in healthcare (Clapper & Kong, 2012; AHRQ, 2013). This handoff

tool places focus on ownership, timing of actions and safety while meeting TJC

recommendations for communicating accurate and timely information regarding

treatment, services, current condition, and recent or anticipated changes (Runy, 2010;

Clapper & Kong, 2012).

The mnemonic I PASS the BATON represents the following: I – Introduction; P –

Patient; A – Assessment; S – Situation; S – Safety; (the) B – Background; A – Actions; T

– Timing; O – Ownership; N – Next. The key elements remain constant while content

can change depending on the type of unit where it is used. This tool (Appendix D, page

2) is suitable for a general medical-surgical unit. Upon admission to the hospital and

with each unit transfer, patient and family (as available) will be informed of the handoff

process and the desired participation.

The off-going RN will *introduce* the on-coming RN to the patient and family, making note to "manage up""— advocating for the RN replacement and assuring the patient and family that he or she has the their best interests in mind. *Patient* prompts the RNs to check together the patient' hospital ID bracelet, verifying identity per hospital policy. *Assessment* is next with a focus on chief complaint, admitting diagnosis, current symptoms, and vital signs. This provides a foundation for the oncoming RN to establish the normal parameters for the patient's condition and diagnosis. *Situation* prompts the off-going RN to relay information regarding status of the patient, recent changes and responses to treatment. The *Safety* prompt in this tool is missing in many of the other tools found in the literature. This step will assist in the detection of safety issues, prevention of missed care, and a reduction in adverse events. The off-going RN will report any critical lab values; allergies; and alerts such as fall or restricted extremity. Together, both RNs will verify the presence of required safety equipment, check IV site and fluid, verify PCA or epidural orders and settings, and other as indicated in the tool. *Background* is a report of past medical history and current medications. Awareness of comorbidities gives the RN a broader scope of the patient's needs. For example, how may the acute illness affect an underlying chronic illness? Treatments, tests, or procedures and the rationale for performing are reported in the *Actions section*. With this knowledge, the oncoming RN can anticipate nursing care for the shift. For example, if the patient underwent a cardiac catheterization, he/she can plan for assessing the access site per policy. Prioritization and explicit timing of upcoming patient needs is reported in the *Timing* section. *Ownership* will prompt the off-going RN to relay information about the physician on call for the night and family contacts and phone numbers. *Next* prompts

the discussion of any anticipated changes in patient status, plans for upcoming tests, nursing care, and contingency plans. At this point, the on-coming RN has the opportunity to clarify, question or express concerns. The patient and/or family will be asked to add to, change, or question the handoff. This engages the patient in his or her care, increasing awareness of the plan of care and providing opportunities to ask or answer questions (DoD, 2005). A description of the steps for handoff plus rationales assists the registered nurse in implementation of the new process and addresses some of the barriers to bedside handoff (Appendix D, page 3).

Table 4.1
Rating System for the Hierarchy of Evidence

Level I	Evidence from a systematic review of all relevant randomized controlled trials (RCTs), or evidence-based clinical practice guidelines based on systematic reviews of RCTs
Level II	Evidence obtained from at least one well-designed Randomized Controlled Trial (RCT) □ □
Level III	Evidence obtained from well-designed controlled trials without randomization, quasi-experimental
Level IV	Evidence from well-designed case-control and cohort studies
Level V	Evidence from systematic reviews of descriptive and qualitative studies
Level VI	Evidence from a single descriptive or qualitative study
Level VII	Evidence from the opinion of authorities and/or reports of expert committees

Melnyk, M. and Fineout-Overholt, E. (2005). "Evidence-based practice in nursing & healthcare: A guide to best practice." p. 10

Table 4.2

Evidence Linked to Recommendations

	Recommendation	Evidence	Level of Evidence
1	A standardized process will be followed by RNs throughout the facility during each handoff	Halm, M., (2013).	V
		Holly, C, Poletick, E (2013)	V
		Staggers, N, Jennings, B (2009)	V
2	The majority of handoff will take place at the patient bedside with off-going and on-coming RN participating.	Anderson, C., Mangino, R., (2006)	VI
		Bradley, S., Mott, S., (2012)	VI
		Chung, K., et. al., (2011)	VI
		Thomas, L, Donohue-Porter, P (2012)	VI
3	A standardized tool will guide RN communication and a team-approach safety check throughout the facility during shift handoff.	Chung, K., et al., (2011)	VI
		Thomas, L, & Donohue-Porter, P (2012)	VI
		Holly, C., & Poletick, E (2013)	V
		Sand-Jecklin, K., & Sherman, J., (2013)	VI
4	The patient and family will be included in the handoff conversation to facilitate patient-centered care.	Maxson, P. et. al. (2012)	VI
		Sand-Jecklin, K, Sherman, J., (2013)	VI
		Tidwell, T., et al., (2011)	VI

Chapter 5 Conclusions and Recommendations

Discussion of Recommendations Based on Analysis

Recommendation I: A standardized process will be followed by RNs during each handoff.

A review of the literature by Halm (2013) addressed the effect of standardization of handoffs on patient, clinician, and financial outcomes. The literature demonstrated improved communications with increased conciseness, reduced falls and adverse outcomes, higher patient satisfaction scores, and less payment of overtime were demonstrated. Holly and Poletick (2013) and Staggers and Jennings (2009) provided evidence that efficiency and effectiveness of the shift handoffs may be improved with more structure of the process.

Recommendation II: The majority of the handoff will take place at the patient bedside with off-going and on-coming RNs participating.

Anderson and Mangino (2006) pointed to the benefits of a bedside handoff, which included a better-informed patient who would experience less anxiety and was more likely to follow health advice. The nurses would benefit through the opportunity to visualize the patient early in the shift thereby increasing the chance to prioritize care. The RN would also be better prepared to communicate with other caregivers regarding patient status. A bedside handoff was typically shorter, more informative, and individualized compared to traditional methods of handoff. Thomas and Donohue-Porter (2012) found nurses felt more accountable for keeping order at the bedside and teaching

new RNs during handoff after implementation of a bedside handoff. Nurses also appreciated the importance of team approach to assess safety issues during handoff. Also noted by Thomas & Donahue-Porter (2012) was a decrease in adverse patient events from eighteen pre-implementation to seven post-implementation events. The time needed to complete handoff was decreased after implementing a handoff change-process of conducting the handoff at the bedside (Bradley and Mott, 2012; Chung, et al., 2011).

Recommendation III: A standardized tool will guide RN communication and a team-approach safety check during shift handoff.

Holly and Politick (2013) concluded that a consistent guideline may provide for the best possible handoff given the findings of inconsistent, inaccurate, and absent information of the typical handoff. Nurses reported increases in assessments of patients' IV medications and patient status, increased introductions of staff, and decreases in falls and medication errors following implementation of bedside report (Sand-Jecklin & Sherman, 2013).

The I PASS the BATON (AHRQ, 2013) template was introduced to RNs for shift handoff and resulted in positive feedback from RNs and patients (Thomas & Donohue-Porter, 2012). New RNs particularly felt empowered as the tool prompted them to include essential information for handoff. This template includes a prompt for safety concerns. After piloting a standardized RN handoff tool, investigators noted an increase in the thoroughness of shift report, a decrease in the frequency of missed information, and a decrease in the use of overtime (Chung, et al., 2011).

Recommendation IV: The patient and family will be included in the handoff conversation.

In a quasi-experimental study, Maxson et al., (2012) found an increase in patient satisfaction in the areas (a) involvement in process, (b) involvement in plan of care, (c) confidence in the professionalism of caregivers and (d) enhancement of communication with caregivers after implementation of bedside handoff. Sand-Jecklin and Sherman (2013) found significantly more positive responses from patients in a survey after implementation of bedside report. Patients reported they received important information regarding care and were consistently made aware of which RN was providing their care during the hospitalization. Parents in a pediatric unit reported increases in their excellent responses when shift report was conducted during their presence. Parents reported that they felt more informed and more respected by team members regarding the care decisions (Tidwell, et al., 2011).

Implication of Outcome on Practice

The outcome of this work was a standardized process and tool for an efficient and safe RN handoff. Standardizing and simplifying processes and procedures decreases the demand on working memory, planning, and/or problem-solving. The use of protocols and checklists reduces reliance on memory and serves as a reminder for the steps to be followed (Barnstormer, 2011; Jukkala, James, Autry & Azuero, 2012).

Handoff is a complex process and must provide accurate essential information. It should include a patient's current status, recent changes in condition or treatment, anticipated changes in condition or treatment, and a plan that address anticipated events (AHRQ, 2013). Only a small percentage of articles from the literature review included a

defined safety check for the nurses to complete at the bedside as a team. This product paves the way for improving safety outcomes and decreasing adverse events due to the improved communication guided by the process and tool, and by the enhanced safety check imbedded in the tool.

Implication of Outcome on Research

The literature analysis shows a lack of rigorous research on the subject of handoffs and particularly the impact of the bedside handoff on improved safety outcomes. As noted in chapter II, most studies were lacking in data regarding post-implementation outcomes, the reported use of validated measurement instruments, or statistically significant data that justified changes in handoff processes. This work highlights the need for a collaborative effort between research nurses and practice nurses to establish evidence-based practice in the handoff arena. Defining the function of the handoff, quality measures and development of measurement tools are areas in need of research.

Implications of Outcome on Education

It is imperative that inter-professional communication skills be taught and reinforced in all nursing programs and across disciplines. The Quality and Safety Education for Nurses (QSEN) objectives for handoff reporting focuses on the importance of professional and effective communication and the improvement of patient outcomes and safety (Sherwood, G., & Barnsteiner, J, G., 2012). Varied teaching methods are available for use in the academic setting. Role-play, group discussion, and feedback are suggested by Berkhof, et al., (2011) as strategies for teaching followed by the practice of new communication skills. After implementing simulation-based training for RN

handoffs that included the use of a bedside handoff tool, Berkenstadt, et al. (2012)

showed an increase in communication of crucial information during handoffs, events that

had occurred on the previous shift, and treatment goals for the next shift. The use of

simulation allows students the opportunity to practice skills and receive faculty feedback

in a non-threatening environment (Zavertnik, et al., 2010).

Summary

In evaluating the PICO question "In the medical/surgical care setting, what is the

best standardized process and tool for professional registered nurse shift handoffs that

incorporates a bedside component and enhances patient safety?" I was able to identify a

number of superior pieces of literature that spoke to the necessity of high-quality RN shift

handoffs. This literature verified the advantages of standardization and cognitive artifacts

in improving communication between handoff participants. The addition of a bedside

component to the procedure was shown in many cases to improve patient satisfaction, yet

there was only minor evidence to indicate positive outcomes in patient safety. Despite

the lack of rigorous research in this subject, the importance of handoffs in patient care

and the mandates of regulatory agencies cannot be ignored. The literature shows that

standardization, cognitive artifacts and bedside reporting have clinically significant

impacts upon safety and enhanced communication that result in the best practice

recommendations.

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Appendix A: Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist

10 Questions to help you make sense of qualitative research

How to use this appraisal tool
Three broad issues need to be considered when appraising the report of a qualitative research:

- Are the results of the review valid?   *Questions 1 - 8*
- What are the results?   *Question 9*
- Will the results help locally?   *Question 10*

    The 10 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions.

    There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicized prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

<u>**Screening Questions**</u>

1. Was there a clear statement of the aims of the research?
HINT: Consider

- What was the goal of the research?
- Why it was thought important?
- Its relevance

2. Is a qualitative methodology appropriate?
HINT: Consider

- If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
- Is qualitative research the right methodology for addressing the research goal?

Is it worth continuing?

<u>**Detailed Questions**</u>

3. Was the research design appropriate to address the aims of the research?

HINT: Consider
>If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

4. Was the recruitment strategy appropriate to the aims of the research?
HINT: Consider
- If the researcher has explained how the participants were selected
- If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study
- If there are any discussions around recruitment (e.g. why some people chose not to take part)

5. Was the data collected in a way that addressed the research issue?
HINT: Consider
- If the setting for data collection was justified
- If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
- If the researcher has justified the methods chosen
- If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)?
- If methods were modified during the study. If so, has the researcher explained how and why?
- If the form of data is clear (e.g. tape recordings, video material, notes etc)
- If the researcher has discussed saturation of data

6. Has the relationship between researcher and participants been adequately considered?
HINT: Consider
- If the researcher critically examined their own role, potential bias and influence during
   (a) Formulation of the research questions
   (b) Data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

7. Have ethical issues been taken into consideration?
HINT: Consider
- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

8. Was the data analysis sufficiently rigorous?

HINT: Consider
- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data?
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
- To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

9. Is there a clear statement of findings?

HINT: Consider
- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researchers arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

10. How valuable is the research?

HINT: Consider
- If the researcher discusses the contribution the study makes to existing knowledge or understanding, e.g. do they consider the findings in relation to current practice or policy? or relevant research-based literature?
- If they identify new areas where research is necessary
- If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Appendix B: Critical Appraisal Skills Programme (CASP) Systematic Review Checklist

How to use this appraisal tool
Three broad issues need to be considered when appraising the report of a systematic review:

- Are the results of the review valid?   *Questions 1 - 5*
- What are the results?   *Questions 6 - 7*
- Will the results help locally?   *Questions 8 - 10*

The 10 questions on the following pages are designed to help you think about these issues systematically.

The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions.

There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicized prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

<u>**Screening Questions**</u>

1. Did the review address a clearly focused question?
HINT: An issue can be 'focused' In terms of

- The population studied
- The intervention given
- The outcome considered

2. Did the authors look for the right type of papers?
    HINT: 'The best sort of studies' would

- Address the reviews question
- Have an appropriate study design (usually RCTs for papers evaluating interventions)

Is it worth continuing?

<u>**Detailed Questions**</u>

3. Do you think the important, relevant studies were included?

HINT: Look for
- Which bibliographic databases were used
- Follow up from reference lists
- Personal contact with experts
- Search for unpublished as well as published studies
- Search for non-English language studies

4. Did the review's authors do enough to assess the quality of the included studies?
 HINT: The authors need to consider the rigor of the studies they have identified.
 Lack of rigor may affect the studies' results. ("All that glistens is not gold."
 Merchant of Venice – Act II Scene?)

5. If the results of the review have been combined, was it reasonable to do so?
HINT: Consider whether
- The results were similar from study to study
- The results of all the included studies are clearly displayed
- The results of the different studies are similar
- The reasons for any variations in results are discussed

6. What are the overall results of the review?
HINT: Consider
- If you are clear about the review's 'bottom line' results
- What these are (numerically if appropriate)
- How were the results expressed (NNT, odds ratio etc)

7. How precise are the results?
HINT: Look at the confidence intervals, if given

8. Can the results be applied to the local population?
HINT: Consider whether
- The patients covered by the review could be sufficiently different to your population to cause concern
- Your local setting is likely to differ much from that of the review

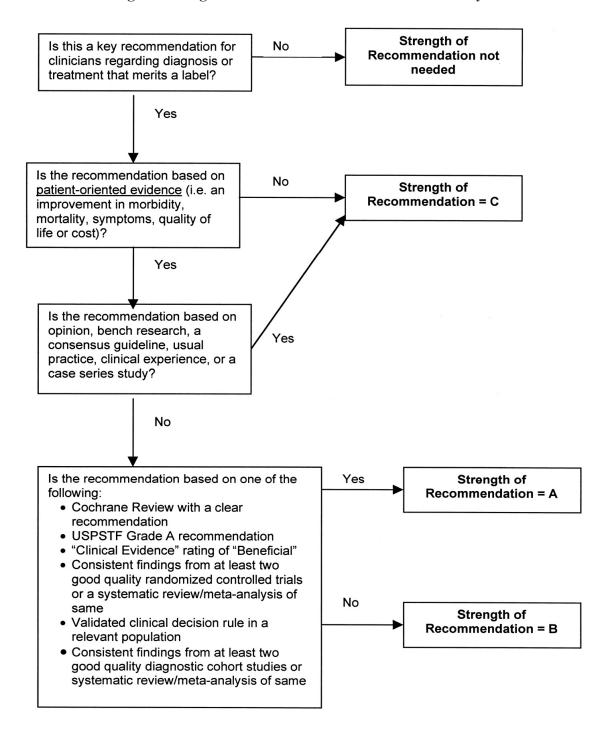**9. Were all important outcomes considered?**
HINT: Consider
• Is there other information you would like to have seen

10. Are the benefits worth the harms and costs?
HINT: Consider
• Even if this is not addressed by the review, what do you think?

Appendix C : Strength of Recommendation Taxonomy (SORT) algorithm for determining the strength of a recommendation based on a body of evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?	—No→	**Strength of Recommendation not needed**

Yes ↓

Is the recommendation based on <u>patient-oriented evidence</u> (i.e. an improvement in morbidity, mortality, symptoms, quality of life or cost)?	—No→	**Strength of Recommendation = C**

Yes ↓

Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case series study?	Yes → (to Strength of Recommendation = C)

No ↓

Is the recommendation based on one of the following:
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- "Clinical Evidence" rating of "Beneficial"
- Consistent findings from at least two good quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good quality diagnostic cohort studies or systematic review/meta-analysis of same

Yes → **Strength of Recommendation = A**

No → **Strength of Recommendation = B**

Appendix D: Policy and Procedure

Facility Logo Nursing Policy and Procedure Manual	REGISTERED NURSE CHANGE OF SHIFT HANDOFF POLICY AND PROCEDURE
Facility Address	Document number:
	Revision Level:
	Effective Date:

PURPOSE   To provide for a standardized process for RN shift handoff that promotes effective RN communication and incorporates a bedside component to promote patient centered care, a decrease in adverse events, and increased patient safety. To assure continuity of care for the patient, and provide for opportunities to ask questions and verify information.

SCOPE   Department of Nursing

RESPONSIBILITY   Registered Nurse

REFERENCES   TJC Standards for Accreditation of Hospitals National Patient Safety Goals; TJC Implementation Expectations for Implementation of Requirement 2E.

PRODEDURE   I: A standardized process will be followed by RNs during each handoff.

                    II: The majority of the handoff will take place at the patient bedside with off-going and on-coming RN participating.

                    III: A standardized tool will guide RN communication and a team-approach safety check during shift handoff.

                    IV: The patient and family will be included in the handoff conversation to facilitate patient-centered care.

TOOLS   1. EMR: To access readily available information, (plans of care, multidisciplinary communication, lab/diagnostic reports, provider orders); To check MAR for overdue medications.
                    2. I PASS the BATON: To guide effective communication and team safety check

STEP	DESCRIPTION	EXAMPLE
Introduction:	Introduce yourself and your role/job (include patient). Manage up	**Sue:** Mr. R. this is Mary. She'll be your nurse tonight. Mary has worked here for 15 years and she will take excellent care of you.
Patient:	Identifiers, age, sex, location.	We are going to check your armband together and go over a few things about your care. Please join in or ask questions.
Assessment:	Present chief complaint, diagnosis, vital signs, symptoms (pain, other?). Focused assessment.	Sue: Mr. R was admitted with a CC of rectal bleeding and Adm Dx of Ca of the colon. He had a colectomy with colostomy two days ago. Lets check his stoma. VS are WNL
Situation:	Current status/circumstances, recent changes, and response to treatments, level of uncertainty, and code status	**Sue:** Mr. R. is a full code; He is on POD#1 of his pathway and all goals for today have been met. He was started on full liquids this am and has tol well.
Safety:	Critical lab values/reports, socio-economic factors, allergies, and alerts (falls, isolation, etc.). Verify presence of required resuscitation equipment • Check IV site • Verify correct IVF and rate • Verify PCA or Epidural settings • Follow lines to **Trace all tubes and drains from point of origin to collection device; IV lines from medication bag to IV site; Enteral feedings from container to feeding tube**	Sue: He is allergic to Cephalosporins; no critical lab values; he has good family support. His wife has just left for home and her # is on the whiteboard. Lets do our safety check together.

patient

- **LOOK UNDER THE COVERS:**
  Check incisions   Check dressings
  Check drains   Check Foley
  Check any other equipment –
  (CPM, cervical collar, wound vac, etc...)

THE

Background:	Co-morbidities, previous episodes, family history, and current medications.	Sue: Mr. R has a PMH of DM and HTN; he is on one IV antibx and will start back on his PO meds in the am;
Actions:	What actions were taken or are required? Provide brief rationale.	Mary: I noticed ac/hs FSBG – is that correct? Sue: Yes, with SS coverage, and he has needed no coverage today
Timing:	Explicit timing and prioritization of actions; level of urgency	NPO past MN for labs
Ownership:	Who is responsible (nurse/physician/team)? Include patient/family responsibilities.	Dr. Jones is the admitting MD and surgeon but Dr. Smith is on call tonight. Family contact numbers are on the whiteboard.
Next:	What will happen next? Anticipated changes? What is the plan? Are there contingency plans? Ask pt to add, change or question handoff.	Sue: I expect an uneventful night; A BMP is due for early am; he is to be OOB and ambulating in AM. Mr. R, can you add to this? Do you have questions?

RN Teaching / Talking Points Tool --- p. 3

	Recommendation	Process/implementation	Rationale
1	A standardized process will be followed by RNs throughout the facility during each handoff	1. Oncoming RN will obtain patient assignment. 2. Oncoming RN to print any available computerized supporting documents 3. Oncoming RN will meet with off-going RN to begin report process or to share sensitive information.	1. RN will be prepared for shift report by having name, room number, admitting physician of each patient. 2. May contain lab results for last 24 hours; medications; vital signs last 24 hours; space for notes. 3.In the event the patients' privacy may be comprised if discussed at bedside.
2	The handoff will take place at the patient bedside with off-going and on-coming RN participating. A safety check will be performed at each handoff.	1. All steps in the tool can be completed at the patient bedside. 2.The safety check will be performed as a team.	1. Research has shown that involving the patient in handoff results in increased satisfaction, involvement in care. 2. This step will assist in the detection of safety issues, prevention of missed care, reduction in adverse events.
3	A standardized tool will guide RN communication throughout the facility during shift handoff.	1. TeamSTEPPS® "I PASS the BATON" will serve as tool to facilitate standardized report	1. This tool is tested by DoD and AHRQ and assists in standardization of process
4	The patient and family will be included in the handoff conversation to facilitate patient-centered care.	1. RNs will follow tool, acknowledging the patient, asking questions, and encouraging participation.	1. This will allow patient and family to be active participants in care and assist in meeting guidelines for patient centered care.

Appendix E: AHRQ Permission to use I PASS the BATON

From: "Lewin, David (AHRQ)" <David.Lewin@ahrq.hhs.gov>
Subject: Re: Permission to use and reproduce handoff tool
Date: December 4, 2014 4:51:39 PM EST
To: Nancy Ewing <NEWING@clemson.edu>
Cc: "Siegel, Randie A. (AHRQ)" <Randie.Siegel@ahrq.hhs.gov>, "Cummings, Sandra K. (AHRQ)" <Sandra.Cummings@ahrq.hhs.gov>, "Englert, Farah (AHRQ)" <Farah.Englert@ahrq.hhs.gov>, AHRQ TeamSTEPPS <AHRQTeamSTEPPS@aha.org>

Dear Ms. Ewing:

Thank you for your inquiry. I am responding on behalf of Ms. Randie Siegel, Associate Director, Office of Communications and Knowledge Transfer, Publishing and Electronic Dissemination. I handle the majority of permission requests for AHRQ.

If you based your version of "I PASS THE BATON" on the tool in the TeamSTEPPS® *Pocket Guide*, AHRQ grants you permission to use it. However, you should note that it was adapted with permission from that publication.

As long as you indicate that it is an adaptation, AHRQ has no problem with your changes. However, we do ask for source credit on the tool (in small print) and in the text of your capstone thesis and any professional publications arising directly from your thesis. (I can help with a suggested citation.)

I hope that this answers your questions. Best of luck with your DNP capstone project.

Sincerely,

David I. Lewin, M.Phil.
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From: Nancy Ewing [mailto:NEWING@clemson.edu] □**Sent:** Wednesday, November 26, 2014 2:37 PM□**To:** Siegel, Randie A. (AHRQ)□**Subject:** permission to use and reproduce handoff tool

I am using the tool "I PASS THE BATON" in a DNP capstone paper. Do I need permission? Also, can it be modified at all by me? I made a minor addition to the Safety section; rearranged wording in a few places.
Thank you so much for your prompt answer.

Nancy Ewing