

Fall 9-2018

Best Practice Policy: Utilizing A Standardized Handoff Tool Postoperatively in an Intensive Care Unit for Patients Undergoing Cardiac Surgery

Alexandra Bradley

Follow this and additional works at: https://aquila.usm.edu/dnp_capstone

 Part of the [Other Nursing Commons](#)

Recommended Citation

Bradley, Alexandra, "Best Practice Policy: Utilizing A Standardized Handoff Tool Postoperatively in an Intensive Care Unit for Patients Undergoing Cardiac Surgery" (2018). *Doctoral Projects*. 101.
https://aquila.usm.edu/dnp_capstone/101

This Doctoral Nursing Capstone Project is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in Doctoral Projects by an authorized administrator of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.

BEST PRACTICE POLICY: UTILIZING A STANDARDIZED HANDOFF TOOL
POSTOPERATIVELY IN AN INTENSIVE CARE UNIT FOR PATIENTS
UNDERGOING CARDIAC SURGERY

by

Alexandra Slay Bradley

A Doctoral Project
Submitted to the Graduate School,
the College of Nursing and Health Professions
and the School of Leadership and Advanced Nursing Practice
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

Approved by:

Dr. Nina Mclain, Committee Chair
Dr. Mary Jane Collins

Dr. Nina Mclain
Committee Chair

Dr. Lachel Story
Director of School

Dr. Karen S. Coats
Dean of the Graduate School

December 2018

COPYRIGHT BY

Alexandra Slay Bradley

2018

Published by the Graduate School



ABSTRACT

Communication is a key aspect of care in the health care setting. Handoff communication occurs between medical provider's numerous times a day. Each patient handoff performed has the potential for ineffective communication, leading to poor patient outcomes. The Joint Commission has recognized handoff communication as one of the main causes of sentinel events, or unexpected events that results in patient harm or death, in the health care setting (Joint Commission on Accreditation of Health care Organizations [JCAHO], 2012). The Joint Commissions National Patient Safety Goal requires "a standardized approach" for provider handoffs. The introduction of a checklist or handoff tool has been shown to significantly reduce morbidity and mortality as a result of ineffective handoff (Potestio, Mottla, Kelley, & DeGroot, 2015).

This project focused on the utilization of a standardized handoff tool postoperatively in patients undergoing cardiac surgery being directly admitted to the cardiovascular intensive care unit (CVICU). A handoff tool was created from evidence-based practice and presented to Certified Registered Nurse Anesthetists (CRNAs) at a medical facility in central Mississippi. CRNA's were asked to assess the tool by filling out a survey on the effectiveness of the tool. They also evaluated the potential need for this policy in their facility and daily practice.

The goal of this project was to create a policy and handoff communication tool for this facility to utilize in their practice in those undergoing cardiac surgery being admitted to the intensive care unit (ICU) in this particular facility. The proposed policy was presented to CRNA's at this facility in central Mississippi and the tool was then evaluated

by the CRNA's and CVICU registered nurses(RN). This survey consisted of three yes or no questions and two open-ended questions.

ACKNOWLEDGMENTS

Without the help of my committee, I would not have been able to complete this project. To my committee member Dr. Mary Jane Collins, thank you for your continued support and help throughout the completion of this project. To my chair, Dr. Nina Mclain, there is absolutely no way this project would have been possible without your help and guidance. To those CRNA's and medical professionals who participated in my project, it would not have been possible without your participation.

DEDICATION

This project and the completion of my doctoral project is dedicated to my friends and family. Without the continued support and encouragement from my friends and family, I would not have been able to complete this journey.

TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iv
DEDICATION	v
LIST OF TABLES	viii
LIST OF ABBREVIATIONS.....	ix
CHAPTER I – INTRODUCTION.....	1
Problem Statement	1
Clinical Question	3
Background and Significance	3
Theoretical Framework.....	3
Doctor of Nursing Practice Essentials	4
Review of the Evidence	4
Communication.....	5
Handoff Communication	6
Lack of Standardized Handoff	6
Barriers to Effective Communication	7
Safety	8
Mortality and Morbidity	8
Forming a Structured Handoff Tool	9

Summary	11
CHAPTER II – METHODOLOGY	13
Data Analysis	14
Summary	14
CHAPTER III – RESULTS	15
Overview	15
CHAPTER IV – DISCUSSION	17
Implications for Future Projects.....	17
Limitations	17
Dissemination	18
Recommendations.....	18
Conclusion	18
APPENDIX A – Literature Matrix	22
APPENDIX B – Handoff Communication tool	24
APPENDIX C –Panel of Experts Survey	25
APPENDIX D – IRB Approval Letter	26
APPENDIX E – Facility Permission	27
APPENDIX F – DNP Essentials.....	28
REFERENCES	29

LIST OF TABLES

Table 1 Survey Response to Questions 1-3	20
Table 2 Open Ended Question Response.....	21

LIST OF ABBREVIATIONS

<i>CRNA</i>	Certified Nurse Anesthetist
<i>CVICU</i>	Cardiovascular Intensive Care Unit
<i>ICU</i>	Intensive Care Unit
<i>MD</i>	Doctor of Medicine
<i>OR</i>	Operating Room
<i>PACU</i>	Post-Anesthesia Care Unit
<i>RN</i>	Registered Nurse
<i>SRNA</i>	Student Registered Nurse Anesthetist

CHAPTER I – INTRODUCTION

The transfer of patient care occurs frequently among anesthesia providers and members of the health care staff, providing endless opportunities for information to be lost (Lane-Fall, Brooks, Wilkins, Davis, & Riesenber, 2014). According to the Merriam Webster Dictionary (2017), communication is defined as, a system that information is exchanged through words, symbols, signs, or behavior. In the health care setting, handoff is defined as, “the transfer of patient information and responsibility of care from one health care provider to another” (Friesen, White, & Byers, 2008, p. 1). The Joint Commission has recognized handoff communication as one of the main causes of sentinel events, or unexpected events that results in patient harm or death, in the health care setting (JCAHO, 2012). Medical errors as a whole have been estimated to cost between \$17 billion and \$29 billion per year nationwide (Institute of Medicine [IOM], 1999).

Problem Statement

Each patient handoff performed has the potential for poor communication, potentially leading to poor patient outcomes. Performing an adequate patient handoff fulfills the providers promise to do no harm to patients in their care (Lane-Fall et al., 2014). The operating room (OR) and other anesthesia settings are unpredictable, stimulating, and challenging—all characteristics that present numerous obstacles to effective communication among providers (Friesen et al., 2008). As an anesthesia provider, one is responsible for providing an effective handoff communication to the post-anesthesia care unit (PACU) nurse (IOM, 1999). The Joint Commission National Patient Safety Goal requires “a standardized approach” for provider handoffs. A clear and concise patient handoff communication is

recommended in the National Patient Safety Goals (NPSG) (Paine & Millman, 2009). The introduction of a checklist or handoff tool has been shown to significantly reduce morbidity and mortality as a result of ineffective handoff. A checklist or handoff tool has been shown to produce significant reductions in the information lost between providers. Potestio and colleagues (2015), performed a study among anesthesia providers with group A who did not use a handoff tool, and group B who did use a handoff tool. This study concluded that those in group B who used a handoff tool had a higher percentage of items handed off than those in group A who did not use a checklist or handoff tool (Potestio et al., 2015). Funk et al. (2016), conducted a study involving handoff communication in pediatric patients and found that there was a statistically significant increase in the amount of checklist items that were transferred using the handoff tool.

Although no absolute standardized handoff checklist inclusion tool has been identified, studies suggest that in order to overcome handoff barriers, certain strategies could be implemented including: (a) implementation of a standardized handoff tool, (b) incorporation of education on handoff communication, and (c) addition of checklist to provide a structures guide to promote critical information sharing. Even with the NPSG and Joint Commission making clear recommendations, many health care organizations still lack a standardized tool postoperatively for anesthesia providers. For this reason, a standardized handoff tool will be introduced at a facility in central Mississippi for patients being admitted to the intensive care unit (ICU) post cardiac surgery. After reviewing the literature of best practice and handoff tools being currently utilized in the clinical setting, a best practices handoff policy will be proposed to the clinical setting for patients undergoing cardiac surgery and being admitted to the ICU postoperatively. This

policy will be aimed at decreasing information loss and improving continuity of patient care.

Clinical Question

A clinical question was formed to provide an overview of the objectives of this DNP project. The clinical question identified the population and proposed topic for this project. Does the use of a standardized handoff tool used by anesthesia providers for patients being admitted to the intensive care unit post cardiac surgery result in positive perception of usage by ICU nurses?

Background and Significance

Ineffective handoff communication has been recognized by numerous healthcare organizations as a topic that needs expansion (Moon, Gonzales, & Woods, 2015). This lack of effective communication has been shown to cause errors in patient care. The need for a standardized handoff tool and the implementation of a standardized tool for postoperative heart surgery patients being admitted to ICU is the goal of this DNP project. A positive correlation between ICU nurses and their perception of the handoff tool was statistically proven by this project and showed that this tool should be potentially implemented at this facility in central Mississippi.

Theoretical Framework

For this project, I will use the Donabedian Quality of Care Framework. This framework focuses on three categories that evaluate the overall quality of care being received. The first part of this framework involves structure and where care is actually being received. For this project where care will be received is a hospital in central Mississippi, specifically postoperatively in the ICU. The next aspect is the process

involves interactions between providers and the patient as well as how care is being provided. This project will include the introduction of a handoff tool for anesthesia providers to utilize postoperatively for patients undergoing cardiac surgery being admitted into the ICU. This tool will provide a clear and concise method for healthcare providers to communicate regarding pertinent patient information. The final component of this framework is the outcome. The outcome of this project will be the perception of this tool by ICU nurses and anesthesia providers which could result in the implementation of this tool on a daily basis.

Doctor of Nursing Practice Essentials

The eight essentials of the doctor of nursing practice must be met by all DNP projects. The DNP essentials were the backbone of this project. Refer to Appendix F for the essentials and how this project fulfills each essential.

Review of the Evidence

A comprehensive literature review was performed in order to uncover relevant articles related to handoff communication and postoperative intensive care unit admission. Electronic databases including Google Scholar, EBSCO, and Medline were used. The required inclusion criteria for the search engine included each article to be full-text, peer-reviewed, English language and published within the last seven years. Keywords for the search included: handoff communication, handover, nurses, post-operative, communication, ICU admission, and communication errors and quality. Of the over 50 articles reviewed, only articles that reviewed handoff communication and ICU admission were included. Studies/articles that did not fit the criteria were excluded.

Communication

According to the Agency for Healthcare Research and Quality (2014), in *TeamSTEPPS*, communication is defined as, “the exchange of information between a sender and a receiver” (p. 2). More specifically, communication can be defined as, “the process by which information is clearly and accurately exchanged between two or more team members in the prescribed manner and with proper terminology and the ability to clarify or acknowledge the receipt of information” (AHQR, 2014, p. 2). Effective communication is complete, clear, brief, and timely. Complete communication includes all pertinent information as well as the elimination of nonessential details. Clear communication is easily understood, brief communication is concise, and timely communication avoids delay in the relay of pertinent information. Effective communication is important in health care because the Joint Commission (2012) has recognized ineffective communication as an underlying cause of 70% of sentinel events in health care.

Communication failures have been found to be one of the leading cause of adverse patient outcomes in the health care setting with half to two-thirds occurring in the surgical setting. Nagpal et al. (2012) performed a study based on the hypothesis that health care is prone to transfer and communication failures while suggesting interventions to improve these failures. This study noted that most communication errors occurred in the pre-operative and intra-operative phase of care with 41 of the 132 failures being classified as critical, 26 of which were covered by already established protocols (Nagpal et al., 2012).

Handoff Communication

Handoff is defined as the transfer of patient care and information from one health care provider to another (Friesen et al., 2008). Handoff occurs through all phases of patient care, and it is the provider's responsibility to ensure continuity of care and patient safety (Robbins & Dai, 2015). During the handoff process, information loss or miscommunication are common, both of which contribute to medication errors, sentinel events, and poor patient outcomes (Robbins & Dai, 2015).

Lack of Standardized Handoff

With the lack of standardized handoff practice, an increased risk of information loss with handoff between providers exists, mostly caused by poor communication skills among health care providers (Robbins & Dai, 2015). The use of a checklist by anesthesia providers could enable the next provider to more readily adapt to the environment in relation to the patient's current condition. JCAHO has suggested the use of a checklist among other ways to standardize the handoff process to improve safety and performance within the health care system (Wright, 2013). According to Gawande (2010), "the volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably" (p. 13). Gawande (2010), the author of *The Checklist Manifesto*, presents his argument for a checklist to improve patient safety and outcomes. He further states that a checklist can be used as a tool to supplement memory and attention. Given the current complexity and vague nature of the anesthesia transfer process, the use of a checklist within institutions is warranted to improve patient safety and care (Gawande, 2010).

Salzwedel et al. (2013), performed a study on the effectiveness of a checklist for post-anesthesia handoff. For this study, a total of 120 post-anesthesia handoffs were recorded on video and analyzed. Of the 120 handoffs, 40 were recorded before implementation of the checklist while 80 were recorded after the implementation of the checklist. The aim of the study was to analyze the number of items handed off and the duration of time for each handoff. This study concluded that with the use of the checklist, the number of items in the handoff increased from 32.4% to 48.7% (Salzwedel et. al., 2013).

Barriers to Effective Communication

According to the Oxford Dictionary (2017), a barrier is defined as “a circumstance or obstacle that keeps people or things apart or prevents communication or progress” (n.p.). One of the roles of a nurse prepared with a doctorate of nursing practice (DNP) degree is to identify, address, and overcome barriers in order to implement change. Barriers to change in practice include prior practice techniques or recommendations that contradict previous standards of care, reluctance to change, and lack of self-motivation to implement change (Dudley-Brown, Terhaar, & White, 2016). The BARRIERS scale outlines four categories that can interfere with implementation: (a) quality of communication, (b) qualities of the institution, (c) characteristics of the innovation, and (d) features of the initiator (Funk, Tornquist, & Champagne, 1995). These four categories can all apply to the barriers faced with project implantation. With the implementation of a new handoff tool, one could expect to face a number of barriers. Barriers that include the practitioner’s resistance to change, nurses’ unwillingness to listen, close-minded mentality, and lack of a definitive universal handoff tool. However,

with the knowledge and techniques gained in the DNP curriculum, one would have the tools to successfully overcome the barriers to implement change.

Safety

Patient Safety in the OR is the prevention of errors leading to adverse effects and outcomes. Handoff communication has been recognized by numerous organizations as an aspect to improve overall hospital safety (Moon et al., 2015). Improvements in technology, medicines, and treatments have made health care become more effective despite becoming more complex. As health care providers, one is faced with the treatment of older and sicker patients with numerous presenting co-morbidities. The current high demand of health services across the country has led to overloaded health systems. When compared to other areas of health care, the OR presents the highest risk for catastrophic adverse events. Patient safety is the number one responsibility (Lowe & Biddle, 2014).

Mortality and Morbidity

The Institute of Medicine (IOM), in 1999, estimated that on average at least 44,000 with as many as 98,000 patients dying in health care facilities each year in the United States, in addition to the estimated one million preventable medical injuries that occur in hospitals each year. In 2012, the Joint Commission acknowledged poor communication and the lack of communication as the most common cause of sentinel events in the health care setting. The Joint Commission (2012) between 2004 and 2012 identified 113 sentinel events related to anesthesia.

Forming a Structured Handoff Tool

Upon a review of numerous structured handoff tools, a few key mnemonics were identified including the following:

1. PATIENT
2. ISBARQ
3. I PUT PATIENTS FIRST
4. I PASS the Baton

Wright (2013) introduced the pneumonic PATIENT successfully with 90% of the 27 participants reporting that the length, scope, and content with all participants either agreeing or strongly agreeing that the PATIENT tool provides an effective way to organize handoff communication. PATIENT stands for the following: past significant medical history, allergies, timing/expected duration, immediate expected events in next thirty minutes, emergence plan, noteworthy aspects of the case, treatment plan for post-operative care (Wright, 2013).

ISBARQ represents introduction, surgical procedure, background, airway, recommendations, and questions (Moran, Connors, & Way, 2013). Moran, Connors, and Way (2013) used the ISBARQ handoff tool with two different groups of anesthesiology residents at Ohio State University. Group one, the experimental group, received an ISBARQ tool, a lecture on patient handoff, and participated in a role exercise and simulation. Group 2 only received the ISBARQ tool prior to the multimodal intervention each resident was evaluated by a PACU nurse using an ISBAARQ checklist while giving a simulated handoff (Moran et al., 2013).

Moon and colleagues (2015) developed “I PUT PATIENTS FIRST” that was created to provide a standardized approach to handoff communication while improving handoff effectiveness. With 17 letters each representing a different aspect of the handoff checklist, this tool provides a comprehensive approach to handoff communication. This mnemonic is comprised of the following: identification of provider; past medical history; underlying diagnosis and procedure performed; technique of anesthesia; peripheral IV’s, central lines, drains, and arterial lines; allergies; therapeutic interventions; intubation; extubation likelihood; need for drips; treatment plan postoperatively; signs; fluids; intraoperative events; recent labs; suggestions for postoperative care; timing of arrival to ICU (Moon et al., 2015). This tool was developed specifically for anesthesia to ICU transfer. Moon emphasized that with the lack of a standardized approach to ICU handoff there are wide variabilities in the quality of handoff performed by the provider (Moon et al., 2015).

The Agency for Health Care Research and Quality (AHRQ) developed I PASS the BATON as a part of their *TeamSTEPPS* program. This strategy was developed to enhance the exchange of information between providers during the handoff process. The mnemonic includes the following: introduction, patient, assessment, situation, safety, background, actions, timing, ownership, and next (The Agency for Health Care Research and Quality, 2003).

In 2017, the University of Mississippi Medical Center completed a study and implemented a handoff tool specifically for patients being admitted to the SICU postoperatively. The study aimed to prove if the use of a standardized handoff communication would increase the involvement and communication of the caregiver.

They concluded that the use of a standardized handoff tool improved the involvement of caregivers and decreased the information lost without significantly increasing the time for handoff to be performed (Mukhopadhyay et al., 2017). For the formation of their handoff tool, handoff communications were observed for several months leading up to the creation of a tool. The tool that was developed was modified from the one currently used by John Hopkins University. They also decided that all providers of the care must be present. This included the anesthesia provider, surgeon, OR RN, ICU RN, and an MD apart of the CCU staff (Mukhopadhyay et al., 2017).

Policy Content

The development of an effective policy was the goal of this project. Linda Ray (2017), laid out nine key components of writing a good nursing policy which includes the following: statement of the organizations goal and what they plan to achieve for the staff or patient; underlying values, principles, and philosophies; objectives to outline what areas will be target by the policy; strategies in order to achieve policy objectives; specific actions that should be taken to achieve objectives; desired outcomes; performance indicators; day to day management plans for service delivery; and a review plan and program. These are the steps that will be utilized to form a good policy to improve patient outcomes regarding handoff communication in the clinical setting.

Summary

The transfer of patient care occurs frequently among members of the health care staff. With the increasing number of handoff reports among providers, there are more opportunities for error and information loss (Lane-Fall, Brooks, Wilkins, Davis, & Riesenber, 2014). A literature review on relevant topics was performed. The literature

that was reviewed provided evidence that this DNP project identified a current problem in the health care setting.

CHAPTER II – METHODOLOGY

In order to develop a best practice policy, a number of steps must be taken. The first step is to receive IRB approval from The University of Southern Mississippi and then from the site that has reviewed my proposed policy. IRB approval (protocol number 18072701) was applied for once the project was proposed to the project chair and committee. Next, the clinical site approved the construction of the policy. Construction of a policy consisted of communication between the policy developer and the proposed clinical site. When developing the policy, one must review the clinical site policies for the current format that is being used. The developer then identifies the stakeholders which consist of CRNA's, nurses, and the patients impacted. Previously there was no policy regarding a standardized handoff tool at the facility and the administration had recognized the opportunity for improvement. Once a need is identified, a review of current tools and best practice evidence must also be reviewed. After a thorough literature review is performed, CRNA's and nurses were queried for their input of a handoff communication tool and what should be included. Since CRNA's and nurses will be the individuals that will be using the tool on a daily basis, they are key to the success of this policy. A panel of experts will be put in place to review the policy and provide suggestions and constructive feedback for the policy. This panel of experts will consist of CVICU head nurse, chief CRNA, and other CRNA's and CVR nurses. A one-page tool will then be developed to evaluate the policy for soundness and applicability. The evaluation will ensure that the tool meets the current needs of the facility. The data collected will be reviewed and analyzed. This tool and policy will be left with chief CRNA of the facility for continual use. Feedback will be collected from CRNA's and

nurses in the cardiac ICU about the accuracy and usefulness of the tool. After feedback is obtained a one to two-page executive summary and a statistical report will be drafted and sent to the chief CRNA.

Data Analysis

This DNP project sought to determine if the implementation and use of a standardized handoff tool for patients being admitted to the ICU following cardiovascular surgery, assumes a need at a medical facility in central Mississippi. A standardized tool was formed from current evidence-based literature and presented to a panel of experts including CRNA's and staff from the CVICU. After reviewing the tool, each participant was asked to complete a five-question survey. Questions one through three were compiled of yes or no responses with question four and five being open-ended questions. The analysis of survey questions one through three are located in Table 1.

Summary

In summary, after IRB and clinical site approval, a presentation was given to CRNA's and CVICU RN's. The handoff tool was provided and left for continuing use. One-week post introduction a survey was provided to evaluate the effectiveness of the tool. A total of 11 participants filled out the five question survey.

CHAPTER III – RESULTS

Overview

The inclusion criteria for this project include CRNA's at a hospital in central Mississippi and CVICU nurses who would be receiving postoperative cardiac patients in the ICU. Exclusion criteria were any CRNA or CVICU nurse who did not willingly want to participate in the survey. A sample size of 11 CRNA's and CVICU nurses was obtained. The 11 participants listened to a brief presentation on current evidence-based data on handoff communication and the use of handoff tools. They were provided with a handoff tool and given time to review the tool and use it in their current practice. They were then asked to evaluate the tool and its usefulness with a five-question survey.

The data gathered was from the 11 willing participants. The survey used is located in Appendix A. The analysis of questions one through three are located in Table 1. Question 1 addressed if there was a current need in this facility for this policy. Seven of the 11 participants responded that yes there is a need for this policy in their facility with 4 of the 11 responding that there is not a need. From the data, it was determined that 63.63% agreed that this policy should be used at their facility with 36.36% stating that they do not need this policy in their facility. Question 2 asked if the information that was provided would encourage a change in their current practice. Six out of the 11 or 54.54% responded that yes this did encourage them to change their practice, while 5 out of 11 or 45.45% were not encouraged to change their project. Question 3 asked if they felt that this policy was based on current evidence-based practice. Eleven out of the 11 participants agreed that this policy was developed from evidence-based practice.

Question 4 asked for suggestions or revisions that one would make to this policy. The responses to Question 4 are found in Table 2. The only recurring answer for Question 4 was that this tool should be able to be used for every ICU patient not just those having cardiac surgery and being admitted to the ICU. Those participants who currently work in CVICU as RN's responded that they have a tool that is sometimes utilized in their practice but the CRNAs have not participated in their use of this tool. The idea and policy for this tool was for the tool to be filled out by the CRNA to be used at bedside report in the CVICU and then the tool left for the RN to be another form of the information that was transferred during the handoff report. Question 5 asked what other factors should be considered to make this policy complete. 9 of the 11 responses stated that nothing needed to be added to the policy. Two suggestions were made in response to Question Five. One stated that the heparin dose and time should be added to the policy. The other response stated that estimated blood loss is not reported because of the difficulty to accurately assess the estimated blood loss and should be removed from the policy.

CHAPTER IV – DISCUSSION

The objective of this DNP project was to identify a need and develop a policy for a standardized handoff communication tool. This policy would be presented and evaluated with the readiness to be utilized by the facility. The CRNA's and CVICU RN's were to evaluate the policy by completing a five-question survey. The evaluation showed that this policy did address a need in their facility. The majority of the participants stated that the information and policy provided did encourage them to change their practice. The policy was unanimously found to be based off evidence-based practice.

Implications for Future Projects

Those who participated in this project identified the need for future projects to be developed at this hospital in central Mississippi. A need for a standardized handoff tool for all ICU patients was identified by the participant's response to Question 4 as represented by Table 2. CRNA's and ICU nurses both stated that this is something that they would like to see become a policy at their facility. While they agreed that there is a need for this type of handoff policy in CVICU, they do not currently have a policy for patients who are being admitted to the ICU postoperatively. This DNP project could be duplicated but used for all ICU patients not just specifically those being admitted to CVICU postoperatively.

Limitations

The limitation of this project was CRNA and CVICU RN participation. Participation in this survey was optional and there were no consequences or repercussions for not participating. There were only 11 total participants. A sample size of 11 is a small sample size, and this project could have yielded more specific results with more

participants. The small sample size also could have affected the statistical analysis of the project and the subsequent results. Another limitation was the length of time between introduction of the tool and survey evaluation. There was a week between the introduction and evaluation of the tool. If given a longer period between introduction and evaluation, those participating could have used the tool more often and been able to more accurately evaluate its effectiveness.

Dissemination

This DNP project has been presented to those at a hospital in central Mississippi. This policy and handoff tool are available at this facility and are able to be used by those at the facility. This project will also be presented to other students who are members of The University of Southern Mississippi Nurse Anesthesia Program as well as clinical stakeholders.

Recommendations

Future investigations into handoff communication policies and tools could potentially lead to the use of a universal handoff tool among facilities. In the future, a larger sample size should be used. If one was to try and advance this policy, one could develop a tool to be used in all ICU patients. Postoperative bedside handoff reports could become mandatory with all teams being present including anesthesia, ICU RN, ICU physician, and the Cardiothoracic surgeon. Bedside handoff reports would ensure that every team member would be on the same page moving forward with the patient care.

Conclusion

The continued use of evidence-based practice in health care facilities is essential to advancing patient care. As health care professionals, one takes an oath to do no harm.

The use of a handoff communication tool has been shown to decrease the incidence of loss of patient information with the transfer of care. Health care facilities are being encouraged to use a standardized handoff tool. This DNP project presented a handoff tool and policy to a hospital in central Mississippi with the goal of those participating to use the provided tool in their everyday practice. Participants expressed the need for this tool in their facility and their willingness to change their practice to implement this evidence-based tool. Future projects at this health care facility could advance their use of handoff communication tools to include a greater population and larger sample size of participants.

Table 1 *Survey Response to Questions 1-3*

Question	Yes	No
1. Does this policy address a need in your facility	7 (63.63%)	4 (36.36%)
2. Does the information provided encourage you to change your practice	6 (54.54%)	5 (45.45%)
3. Did you find the policy to be evidence-based?	11 (100%)	0 (0%)

Table 2 *Open Ended Question Response*

Question	Response
<p>4. What suggestions or revisions would you make to this policy?</p>	<ul style="list-style-type: none"> - Information condensed - Should be used in all ICU patients - Utilize for more patients than just CVICU - Tool is helpful in all transfers of care postoperatively - There is a tool used by CVICU RN's already
<p>5. What other factors need to be considered to make this policy complete?</p>	<ul style="list-style-type: none"> - Estimated blood loss is not reported because of the difficulty to accurately assess - Heparin dose and time

APPENDIX A – Literature Matrix

Author/Year/ Title	Design	Sample/Data Collection	Findings	Recommendations
Funk et al. (2016) Structured Handover in Pediatric Post- Anesthesia Care unit	Qualitative	Convenience sample of 52 pre- implementation and 51 post- implementation handoff situations (n=103)	Statistically significant increase in amount of checklist items that were transferred using handoff tool	Structured, standardized handoff checklist which is associated with appropriate transfer of patient information and communication
Mukhopadhyay et al. (2017) Implementation of a standardized handoff protocol for post- operative admissions to surgical intensive care unit	Qualitative	Multidisciplinary team composed of anesthetists, nurses, surgeons, RN's, and ICU staff	Implementation of standardized tool in SICU for handoff reports following surgery increase and improved caregiver involvement and decreased information loss	Use of a structured handoff communication tool
Nagpal et al. (2012) Failures in communication and information transfer across the surgical care pathway	Qualitative	18 health care professionals with varying levels of experience which include: five anesthetists, six nurses, seven surgeons	Handoff characterized as fragments information that is being exchanged between an incomplete team. Showed postoperative handoff to be	Comination protocol to create a system for interaction that will standardize information transfer
Potestio et al. (2015) Improving postanesthesia care unit handoff by implementing a succinct checklist	Qualitative	Residents (N=21) Group A (who did not use the checklist) and Group B (used the checklist)	With the use of handoff checklist, the number of handed off items statistically increased	Creation of inclusive handoff tool will simplify the process and decrease the incidence of information lost while the length of handoff is increased
Robbins & Dai (2015) Handoffs in the postoperative anesthesia care unit: use of a checklist for transfer of care	Qualitative	The sample was composed of 29 CRNA's and 29 PACU RN's with one group having a checklist and the	CRNA's using the checklist received fewer callbacks from PACU RN's regarding	The use of a standardized tool enhances the correctness and amount of information transferred

		other having no checklist	information from the handoff process. There was no increase in the amount of time for handoff to take place	
Salzwedel et al. (2013)	Qualitative	120 handoffs were recorded and then were analyzed by 41 anesthesiologists. 40 handoffs were recorded before the implementation and 80 handoffs were recorded after implementation	With the use of the checklist, the quality of patient handoff may improve and handoff communication increased from 32.4 to 48.7%	Quality of care can be improved with a checklist for PACU RN

APPENDIX B – Handoff Communication tool

Standardized Handoff Tool

Past Medical/Surgical History: _____

Pertinent pre-op labs: _____

Pre-op Medications: _____

Airway & Intubation: _____

Ventilator settings/ ABG/ Last ACT: _____

Lines/Access: IV: _____ A-line: _____ CVP: _____

Chest tube: _____ Pacing wires: _____

Bypass/Circulatory arrest time: _____

I/O: Fluids: _____ Blood Products: _____ Urine: _____ EBL: _____

Neuromuscular Blockade & reversal (time given): _____

Opioids administered and dose: _____

Antibiotics administered (and time): _____

Vasopressors/ Sedative infusions & doses: _____

Critical events: _____

APPENDIX C –Panel of Experts Survey

PANEL OF EXPERTS SURVEY

Alex Bradley, SRNA

**BEST PRACTICES POLICY QUESTIONNAIRE
HANDOFF COMMUNICATION FOR ANESTHESIA & CVR PERSONNEL**

Participation in this survey is optional. There are no consequences or repercussions for non-participation. Thank you for your time.

- | | | |
|---|-----|----|
| 1) Does the policy address a need in your facility? | YES | NO |
| 2) Does the information provided encourage you to change your practice? | YES | NO |
| 3) Did you find the policy to be evidence based? | YES | NO |

4) What suggestions or revisions would you make to the policy?

5) What other factors need to be considered to make this policy complete?

THANK YOU FOR PARTICIPATING IN THIS SURVEY,

Alex Bradley, SRNA

APPENDIX D – IRB Approval Letter



INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 18072701
PROJECT TITLE: Utilizing a Standardized Handoff Tool Postoperatively in an Intensive Care Unit for Patients Undergoing Cardiac Surgery
PROJECT TYPE: Doctoral Dissertation
RESEARCHER(S): Alexandra Bradley
COLLEGE/DIVISION: College of Nursing and Health Professions
DEPARTMENT: School of Leadership and Advanced Nursing Practice
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Exempt Review Approval
PERIOD OF APPROVAL: 07/30/2018 to 07/29/2019
Edward L. Goshorn, Ph.D.
Institutional Review Board

APPENDIX E – Facility Permission



ionate care. Close to home.

Dear Dr McLain,

We are happy to work with Alex Bradley on her doctoral project as one of our quality improvement initiatives. Once we have confirmation that the USM IRB has approved this project, I will discuss this project with th [redacted] l Center risk management team. We look forward to this opportunity.

Thank you,

Jason Coleman CRNA, DHA
Chief Nurse Anesthetist



LifeLinc Corporation
3340 Players Club Parkway
Suite 350
Memphis, TN 38125
office: 601.553.6650
cell: 601.604.1617
Anesthesia / Pain Centers

APPENDIX F – DNP Essentials

DNP Essentials	Clinical Implications
Essential One: Scientific Underpinnings for Practice	Identification of the communication between anesthesia providers and ICU nurses
Essential Two: Organizational and Systems Leadership for Quality Improvement and Systems Thinking	Interaction with anesthesia providers and ICU nurses to introduce the handoff tool for a 30-day trial
Essential Three: Clinical Scholarship and Analytical Methods for Evidence-Based Practice	Use of literature synthesis and analysis for recognition of pertinent data.
Essential Four: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care	The goal of this project is a practice change for the use of a handoff tool in the postoperative phase for ICU admission. This project was devised from evidence gathered from technology used to research this topic and the effectiveness of handoff tools and the correlation of positive patient outcomes.
Essential Five: Health Care Policy for Advocacy in Health Care	This project advocates for a new policy regarding patient handoff which can lead to more effective team communication and a decrease in information lost resulting in better patient outcomes and a reduction in sentinel events.
Essential Six: Interprofessional Collaboration for Improving Patient and Population Health Outcomes	This project specifically looks to improve team collaboration and communication between anesthesia providers, ICU nurses, and the patient with the use of handoff communication tool.
Essential Seven: Clinical Prevention and Population Health for Improving the Nation’s Health	The introduction and use of a standardized handoff tool to improve interdisciplinary communication and reduce errors in communication while promoting continuity of care.
Essential Eight: Advanced Nursing Practice	Evidence analysis, data synthesis, presentation of data findings, and assessment of information impact post presentation.

REFERENCES

- Agency for Health Care Research and Quality [AHCQR]. (2003). *AHRQ's patient safety initiative: building foundations, reducing risk*. Retrieved from <https://archive.ahrq.gov/research/findings/final-reports/pscongrpt/psini2.html>
- Agency for Health Care Research and Quality [AHCQR]. (2014). *TeamSTEPPS*. Retrieved from <http://www.ahrq.gov/teamstepps/instructor/essentials/pocketguide.html>
- Barrier. (2017). *Oxford Dictionary*. Retrieved from <https://en.oxforddictionaries.com/definition/barrier>
- Communication. (2017). *Merriam-Webster's Collegiate Dictionary*. Retrieved from <https://www.merriam-webster.com/dictionary/communication>
- Dudley-Brown, S., Terhaar, M. F., & White, K. W. (2016). *Translation of Evidence into Nursing and Health Care* (2nd ed.). New York, NY: Springer Publishing Company.
- Friesen, M., White, S. V., & Byers, J. F. (2008). Handoffs: implications for nurses. In *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK2649/pdf/Bookshelf_NBK2649.pdf
- Funk, E., Taicher, B., Thompson, J., Iannello, K., Morgan, B., & Hawks, S. (2016). Structured handover in the pediatric Postanesthesia Care Unit. *Journal of Perianesthesia Nursing*, 31(1), 63–72. <https://doi.org/10.1016/j.jopan.2014.07.015>

- Funk, S. G., Tornquist, E. M., & Champagne, M. T. (1995). Barriers and Facilitators of research utilization: An integrative review. *Nursing Clinics of North America*, 30, 395-407.
- Gawande, A. (2010). *The Checklist Manifesto: How to Get Things Right*. New York, NY: Metropolitan Books, Henry Holt, and Co.
- Institute of Medicine [IOM]. (1999, November). *To err is human: building a safer health system*. Retrieved from <http://www.nationalacademies.org/hmd/~media/Files/Report%20Files/1999/To-Err-is-Human/To%20Err%20is%20Human%201999%20%20report%20brief.pdf>
- Joint Commission on Accreditation of Health Care Organizations [JCAHO]. (2012, August). Joint commission center for transforming health care release targeted solutions tool for hand-off communications. *Joint Commission Perspectives*, 32(8). Retrieved from https://www.jointcommission.org/assets/1/6/tst_hoc_persp_08_12.pdf
- Lane-Fall, M. B., Brooks, A. K., Wilkins, S. A., Davis, J. J., & Riesenber, L. A. (2014). Addressing the mandate for hand-off education. *Anesthesiology*, 120, 218-229. <http://dx.doi.org/10.1097/aln.0000000000000000>
- Lowe, J., & Biddle, C. (2014). Anesthesia Patient Safety: Is it time for a Handoff Checklist? *Current Reviews for Nurse Anesthetists*, 18(36), 219-227.
- Moon, T., Gonzales, M., & Woods A. (2015). A mnemonic to facilitate the handover from the operating room to intensive care unit: "I put patients first." *Journal of Clinical Anesthesia and Research*, 6(7), 1-4 <http://dx.doi.org/10.4172/2155-6148.1000545>

- Moran, K., Connors, D., & Way, D. (2013). *3,2,1 handoff: an intensive intervention vs a simple handoff tool for teaching perioperative patient handoffs*. Retrieved from <https://medicine.osu.edu/faculty/oecrd/Documents/3%202%201%20Handoff.pdf>
- Mukhopadhyay, D., Wiggins-Dohivik, K. C., MrDutt, M. M., Hamaker, J. S., Machen, G. L., Davis, M. L., ... Shake, J. G. (2017). Implementation of a standardized handoff protocol for post-operative admissions to the surgical intensive care unit. *The American Journal of Surgery*, *215*(1), 28-36.
<http://dx.doi.org/https://doi.org/10.1016/j.amjsurg.2017.08.005>
- Nagpal, K., Arora, S., Vats, A., Wong, H. W., Sevdalis, N., Vincent, C., & Moorthy, K. (2012). Failures in communication and information transfer across the surgical care pathway: interview study. *BMJ Quality Safety*, *21*, 843-9. Retrieved from <http://qualitysafety.bmj.com/content/qhc/early/2012/07/06/bmjqs-2012-000886.full.pdf>
- Paine, L. A., & Millman, A. (2009). Sealing the cracks, not falling through: Using handoffs to improve patient care. *Frontiers of Health Service Management*, *25*(3), 33-41.
- Potestio, C., Mottla, J., Kelley, E., & DeGroot, K. (2015). Improving post-anesthesia care unit (PACU) handoff by implementing a succinct checklist. *Journal of the Anesthesia Patient Safety Foundation*, *2*(13).
- Ray, L. (2017). *How to write nursing policies and procedures*. Retrieved from <https://bizfluent.com/how-5009640-write-nursing-policies-procedures.html>
- Robbins, H., & Dai, F. (2015, August). Handoffs in the postoperative anesthesia care unit: use of a checklist for transfer of care. *AANA Journal*, *83*, 264-268. Retrieved

from <http://www.aana.com/newsandjournal/20102019/handoffs-pacu-0815-pp264-268.pdf>

Salzwdel, C., Bartz, H., Kuhnelt, I., Appel, O., Haupt, S., Marsch, S., & Schmidt, G.

(2013). The effect of a checklist on the quality of post-operative patient handover: A randomized controlled trial. *International Journal for Quality in Health Care*, 1-6. <http://dx.doi.org/10.1093/inqhc/mzt009>

Wright, S. M. (2013). Examining transfer of care processes in nurse anesthesia practice: introducing the PATIENT protocol. *AANA Journal*, (81), 225-232. Retrieved from <http://www.aana.com/newsandjournal/Documents/exam-tran-care-proc-NA-pat-proto-0613-p225-232.pdf>