

A Survey of Staff Satisfaction with Postoperative Patient Handoffs
One year After the Implementation of a Structured Handoff Form

DNP Final Project

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Chapter 1: Nature of the Project

Introduction:

Patient handoffs are defined as “the transfer of information and professional responsibility and accountability between individuals and teams” (Segall, et al., 2012). These handoffs are vulnerable to communication errors that may negatively impact patient safety. In fact, the most frequently reported cause of sentinel events within U.S. hospitals is poor communication (Street, et al., 2011) . Specifically, review of the literature stresses that the risk for adverse events occurs more often for surgical patients than in any other clinical specialty (Amato-Vealey, Barba, & Vealey, 2008). Surgical patients are moved from the preoperative area to the intraoperative area and then to postoperative areas of care. Transition between these specialized points of care mandates effective communication even in situations that increase error, like the need for increased volume, efficiency and rapid turnovers. Hurried environments are vulnerable to communication errors and mistakes that could have serious and fatal implications (Amato-Vealey, et al., 2008).

Communication has been targeted as a quality of care indicator by accreditation and regulatory groups. The National Quality Forum Report of 2005 recommends standardized approaches to handoff communication (Dufault, et al., 2010). This recommendation is 1 of 30 high priority implementations that have a strong evidence base and can improve patient safety if introduced into practice (Dufault, et al., 2010). The Joint Commission (JC) has published guidelines that give recommendations for nursing shift handoffs. In 2007, the JC created National Safety Goal 2E, stating that a standardized approach to handoff communication should be implemented (Lowe & Biddle, 2014). In reality, the transfer of knowledge into practice has been very slow to be implemented.

In the Anesthesia Practice Safety Foundation (APSF) Newsletter published in 2012, it states: there is a need for studies to investigate and identify best practices in postoperative patient handoffs. Segall and colleagues from the Durham VA Medical Center, North Carolina (Segall, et al., 2012), performed a literature review on postoperative patient handoffs. The review of the literature provides recommendations for structuring the handoff process. These include: standardizing the process through the use of checklists and protocols; completing clinical tasks before the information transfer; allowing only patient-specific discussions during verbal handoffs; requiring all relevant team members be present; and providing training in team skills and communication (Segall, et al., 2012). More research is needed to define what makes an optimal patient handoff and to determine the effect of handoff quality on patient outcomes (Segall et al., 2012). Reisenberg, Leitzsch, and Little (2009) also conducted a review of the literature and states that surprisingly little is known what constitutes best practice for nursing handoffs: there is a call for studies that focus on system factors, human performance, and the effectiveness of structured protocols and interventions. It also seems that there is not one solution to the problems of handoff communication and that handoff improvements will need to be individualized to the specific care setting (Kalman, 2010).

The anesthesia department at Akron General Medical Center (AGMC) in Akron, Ohio expressed dissatisfaction with the information transfer upon delivery of the patient to the post anesthesia care unit (PACU). The dissatisfaction was felt among Certified Registered Nurse Anesthetists (CRNAs), PACU Registered Nurses (RNs) and Anesthesiologists. PACU nurses expressed frustration at having to walk away from the bedside in order to look up information on the chart, and anesthesiologists expressed frustration that the PACU nurses did not know the last time and dose of pain medications and anti-emetics. CRNAs expressed dissatisfaction with the

attention the PACU nurses gave to the handoff report. The Iowa Model, which is the theoretical framework used for this study, encourages healthcare providers to identify “triggers” that come from questioning current practice (Melnyk & Fineout-Overholt, 2011). This was the impetus for the practice change at AGMC. Although there were no outcome studies at AGMC that suggested adverse events were associated with poor communication, there were enough knowledge-focused triggers that caused an increase in awareness of the importance of good handoff communication within the anesthesia and PACU departments. In the Anesthesia Practice Safety Foundation (APSF) Newsletter published in 2012, it states: there is a need for studies to investigate and identify best practices in postoperative patient handoffs. The Chair of the Department of Anesthesia approached me and suggested that there was a need to change the way the anesthesia department relayed information to the PACU. He had received enough complaints regarding poor communication from the CRNAs, PACU RNs, and anesthesiologists. Most of the dissatisfaction was related to the omission of information, specifically the timing and doses of medications. Anesthesiologists were reluctant to give pain medication orders without adequate information and PACU nurses had to step away from the bedside to look at the chart, and at times, this was when the patient’s physiologic status was most demanding.

In response, the Department of Anesthesia Chair, and the Nurse Manager of the PACU met several times and developed a more comprehensive handoff form that included spaces to fill in time and dose of opioids and anti-emetics that were given in the operating room. It was also felt that making the handoff form a document that would stay in the chart, would help to formalize the process. Comorbidities were also added to the handoff form. This standardized handoff form was developed in order to help reduce the risk of missed information and hopefully, improve satisfaction among postoperative providers.

Purpose/Picot Statement:

The purpose of the project was to determine whether the addition of a structured handoff form between CRNAs, Anesthesiologists, and PACU nurses resulted in staff satisfaction with handoff communication of post-operative patients one year after implementation. The first step of an EBP (evidence-based practice) project is to ask the clinical question in a PICOT format (i.e. Patient population, Intervention, Comparison intervention, Outcome, and Time Frame) in order to yield the most relevant information (Melnik & Finout-Overholt, 2011). The PICOT question for this project is as follows: In the Anesthesia and PACU departments how does the implementation of a new standardized handoff form compared to the old form affect ratings of satisfaction with handoff communication one year after the implementation of a standardized handoff form.

Project Objectives:

The primary objective of the project was to determine if a structured handoff form increased staff satisfaction with postoperative handoff communication. A standardized handoff form that guides communication for the postoperative care of a patient can reduce the risk of missed information. This will hopefully increase satisfaction among postoperative providers (Petrovic, et al., 2012).

Significance of Study to Nursing and Healthcare:

Handoffs are an essential part of nursing practice. The importance can be measured by the fact that the JC has defined them as such: standardized handoff communication is a “process in which information about patient/client/resident care is communicated in a consistent manner” from one health care provider to another (Riesenberg, et al., 2009). Even though they are common enough, nurses receive little formal training in how to effectively implement handoffs.

This is a critical responsibility and effective handoff procedures should be developed and nurses should be adequately educated to communicate effectively.

Postoperative handoffs are a high risk period of inadequate information transfer due to the patients' post-procedural physiology, the fact that they have to be transported from one physical location to another, and the "triad transfer of personnel, information and technology" (Petrovic, et al., 2012). There is a plethora of literature which identifies how incomplete communication and or poor communication play a significant part in untoward patient outcomes, jeopardizing patient safety, quality and continuity of care (Iacono, 2009). (Adams & Osborne-McKenzie, 2012).

Chapter 2: Review of the Literature

Theoretical Framework:

Evidence Based Practice (EBP) is a problem solving approach to clinical practice that integrates best evidence, clinical expertise and patient preferences to make decisions about patient care. It is now understood that EBP, if utilized, promotes high quality healthcare and best patient outcomes (Melnyk & Fineout-Overholt, 2011). Nurses who receive education in EBP need to be leaders in the practice setting in order to facilitate the use of best practices.

Although healthcare professionals are highly motivated to be evidence-based practitioners, there are many barriers to implementation including individual and organizational obstacles (Melnyk & Fineout-Overholt, 2011). As a result of the complexity of clinical practice, many models have been developed to guide the implementation of EBP. One of these EBP models is the *Iowa Model of Evidence-Based Practice to Promote Quality Care* (Titler, et al., 2001) and this will be used to see whether the institution of a standardized handoff form results in staff satisfaction with postoperative handoff communication.

Titler, et al. (2001) developed the Iowa Model to guide healthcare providers through the EBP process. Initially, the team identifies a practice question or “trigger”, followed by a review of the literature and then a pilot to determine appropriateness of change. (Melnyk & Finout-Overholt, 2011). The triggers for the development of a standardized handoff form at AGMC included both knowledge-focused triggers and problem-focused triggers. The recent surge of handoff communication in the literature raised awareness at this hospital for the need to have a more consistent, standardized and effective approach to handoff communication. The complaints of dissatisfaction with communication within the PACU and anesthesia departments formed the impetus to make a change, even before documented cases of medication errors and other

pertinent information omissions occurred. *The Iowa Model* also encompasses several feedback loops, reflecting analysis, evaluation and outcome indicators (Melnyk & Fineout-Overholt, 2011). The use of evaluation and outcomes allows the model to be adapted to an individual practice setting or institution. (Appendix A)

The use of the Iowa Model guided the evaluation of handoff communication at AGMC approximately one year after the implementation of a structured handoff form. A questionnaire assessing satisfaction with quality of communication one year after the implementation of a structured handoff form was administered to the anesthesia and PACU departments. Evidence-based practice changes need ongoing evaluation in the way of performance improvement projects to monitor and analyze the structure, process and outcome data (Melnyk & Fineout-Overholt, 2011). The steps that were used from the Iowa Model for assessing whether there had been increased satisfaction with postoperative patient handoffs at AGMC included distribution of a questionnaire, analysis of the results, and then dissemination of the outcome data to staff. Conclusions and recommendations were made as to whether the institution of a structured handoff form increased satisfaction and quality of communication between the anesthesia department and the PACU or whether improvements or additions to the content needed to be made. Dissemination and feedback of the results can also help to sustain the integration of the practice change.

Literature Review:

Patient handoffs, defined as “the transfer of information and professional responsibility and accountability between individual teams” (Segall, et al., 2012) happen frequently throughout a patient’s hospital stay, yet they are some of the most error prone times in communication. The Joint Commission estimates that 80% of serious medical errors are associated with breakdowns

in communication during the transfer of care (Seifert, 2012). There has been an increase in activity of studying handoffs during the last five years and many recommendations have been made as to what constitutes safe and effective handoffs, however, there is no one solution to the problem and handoff improvements will need to be tailored to the specific care setting (Kalman, 2010). There is an association between poor-quality handoffs and adverse events (Segall et al., 2012) so it is worthwhile to identify evidence-based methods to improve them and also identify how it relates to patient outcomes. There is also a correlation between poor-quality handoffs and healthcare provider dissatisfaction (Petrovic, et al., 2012).

The systematic review of the literature will focus on postoperative patient handoffs since this is a time of high-risk, due to the patients' post-procedural physiology and also the area where the standardized handoff form was implemented at AGMC. Much of what has been published related to handoffs has focused on floor, or ICU patients. Studies on work shift handoffs or those discussing transfers not originating in the operating room will be excluded. Very little has been studied regarding handoffs that occur in the perioperative, or postoperative settings (Petrovic, et al., 2012).

Segall, et al., (2012) conducted a systematic review of the literature to identify current practices in postoperative handoffs and identify evidence-based methods to improve them.

Papers included in the review were classified into 1 of 4 categories (Segall, et.al., 2012):

Category 1: Comprehensive intervention-based study

Category 2: Intervention –based study

Category 3: Pre-intervention study

Category 4: Published opinions or reviews

Thirty-one articles met inclusion criteria for the review, but only four of the studies fit into Category 1. These studies developed interventions such as structured handoff protocols, information transfer checklists and/or team training, and then evaluated process outcomes. All four of these studies improved metrics of effectiveness, efficiency and perceived teamwork, however the effects on patient outcomes were not evaluated (Segall, et.al., 2012). Most of the papers in this systematic review of the literature provided quantitative or qualitative descriptions of the errors and deficiencies associated with handoffs. Common barriers included: the incomplete transfer of information, distractions, lack of structure, consistency or organization of handoff communication and incomplete teams. Many of the studies supported the notion that these barriers, and particularly poor communication, may affect patient outcomes. Although the findings don't support a causal relationship between poor handoffs and decreased patient safety, there is proof that an association exists (Segall, et.al. 2012). Therefore, more studies are needed on what constitutes safe handoffs so that there is improvement in patient care by ensuring information completeness and increased accuracy and efficiency of postoperative patient handoffs.

Nagpal, et.al, (2010) reviewed and identified information transfer and communication problems in postoperative handoff. The study identified that postoperative handoffs are generally informal, unstructured, inconsistent and incomplete. Recommendations were made on how to make the postoperative handoff a formal process with a standardized protocol so as to prevent omissions of pertinent information (Nagpal, et al., 2010). The protocol was successfully developed and validated and offers items that should be included in the final postoperative handoff report (Nagpal et al., 2010). Salzwedel, et.al, (2012) performed a randomized controlled

trial that indicated the use of a written checklist for post-anesthesia handoffs may improve the quality of patient handoff by increasing the information handed over.

Amato- Vealey, Barba & Vealey (2008) discussed the fact that surgical patients are at greater risk for breakdowns in communication due to the fact that patients are physiologically vulnerable post-operatively and often there are other tasks to be completed such as providing ambu- ventilation or hooking up invasive monitors. These tasks can bring many distractions. This is coupled with the need for rapid turnovers. The SBAR approach is recommended (Situation, Background, Assessment, Recommendations) for effective handoffs. The consensus is that handoffs must be accurate, clear, specific, and provide opportunity for all parties to ask questions and voice concerns (Amato-Vealey, et al., 2008).

Kalman (2010) using the search terms “handover”, “handoff”, or “ sign-outs” completed a survey of the literature and noted that there were as little as twelve published articles in 2005 to over thirty in the first six months of 2010. The majority of the increase was due to the Joint Commission National Patient Safety Goal Requirements that state hospitals must (1) improve the effectiveness of communication among caregivers and (2) implement a standardized approach to handoff communication (Kalman, 2010). Qualitative survey and studies among doctors and nurses suggest dissatisfaction with handoff communication due to the fact that they are perceived as informal, unstructured, inconsistent, and incomplete (Kalman, 2010). The OR to the PACU is a time when distractions can easily occur. There is equipment and monitoring devices to hook up and the nurses giving and receiving handoff reports are often multi-tasking. However, handoffs from the operating room to the recovery room showed improvements with communication when efficient handoff protocols were utilized from other disciplines that use safety checklists and processes, namely, racing team pit stops and aviation training ((Kalman,

2010). Recent studies show the importance of uninterrupted; well-structured handoffs with the verbal focus on important details and not administrative or medical data that can be lifted from the electronic record (Kalman, 2010).

Petrovic and colleagues conducted a pilot implementation of a perioperative protocol to guide handoff communication from the OR to an intensive care unit (ICU). The aim of the study was to evaluate the impact of a standardized handoff process on patient care and provider satisfaction. Although many strategies have been proposed to improve handoff communication in internal medicine and pediatrics, there are fewer strategies proposed in the perioperative setting (Petrovic, et al., 2012). In conclusion, this study suggests a standardized handoff protocol that guides transfer of care from the OR to the ICU can decrease the risk of missed information and increase provider satisfaction (Petrovic et al., 2012). Agarwal, et.al, (2012) also determined that a standardized postoperative handoff tool was associated with a decrease in the loss of patient information, an improvement in the quality of communication during postoperative transfer, a decrease in postoperative complications, and an improvement in 24-hr patient outcomes.

Dufault and colleagues (2010), using Roger's Diffusion of Innovation Theory, developed a cost-effective, easy to use, best-practice protocol for nurse-to-nurse handoffs in an acute care setting. This article, although not specific to the OR setting, described the development, implementation, and evaluation of standardized communication protocols that were effective. They also offered suggestions for sustainability of the innovation applying principles of Roger's Diffusion of Innovation Theory (Default, et al., 2010).

Smith and group (2008) described how anesthesiologists hand over information and professional responsibility to nurses in the PACU. The conclusions were that patient handoffs in

this setting are mainly informal, but can show professional and organizational tensions (Smith et al.,2008). Even though formalized handoff procedures are advocated to promote patient safety, formalized procedures work best when they acknowledge the informal elements like rapport between nurses, respect amongst colleagues, or whether the nurse handing off trusts the experience of the nurse taking over (Smith, et. al. 2008).

In the article by Krenzischek, et.al, (2011) a postoperative handoff protocol was developed and evaluated. Using a pre-post design, the success of the protocol implementation at the Johns Hopkins PACU was assessed. Specifically, providers' satisfaction was measured and an overall satisfaction with postoperative handovers was significantly improved (Krenzischek et al., 2011). The authors noted that an increase in awareness of the importance of handoff communication occurred in their institution.

Jukkala, and colleagues evaluated the effectiveness of a standardized tool to improve nurse communication. Ensuring effective communication during shift report is particularly important in high-stress environments and although "how" shift reports occur has been well examined in the literature, the process of information delivery, flow of information and nurses' perception of communication has received less attention (Jukkala, et al. 2012). This study indicated that perceived communication among nurses in general, and specific to shift report, improved significantly following implementation of the tool (Jakkala, et al. 2012).

The literature supports the notion that there needs to be evaluation of handoff communication after the implementation of a standardized, consistent and complete handoff. Each setting is unique and handoffs will need to be tailored to fit the needs of the care setting. Barriers to communication have been described adequately, but more studies are needed to

determine if structured handoffs increase staff satisfaction with communication and how this translates to patient outcomes.

Chapter Three: Methodology

Project Design:

This DNP project used a survey to answer the project question. A cross-sectional survey was administered to the anesthesia department and PACU staff approximately one year after the implementation of a newly developed handoff form. The handoff form was developed by the Chair of the Department of Anesthesia and the Nurse Manager of the PACU after complaints from staff were received regarding ineffective handoff communication (Appendix B). The setting was the Anesthesia Department and Post-anesthesia Care Unit (PACU) at Akron General Medical Center (AGMC). The operating room performs approximately 50-60 surgeries per day and the PACU consists of 24 beds for patients. The Endoscopy suites have their own recovery room and patients that have procedures in the Interventional Radiology or Electrophysiology labs go back to the Intensive Care units, rather than the PACU. Staff meetings for the anesthesia department and the PACU occur the first and third Wednesdays of every month, so the surveys were administered during the meeting on December 4, 2013. Permission to use meeting time for survey administration had been granted by the Chair of the Department of Anesthesia and the Nurse Manager of the PACU.

Sample:

The sample consisted of Certified Registered Nurse Anesthetists (CRNAs) and physician anesthesiologists working for Anesthesia Associates of Akron (AAA) at AGMC as well as Registered Nurses (RNs) taking report in the PACU. A total of 35 CRNAs and 15 Anesthesiologists were included in the sample. There are approximately 30 RNs caring for patients in the PACU. They were given a survey on satisfaction with handoff communication in

order to generate quantitative and qualitative data that reflected whether or not best practices have been achieved.

Methods:

AGMC approved this study as a performance improvement project. After permission was granted from the Institutional Review Board at OSU, surveys were distributed at the beginning of the anesthesia and PACU departmental meetings to provide sufficient time to complete the survey. The survey included a cover letter that outlined the standard information included in a consent form, including IRB approval. There was a concluding statement that completion of the survey indicated participant's consent.

The aim of the survey was to describe CRNA, Anesthesiologist, and PACU RN staff satisfaction levels with handoff communication following the implementation of a revised handoff form. Although the anesthesiologists aren't usually the ones giving handoff report, they are occasionally involved in handoff communication if they are giving a break to the CRNA or involved with emergency cases after the regular operating room schedule. Mainly, satisfaction was assessed from the anesthesiologists' viewpoints because of their direct contact with the RNs who call for pain medication orders after surgery. The new handoff protocol consists of a standardized PACU/RN report sheet that stays on the chart until transfer out of the PACU (Appendix B). This handoff form was instituted November 1, 2012.

The survey included questions related to satisfaction with handoff communication in which participants checked agree, neutral, or disagree. If participants disagreed with a statement, they could provide additional comments. The survey also included an area where participants could make comments or suggestions on how to improve the standardized handoff form.

Surveys were completed anonymously, although participants were asked to indicate whether they were a MDA, CRNA, or RN and years of practice. Anonymity has been maintained; there were no personal identifiers. The surveys were distributed at an assigned morning meeting and collected at the end of the meeting. Participants were instructed to put their responses back in a sealed envelope. There was a backup time scheduled to collect data from those not present at the first meeting. The DNP student personally collected the sealed envelopes approximately two weeks after attending the morning meetings. The plan to collect surveys in person at a staff meeting may have helped to support the response rate. The Department of Anesthesia Chair, and the Nurse Manager of the PACU agreed to allow time in departmental meetings for survey distribution.

Instruments:

The survey was developed by the DNP student with content validity confirmed through content experts, including professors and advanced practice nurses (Appendix C). The survey was a simple word-anchored 3-point Likert-type scale. 8 questions were included and participants were asked to evaluate overall satisfaction with communication, as well as address whether the institution of a standardized handoff form decreased the most common barriers to effective communication identified in the review of the literature. Respondents were asked to answer the questions by checking that they agreed, remained neutral, or disagreed with the survey questions. Participants were also given the opportunity to make comments if they felt barriers to communication still existed and if this impacted their satisfaction with postoperative handoff communication.

Data Evaluation:

Descriptive evaluation of the quantitative responses (ordinal level data) was completed by the student and advisor including counts and ranges. Qualitative data were reviewed for content themes by the student and the advisor. The data was reviewed for general content as well as recurring themes and patterns. These themes provided suggestions on how to make handoff communication better and pinpointed the perceived barriers to effective communication.

Chapter 4: Findings

Results

Description of the Sample

There are approximately 35 CRNAs, 15 MDAs and 30 PACU RNs working within the operating room and PACU at AGMC. These numbers also include part-time, per diem, and afternoon and night shift personnel. Each department was asked to complete a survey rating their satisfaction with postoperative handoff communication. The anesthesia department had a 50% response rate with surveys collected from 22 CRNAs, 2 MDAs (physician anesthesiologists) and one survey from an individual who didn't identify whether they were a CRNA or MDA. Of the PACU nurses, 17 completed the survey for a 57% response rate. Table 1 provides the position, experience and range of professional licensing for the sample.

Table 1: Description of the Sample:

Demographic Descriptors	MDA/ CRNA	RN-PACU	Not reported
Number	2/22	17	1 (MDA/CRNA)
Years in current position			
1-5	5 (20%)	0	
6-10	5 (20%)	4 (23%)	
11+	14 (56%)	6 (35%)	
No response	1 (4%)	7 (59%)	
Years since licensure			
1-5	1 (4%)	0	
6-10	3 (12%)	0	
11+	18 (72%)	10 (59%)	
No response	3 (12%)	7 (41%)	

MDA = physician anesthesiologist; CRNA = certified registered nurse anesthetist; RN-PACU= registered nurse-post-anesthesia care unit

Survey Question Results Anesthesia Department

The majority of the Anesthesia Department which consisted of 84% (n=21), is satisfied with handoff communication since the implementation of a standardized handoff form. In fact, 80% (n=20) or higher of the respondents agreed with all the questions on the survey except for

the second question which asked whether the use of a standardized form has decreased interruptions during the handoff report. This question had only 56% (n=14) of participants agree, 36% (n=9) remain neutral and 8% (n=2) disagree. Overall, the use of a standardized handoff form has been perceived as decreasing the amount of communication errors, increasing the efficiency and clarity of communication and decreasing the omission of pertinent patient information during handoffs within the anesthesia department.

Refer to Table 2 for the anesthesia department survey results.

Survey Question Results PACU Department

Survey findings within the PACU Department were similar to the Anesthesia Department in that the majority of participants agreed that the use of a standardized handoff form has decreased the amount of communication errors, decreased the omission of pertinent patient information and increased handoff efficiency and clarity. A total of 65% (n=11) were satisfied with handoff communication in the department since the implementation of a standardized handoff form. Only 47% (n=8) of respondents agreed that the use of a standardized handoff form has decreased the amount of interruptions during handoff. Refer to Table 2 for the PACU department survey results.

Table 2: Responses of the Anesthesia Department (N=25) and the PACU Department (N=17)

Question and Response	Agree N (%)	Neutral N (%)	Disagree N (%)
The use of a standardized handoff form has decreased the amount of communication errors during patient handoff between anesthesia and postoperative care providers			
Anesthesia	21 (84%)	4 (16%)	0
PACU RN	12 (71%)	5 (29%)	0
The use of a standardized handoff form has decreased interruptions during the handoff report.			
Anesthesia	14 (56%)	9 (36%)	2 (8%)
PACU RN	8 (47%)	7 (41%)	2 (12%)
The use of a standardized handoff form has increased handoff efficiency between anesthesia and postoperative care providers.			
Anesthesia	20 (80%)	5 (20%)	0
PACU RN	16 (94%)	0	1 (6%)
Implementing the use of a standardized handoff form has improved the efficiency and clarity of communication in our department			
Anesthesia	21 (84%)	4 (16%)	0
PACU RN	16 (94%)	1 (6%)	0
The use of a standardized handoff form has decreased the omission of pertinent patient information during handoff report			
Anesthesia	21 (84%)	4 (16%)	0
PACU RN	10 (59%)	6 (35%)	1 (6%)
I feel that the new handoff format between providers is standardized, consistent, and complete.			
Anesthesia	20 (80%)	5 (20%)	0
PACU RN	14 (82%)	3 (18%)	0
I am usually satisfied with the OR to PACU handoff report.			
Anesthesia	21 (84%)	4 (16%)	0
PACU RN	15 (88%)	1 (6%)	1 (6%)
I am satisfied with handoff communication in our department since the implementation of a standardized handoff form.			
Anesthesia	21 (84%)	3 (12%)	1 (4%)
PACU RN (n=16)	11 (65%)	4 (24%)	1 (6%)

PACU RN = post-anesthesia care unit registered nurse

Experience Years and Qualitative Satisfaction

Years of experience in current position and years since licensed as a RN or MD were variables that were examined for a possible effect on satisfaction with handoff communication. Within the anesthesia department 56% (n=14) of those in the 11+ bracket had been in their current position and 72% (n= 18) had been licensed for 11+ years. A total of 87%, or 13 out of the 15 respondents, were satisfied with handoff communication in the department since the implementation of a standardized handoff form. Only two respondents remained neutral. No one disagreed. Within the PACU department, the majority of respondents were in the 11+ category for both years of experience in current position and licensure. However, six, or 35% of the respondents, did not indicate their years of experience, or licensure. The majority agreed that they were satisfied with handoff communication within the department, regardless of years of experience.

Anesthesia and Qualitative Satisfaction

Themes from the anesthesia department included the following: 1) handoff form improves process; 2) handoff form reduces follow up phone calls; 3) need for PACU RN to pay closer attention; and 4) PACU RN need to stay off computer until patient is fully monitored. See Appendix 4 for complete list of qualitative comments by the Anesthesia Department.

PACU Qualitative Satisfaction

Themes from the PACU department included: 1) Specific suggestions re: additional comorbidities to add to the form (i.e., arthritis), issues with isolation patients; 2) communication issues with CRNAs re: sense that they are “rushed” during report, (i.e., do not start report until the patient is fully monitored). See Appendix 4 for a complete list of qualitative comments by the PACU Department.

Chapter Five: Discussion and Implications

Discussion:

Clear and effective communication is an essential component of safe patient care. Postoperative patients are especially vulnerable to handoff errors due to the many periods of transition of care from preoperative, intraoperative, and postoperative periods. Another factor contributing to the vulnerability of postoperative handoffs is the fact that they involve staff from different professional groups, each with their own priorities of what information needs to be transferred (Nagpal, et.al.,2010). The anesthesia and PACU departments at AGMC came together and developed a standardized postoperative handoff form that the PACU nurses complete. This form remains a part of the chart and is sent with the patient if they go to a medical or surgical hospital floor. In this study, I attempted to assess satisfaction with postoperative handoff communication one year after the development of this standardized handoff form.

There was a 50% response rate to the survey within the anesthesia department. However, this percentage also included the MDA numbers, and only two out of the fifteen anesthesiologists responded. Handoff communication in the department usually involves CRNA to PACU RNs, or nurse to nurse transfer of care, and there is a much higher percentage of CRNAs (66%) vs. MDAs who responded. There was a 57% rate within the PACU.

The majority of survey respondents agreed that there was satisfaction with handoff communication in the department since the implementation of a standardized handoff form. The anesthesia department was more satisfied with handoff communication when compared to PACU, however 84% of the anesthesia department expressed satisfaction, 12% remained neutral

and only 4% disagreed. In the PACU department, 65% RNs expressed satisfaction with handoff communication, 24% remained neutral and only 6% disagreed.

Most of the questions on the survey received an 80% or higher satisfaction rating from the anesthesia department and the PACU department. The biggest neutrality for both departments pertained to the question on whether or not the use of a standardized handoff form has decreased interruptions during the handoff report. The anesthesia department had 56% (respondents agree, 36% remain neutral, and 8% disagree. The PACU department had only 47% of respondents agree, 41% remain neutral, and 12% disagree. While these findings might be expected and inevitable, it is of interest to note that even when using a checklist, interruptions are still perceived to occur.

The other question that received neutral responses is whether the use of a standardized handoff form has decreased the omission of pertinent patient information during handoff report. Respondents also had the opportunity to make qualitative remarks as to what they felt should be added to the handoff form. Within the anesthesia department, 84% agreed and 16% remained neutral. On the other hand, the PACU department had 59% agree, 35% remain neutral, and 6% disagree. Comments related to this statement describe that although many PACU RNs felt the form was complete and raised awareness of what information needs to be relayed, the clarity of the report can sometimes depends on the individual giving the postoperative handoff communication.

There were two questions on the satisfaction with postoperative handoffs survey that elicited qualitative statements. The first question asked whether there was anything that needed to be added or changed to the standardized form to make it better and the second question asked about other communication barriers that occurred during the handoff period that weren't

addressed by the standardized handoff form. In response to the first question, the anesthesia department felt the form was thorough and covered all pertinent information. The PACU department provided some more specific suggestions. Neurological status of patients before sedation and whether the case was a monitored anesthesia care case or a general anesthetic were two pertinent pieces of information that could be added to the form. The PACU staff commented that the clarity of handoff depends on the CRNA or the anesthesiologist bringing the patient to the recovery room.

The second question on the survey that elicited qualitative statements asked about other communication barriers that occur during postoperative handoffs that could impact satisfaction with communication. The major theme discussed by the anesthesia department is that PACU nurses are too preoccupied with the computer charting to listen to the handoff report or hook up the patients to the monitors in a timely fashion. The PACU department, on the other hand, expressed that CRNAs were in too much of a hurry to move on to the next task and CRNAs would often give report before the patient was hooked up to the monitors. Lack of time seemed to be the biggest barrier during the handoff period. The biggest variable affecting the process, also, is personnel. There are variations in the quality of communication during the handoff report between individuals. Some PACU nurses don't write all the information down on the handoff form.

Conclusions:

This survey confirmed that the majority of the staff in the anesthesia and PACU departments are satisfied with postoperative handoff communication. Perceptions in both departments, as evidenced by the positive responses to satisfaction questions indicate that the use of a standardized handoff form has decreased the perception of communication errors and

increased the perception of efficiency and clarity of communication. The majority also agreed that the new handoff format between providers is standardized, consistent, and complete.

Checklists, unless associated with attitudinal change by the organization are not likely to have success, because they can be seen as a distraction, viewed as interfering, or even as eroding autonomy and an impediment to swift decision making (Lowe & Biddle, 2014). On the other hand, good checklists promote a culture of safety by providing a set of steps, allowing cross-checking and enhancing a team approach (Lowe & Biddle, 2014). It is also imperative that all participants agree that there is a need for a structured protocol for handoff communication during the postoperative phase (Nagpal, et.al, 2010).

The results of the survey demonstrate that the PACU and anesthesia departments at AGMC are committed to creating a culture of safety by adhering to protocols and guidelines put in place. While 100% compliance is hard to achieve, the majority of CRNAs recognize the need for clear and effective communication and the majority of PACU RNs are compliant with completing the standardized handoff form. It is encouraging to note that ratings of satisfaction with postoperative handoff communication are high. The results of this questionnaire can be disseminated to the departments and hopefully sustain the implementation of the standardized handoff form into practice.

Limitations:

There are several limitations in this project. First, data collection involves a relatively small, specific population and the results can't be generalized to other hospitals or PACUs. Data is only applicable to the anesthesia and PACU departments at AGMC. However, as an evidence-based practice project, generalizability is not an expectation and this project does inform the clinical question asked for this specific clinical site.

Another limitation is that satisfaction with postoperative handoff communication was only assessed after the implementation of a standardized handoff form. Pre-implementation ratings of satisfaction were not assessed, and would have provided an avenue for comparison. Also, despite in-services educating the anesthesia and PACU departments about the newly developed standardized handoff form required in PACU, many CRNAs had forgotten or were not aware that there were new approaches to the former way of doing handoff communication. The ratings on the satisfaction survey were based more on the CRNA's perception of current handoff communication rather than on a comparison of pre and post implementation of the standardized handoff form.

The questions pertaining to the gathering of qualitative data were vague. In addition to asking if anything needed to be added to or changed on the standardized handoff form, in the future I would ask if anything in the handoff communication had left staff unprepared for events that occurred during the shift. This could have provided more specific items that needed to be added to the form to make it complete.

Summary

In summary, the ratings of satisfaction with communication in the PACU and anesthesia departments at AGMC suggest that the development of a standardized handoff form contributed to the perception that quality and efficiency of postoperative handoff transfer of information was satisfactory. The standardized handoff form decreased the risk of missed information and promoted provider satisfaction. An awareness of the importance of handoff communication also occurred in the institution.

Patient handoff is not a one way transfer of care but is, instead, a team activity. The receiving clinicians have an active role in determining how effective the communication process

is (Manser, et al, 2012). It has also been identified that anesthetists and recovery room nurses often have different expectations concerning the content that should be included in a handoff and the timing of information transfer (Manser, et al, 2012). The quantitative and qualitative data gathered in this survey can be disseminated to the PACU and anesthesia departments at AGMC to communicate the expectations between departments. Postoperative handoffs are “critical episodes because they take place in an environment that is event driven, time-pressured, and prone to concurrent distractions while the patient is in an “at-risk” state” (Manser,et al.,2012, p.140) and because they involve clinicians across professional groups, each with his or her own skill set and priorities (Nagpal, et al., 2010). By disseminating the results of this survey, I can bring awareness to the needs of both departments, clarify the importance of quality and effective communication, and increase the culture of safety at AGMC.

Implications for Nursing Practice, Patient Outcomes Improvement, & DNP Practice

Doctor of Nursing Practice (DNP)-prepared APNs are in a unique position to transform patient care and position themselves as leaders to help guide the development of policies, standards or guidelines that put evidence into practice and promote a culture of safety. High quality transfer of information during a handoff is vital to ensuring patient safety. Providing care to patients has become increasingly complex and one person cannot be expected to provide the entirety of care for a patient on his or her own. Postoperative handoffs are especially vulnerable to breakdowns in communication due to the complexity of the patient’s condition and the time allotted for communication. The use of checklists and a standardized approach to handoff communication has been suggested as a means of ensuring essential information is conveyed. This is one example of a quality improvement project that the DNP can help implement and sustain into practice.

Nurse anesthetists are highly trained providers who possess the discipline to put patient safety at the top of the priority list. Despite this fact, they are still humans who err, and are thrust into complex environments that have a lot of sensory stimulation. For this reason, nurses can be pressured and feel distracted. The use of a standardized handoff format has been suggested as a way to help ensure the accuracy of information in order to meet patient safety goals.

The Doctor of Nursing Practice-prepared nurse possesses the leadership skills, knowledge and motivation to effectively apply knowledge into practice. APNs are positioned to advocate for patient security and ensure a culture of safety. The DNP can use principles of leadership to ensure that quality improvement initiatives such as standardized handoff protocols are put into place, adhered to, and sustained.

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Appendix A

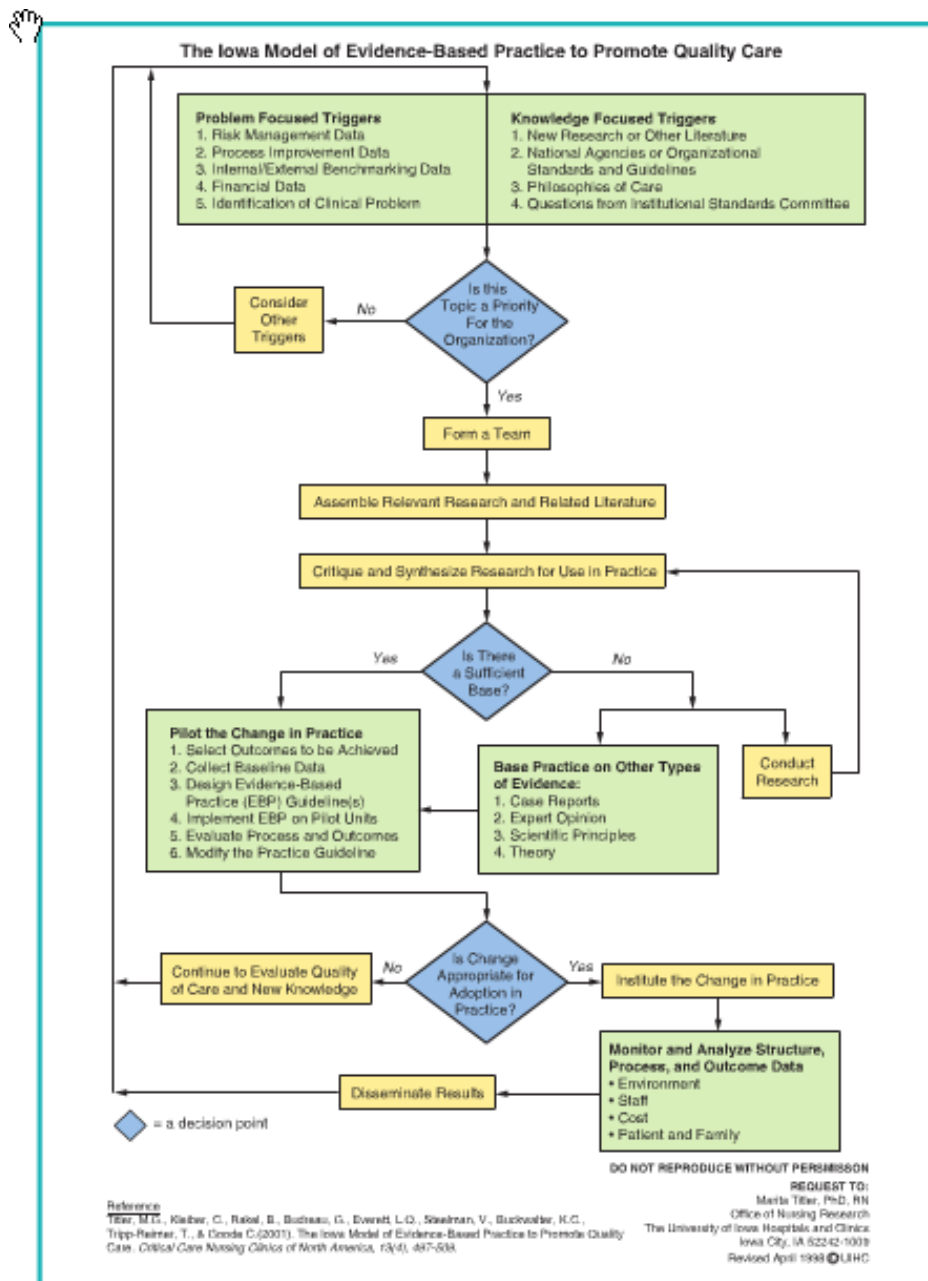


figure 11.3 The Iowa model of evidence-based practice to promote quality care (Used with permission from Marita G. Tider, PhD, RN, FAAN, University of Iowa Hospitals and Clinics, © 1998. For permission to use or reproduce the model, please contact the University of Iowa Hospitals and Clinics at (319) 384.9098.)

Appendix B

AKRON GENERAL

DATE:	Time In:	CASE #:								
RN NAME:										
PROCEDURE:		PACU BED #:								
ANESTHESIOLOGIST:		CRNA:								
ANESTHESIA:		BLOCK:								
ALLERGY:										
HISTORY: (circle those that apply) HTN DM _____ Asthma Smoker COPD Sleep Apnea CPAP Thyroid Depression Anxiety CAD GERD										
INTRAOPERATIVE ANALGESICS & ANTIEMETICS: <input type="checkbox"/> Dilaudid _____ <input type="checkbox"/> Morphine _____ <input type="checkbox"/> Fentanyl _____ <input type="checkbox"/> Ofirmev _____ <input type="checkbox"/> Toradol _____ <input type="checkbox"/> Zofran _____ <input type="checkbox"/> Droperidol _____ <input type="checkbox"/> Decadron _____ <input type="checkbox"/> Pepcid _____ <input type="checkbox"/> Versed _____ <input type="checkbox"/> antbx: _____										
INTRAOPERATIVE REPORT:										
DRESSING/OPERATIVE SITE:		IV ACCESS:								
DRAIN/LOCATION/COLOR	FLUID	AMOUNT REMAINING								
<input type="checkbox"/> NG:		INFUSION WITHOUT DIFFICULTY <input type="checkbox"/> Yes <input type="checkbox"/> No* <input type="checkbox"/> Yes* <input type="checkbox"/> No								
<input type="checkbox"/> FOLEY:		REDNESS OR SWELLING <input type="checkbox"/> Yes <input type="checkbox"/> No* <input type="checkbox"/> Yes* <input type="checkbox"/> No								
<input type="checkbox"/>		<input type="checkbox"/> Yes <input type="checkbox"/> No* <input type="checkbox"/> Yes* <input type="checkbox"/> No								
<input type="checkbox"/>		<input type="checkbox"/> Yes <input type="checkbox"/> No* <input type="checkbox"/> Yes* <input type="checkbox"/> No								
MEDICATION ADMINISTRATION COMPLETED IN PACU				INTAKE			OUTPUT			
TIME	MEDICATION / DOSE	ROUTE / SITE	RN SIGNATURE	OR	PACU	OR	PACU	OR	PACU	
				IV			FOLEY			
				BLOOD			VOIDED			
							EBL			
							WOUND DRAIN			
				PO			CHEST TUBE			
							NG			
							EMESIS			
				TOTAL			TOTAL			
UNIT CONTACT										
TIME REPORT TUBED										
ROOM READY <input type="checkbox"/> Yes <input type="checkbox"/> No										
TIME	TEMP	BLOOD PRESSURE	HR	RHYTHM	RR	SaO ₂	O ₂	PAIN 0-10	AVI SCD	ALERT AND ORIENTED X
ADDITIONAL NURSING NOTES:										

PACU/NURSING HANDOFF FORM

Appendix C

**A Survey of Staff Satisfaction with Postoperative Patient Handoffs
One year After the Implementation of a Structured Handoff Form**

I am a DNP (Doctorate of Nursing Practice) student at The Ohio State University (OSU). I'm conducting a study at Akron General Medical Center (AGMC) titled, **A Survey of Staff Satisfaction with Postoperative Patient Handoffs One Year After the Implementation of a Structured Handoff Form.**

This study has been reviewed and approved by The Ohio State University IRB # 2013B0496.

Attached is a survey with questions about your background, and perceptions of satisfaction with handoff reports between the anesthesia and PACU departments. A postoperative handoff report is defined as the transfer of information, authority, and responsibility between individuals and teams.

This survey should take approximately 10 minutes to complete. Any possible identifying information collected from the survey will remain confidential.

Completion and submission of this survey will imply consent to participate in the study. Participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled, and the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

Handoffs are vulnerable to communication errors that may negatively impact patient safety. Surgical patients are moved from the preoperative area to the intraoperative area and then to postoperative areas of care. Transition between these specialized points of care mandates effective communication even in situations that increase error, like a hurried environment.

Your ratings of satisfaction with the quality of handoff communication will improve the understanding of best handoff practices at Akron General Medical Center.

For questions about your rights as a participant in this study, or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

For questions, concerns, complaints, or if you feel you have been harmed as a result of study participation, you may contact Dr. Gerene Bauldoff @ bauldoff-1 @osu.edu (614-292-4746) or Kelly Pond at pond@uakron.edu (330-972-5925).

Thank you for your participation,

Kelly Pond, MSN, CRNA

Appendix 4: Qualitative Statements from the Anesthesia Department

- 1. Is there anything you feel needs to be added or changed to the standardized handoff form to make it better?**
 - a. The form is thorough and covers all pertinent info
 - b. no
- 2. Are there other communications barriers that occur during the handoff period that are not addressed by this standardized handoff form (environment, noise pollution, etc.)?**
 1. Please look at patient before going to computer
 2. No
 3. PACU staff on occasion
 4. PACU staff don't listen as often as I would like
 5. Form makes process quicker for all involved. Most RNs can multi-task (take care of patients and chart) but others cannot.
 6. PACU RN not paying attention
 7. Place monitors before doing computer charting
 8. Stay off computers until patient hooked up
 9. The biggest variable to the process is personnel. Some do a good job giving report. Others do not. Some don't give all the info they should. Also, sometimes the PACU RNs don't write all the info down on the sheet.
Biggest positives: As a doc, compared to prior to the checklist:
 - I get fewer calls from PACU for meds that have already been given in OR
 - The PACU RNs can now tell me exactly what the patient has already received in the OR (i.e. anti-emetics, narcotics, non-narcotics) so I can give them orders more reliably
 - in the past I would have to ask what the patient had already received and they would say "I don't know" or they would have to look through the anesthesia record for the info. Now it is readily available.
 - I think it has been a big help
 - It would be better if everyone was more complete with reporting and documenting the information
 10. Some PACU nurses seem put-off, passive-aggressive about having to hook up monitors. They refuse to multi-task, listen or move quickly.
 11. Stay off computers until the patient is hooked up.

Appendix 5: Qualitative Statements from the PACU Department

1. Is there anything you feel needs to be added or changed to the standardized handoff form to make it better?

1. The form raised awareness of what needs to be there
2. Depends on the CRNA- some will walk away and not mention OR history or what was given in OR.
3. Clarity of handoff depends on CRNA or anesthesiologist bring patient out. The anesthesiologist report is usually lacking info.
4. Compliance of all CRNAs would help
5. Not all CRNAs include the fentanyl or other narcotics. Some don't state MAC vs. General. Hard to tell from patient. Some CRNAs will not change.
6. It is good to know neurological status of patients before sedation and many times, CRNA doesn't know because they did not put the patient to sleep. "They are just relieving" or they "just took over".
7. Only difference in new form from old is drugs are now listed for me to erase rather than write.

2. Are there other communications barriers that occur during the handoff period that are not addressed by this standardized handoff form (environment, noise pollution, etc.)?

1. Time
2. Environment- can't always control handoff period.
3. Some CRNAs seem rushed and don't provide complete info unless requested by RN
4. Isolation patients are big problems. OR/Anesthesia doesn't know or seem to care about it. They never know where or what they have, most don't gown or glove. They act like it's nothing.
5. Add Arthritis. Some Docs slim on info given. History of patient not complete. They talk to you while you are putting monitors on and you are the only one.
6. CRNA in too much of rush or hurry to move on to the next task.
7. CRNAs start giving report before patient is hooked up to monitors before you can start writing.
8. Anesthesia forgetting to give information that is helpful. Some CRNAs like to get away from bedside as quickly as possible and start report before the patient is hooked up and the nurse is ready, but most are very considerate.
9. CRNA starts giving report even before RN hooked patient to monitor or continues report even if patient condition requires the RN's attention.
10. Report CRNA driven- what they want to tell or omit, regardless of report paper. New report form not different for us. We still have to ask all questions of many CRNAs.