

**A Patient or Baton? Implementation of a  
Standardized Report Sheet in the  
Post Anesthesia Care Unit**

Olivia Cil

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Approved by:

Doctor Stacey Schlesinger    Project Team Leader

Doctor Wanda Williams        DNP Program Director

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### **Background and Significance**

Anesthesia Provider to post-anesthesia care unit (PACU) nurse handoff is a critical process for the safe transfer of care for a surgical patient. This process can be fraught with distractions, errors and omissions which jeopardize patient safety. Gaps within this process are due to an absence of clear communication (Gibney, 2017), which have resulted in sentinel events (Aronson et al., 2021) and errors (Rosenthal et al., 2018). Failures in communication have been primarily attributed to the handoff reporting procedure. The use of a standardized reporting process reduces errors and decreases the amount of time required for patient handoff to occur (Streelman & Staffileno, 2021; Briggs et al., 2022).

Transfers of patient care often occur at a time that results in failures of communication. Errors can be compounded by verbal communication and a lack of standardization increases these chances significantly (Aronson et al., 2021). The timing of anesthesia provider to PACU nurse transfer, however, presents unique challenges. The anesthesia provider often has a subsequent case to prepare for, while the receiving PACU nurse may have other patient responsibilities and minimal preparation time in advance of receiving the patient. Upon transfer from the operating room (OR) to the PACU, a patient receives a new team of providers who assume the responsibility of providing safe and efficient care. The PACU nurse and anesthesia provider encounter environmental distractions, and potential human error when giving or receiving handoff report (Lambert, 2018; Steelman & Staffileno, 2021).

The use of a standardized handoff process increases staff satisfaction, improves handoff efficiency, and improves provider satisfaction (Steelman & Staffileno, 2021; Arson et al., 2021; Gates, 2021). The use of a standardized handoff process also complies with recommendations from The Joint Commission (Gates, 2021).

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Patient safety is compromised when a standardized report sheet is not utilized (Arson et al., 2021). Despite the benefits of technology in healthcare and the Joint Commission's recommendation for the use of a patient handoff tool during report, (Gates et al., 2021) standardized report sheets remain underutilized (Aronson et al., 2021). In using a standardized reporting process, adherence to the Joint Commission's recommendations can be achieved, anesthesia provider satisfaction can be increased, and the amount of time for the patient to be transitioned to the PACU is reduced (Streelman & Staffileno, 2021; Briggs et al., 2022; Gates et al., 2021). Lastly, even PACU staff express that gaps exist between periods of patient transition (Gibney, 2017). Thus, the need for implementation of a standardized anesthesia provider to PACU nurse handoff template is now.

### **Purpose**

The purpose of this quality improvement project was to implement a standardized anesthesia provider to PACU reporting process using a site-specific handoff tool. This project evaluated the effectiveness of an evidence-based educational intervention to increase utilization of a written handoff tool, increase anesthesia provider satisfaction with the handoff process, and improve handoff efficiency.

### **Review of Current Evidence**

The electronic databases CINAHL, PubMed, and Scopus were utilized to identify and evaluate the existing evidence on handoff procedures. Search terms utilized for the search included: "CRNA and PACU report", "patient safety and standardized report", "postoperative handoff report" and "standardized report and "patient outcomes". Inclusion criteria included peer-reviewed journals published in English between 2015-2024 and available in full text. This

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search produced 20 articles in CINAHL, 18 articles in PubMed, and 20 articles in Scopus.

Articles were excluded if duplicated or deemed not relevant to the specific project focus. Five were not utilized due to age of publication and duplication. In total 15 articles were utilized.

### **Handoff Process**

The handoff process is a period of time when one provider relinquishes their care of a patient to another individual. This is a critical time for the patient, especially the surgical patient. All relevant information must be communicated to the oncoming individual who will be assuming care of the patient. While this process is critical, it is also filled with communication gaps and distractions, which lead to poor and ineffective reporting. Gibney (2017) reports that breaches within this process are due to an absence of clear communication. These breaches in communication have resulted in sentinel events (Aronson et al., 2021) and medical errors (Rosenthal et al., 2018). Further compounding this process are the distractions experienced by both the anesthesia provider and PACU provider during this time period. Lambert (2018) and Streelman & Staffileno (2021) explain that staff must combat environmental distractions and human error when giving report so that essential patient information is not omitted. As humans are involved in the handoff process it is possible for errors to occur when relaying information verbally and hurriedly, thus, information can easily be miscommunicated (Aronson et al., 2021). Communication during this transition must be effective to increase efficiency and decrease missing information (Streelman & Staffileno, 2021).

### **Communication Failures**

A breach within the handoff process is caused by the absence of clear communication (Gibney, 2017). Communication breakdown during the patient transition is among the leading causes of sentinel events for patients (Aronson et al., 2021; Agency for Healthcare Research and Quality, n.d.). Seelman & Staffileno (2021), report that 80% of serious medical injuries occur

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from miscommunications among providers during the time of patient transfer. Along with miscommunications, Gibney (2017) reported that 23.2% of nurses thought they were almost always given faulty patient information. Failures in communication also result in delays of care for the patient (Rosenthal et al., 2018). These breakdowns in communication have been primarily attributed to the handoff reporting procedure between staff (Aronson et al., 2021). There remains a lack of utilization of standardized report processes (Gates et al., 2019) despite known failure in communication to be attributed to handoff (Aronson et al., 2021). Handoff from anesthesia provider to PACU nurses are reported to be inadequate and inconsistent (Lambert, 2018 & Ortutay et al., 2022).

### **Standardized Handoff Process**

Patient outcomes are improved when healthcare staff receive all patient information clearly and consistently (Gibney, 2017). Standardized reports come in various forms and can include the use of electronic tools, written checklists, and mnemonics (Rosenthal et al., 2018). One study reported that 64% of practitioners did not currently have a systematic process for anesthesia handoff (Gibney, 2017). Not only must a standardized tool be present for effective patient care and error prevention, but how the report is communicated must be consistently clear and adequate (Gibney, 2017). Strategies to facilitate effective report include ensuring the receiver of the report can ask questions and has the capacity to receive clarification if needed (Gibney, 2017 & Ortutay et al., 2022). Reducing external noise and allowing for verbal confirmation have also been shown to increase effective reporting (Aronson et al., 2021; Gibney, 2017; Lambert, 2018). Having a standardized report allows for information to remain consistent and organized, alerting staff to missing information (Lambert, 2018; Aronson et al., 2021). Standardized communication improves patient outcomes and is even associated with reduced time on antibiotics and improved compliance with the prescribed plan of care (Gibney, 2017). In

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2006, the Joint Commission recommended standardization as the best means to improve the efficiency and completeness of handoff reports. Presently the Joint Commission now requires that all providers utilize a standardized method of communication (Lambert, 2018 & Rosenthal et al., 2018). A standardized report allows for effective communication and an increase in handoff efficiency (Streelman & Staffileno, 2021). Rosenthal et al., (2018) conducted a literature review utilizing 14 articles that evaluated patient-related outcomes of a standardized handoff tool. Three standardized handoff tools were compared: checklists, scripts/templates, and mnemonics. While none of the included handoff tools were found to be superior, the general use of a standardized handoff tool was found to improve patient-related outcomes (Rosenthal et al., 2018).

### **Written Report**

While no consensus exists on the best practice for a standardized report, there is consensus that a standardized handoff tool should be organized, accurate, thorough, and in a structured format (Lambert, 2018). Ortutay et al. (2022) report that a standardized handoff tool that utilizes a checklist format decreases preventable errors and omissions and helps assure continuity of care and safety for the patient. Ortutay et al., (2022) also found that a standardized handoff tool in the form of a checklist allowed for closed loop communication, which is vital to patient safety. Gates' (2021) implementation of a standardized handoff report among registered nurses during patient transfer from phase one recovery to phase two recovery showed a 30% reduction in the duration of time of handoff, increased efficiency in nursing workflow by 28%, and increased nursing satisfaction with workflow by 100%. Robins (2015) also utilized a written standardized handoff in the form of a checklist in CRNA to PACU nurse report and found a decrease in time of report measured by handoff to anesthesia stop time. Thus, with a written standardized reporting tool, handoff time can decrease in duration.

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### **Staff Perception**

Gaps within the reporting process lead to staff frustration and extra time taken away from direct patient care (O'Hare et al., 2021; Gibney, 2017; Lambert, 2018). Frustrations caused by missing, late, or inaccurate information can adversely affect patient care (Streelman & Staffileno, 2021; Gibney, 2017). Anesthesia providers experience frustration when there are inadequacies in report, resulting in time taken away from the patient to find missing information (O'Hare et al., 2021; Gibney, 2017; Lambert, 2018). Inconsistencies and lack of standardization of report lead to missing or inaccurate information, thus compounding anesthesia provider frustration and concern for patient safety (Streelman & Staffileno, 2021; Gibney, 2017).

For a reporting process to be successful, it is important that the staff acknowledge the tool as beneficial to the reporting process. Staff who welcome the reporting process will be more compliant (Aronson et al., 2021). However, having a standardized reporting tool can also bring staff dissatisfaction (Gibney, 2017). People differ in their opinions, and changes in the reporting process can pose challenges for staff, (Gibney, 2017) especially if they feel they must utilize a poorly designed tool (Aronson et al., 2021). Thus, staff compliance and perception of a standardized report tool matter. When front-line individuals have input and feel their opinions and experiences are valued, they are more likely to comply with the utilization of a standardized handoff. Thus, staff must be empowered by feedback on the reporting tool and proper training to feel they can be successful (Aronson et al., 2021).

### **Theoretical Model/Conceptual Framework**

The theoretical framework utilized for this project is Kurt Lewin's Change Theory. This framework describes the steps necessary for change to occur. According to Lewin, change consists of three distinct steps: unfreezing, change, and refreezing. Unfreezing involves making



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it possible for people to let go of an old pattern that is counterproductive (Petiprin, 2020). To unfreeze individual resistance and group conformity must be overcome. PACU nurses voiced significant dissatisfaction with the anesthesia provider to PACU nurse handoff process. This problem was identified by key stakeholders as a priority. To address this problem the PI worked collaboratively with key stakeholders to develop the site-specific handoff tool implemented. To achieve this change, the driving force must be increased to direct the behavior/action away from an existing practice. Secondly, resistance must be decreased toward to the improved behavior. Lastly, a combination of these forces (1 and 2) must be balanced. The change stage includes the move toward new thoughts and behaviors that are more productive. Thirdly, the refreezing stage occurs when the new habit becomes the standard of practice (Petiprin, 2020).

Kurt Lewin's Change Theory provides the theoretical framework for this project because the current process is not consistent with the current evidence regarding a standardized handoff tool during the transfer of patient care (Petiprin, 2020). Existing practices need change or "unfreezing." A standardized handoff tool will make it possible for people to let go of a current process that has led to PACU staff dissatisfaction and failure to adhere to Joint Commission recommendations. To unfreeze staff from their current inconsistent process of patient transition, adequate motivation and education was needed to overcome individual and group resistance toward the change. Buy in from key stakeholders was paramount in achieving adequate staff motivation for this change. The change stage was implementing a standardized reporting tool developed in collaboration with the unit staff and key stakeholders. Refreezing involved the continued utilization of the site-specific report tool.

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### Methods

The purpose of this quality improvement project was to increase anesthesia provider satisfaction increase use of a written handoff tool, and decrease the duration of anesthesia to PACU handoff report by providing an educational intervention and implementing a site-specific standardized handoff tool.

The standardized handoff tool (Appendix A) was developed with key stakeholders to include site-specific relevant information and staff preferences. The tool included the following patient information: patient weight, patient age, surgery, allergies, past medical history, pre-operative vital signs, pre-operative medications, labs, type of anesthesia, airway, IV access, and intraoperative medications administered. The tool was then printed onto 3x5 notepads for user ease and compatibility.

Baseline observations of anesthesia provider to PACU handoff and chart reviews were conducted by the PI over a two-week period and consisted of 30 direct observations of handoff procedures prior to implementation of the site-specific handoff tool. Anesthesia staff were ~~then~~ asked to complete a pre-intervention survey (Appendix B) to evaluate their satisfaction with the handoff process and then attend an educational program at a regularly scheduled staff meeting. The educational program consisted of a PowerPoint presentation of the current evidence on patient handoff and communication errors and introduced the staff to the site-specific written handoff tool (Appendix A). A notepad consisting of 50 copies of the handoff tool was placed in each OR, the anesthesia lounge, and the PACU nurses' station. The handoff tool was then implemented for four weeks. Following this four-week implementation period, repeat observations of anesthesia to PACU handoff and chart reviews were conducted by the PI for two weeks to assess for interval change. Repeat observations consisted of an additional 30-anesthesia

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provider to PACU handoff observations. Anesthesia providers were then asked to complete a post-intervention survey (Appendix B) to assess for any interval change in their satisfaction with the new handoff process.

### **Design**

This quality improvement project consisted of an evidence-based educational intervention and the implementation of a site-specific handoff tool. Key stakeholders were involved in the identification and prioritization of anesthesia to PACU handoff as a clinical issue. The goal of this quality improvement project was to increase anesthesia provider satisfaction, increase the use of a written handoff tool, and decrease the duration of anesthesia to PACU handoff by implementing a standardized handoff tool that was developed in collaboration with key stakeholders and staff from the clinical site.

### **Translational Framework**

The IOWA model for evidence-based practice provided a standardized and straightforward way to map out the proposed project. The first step of this model is the identification of a clinical issue called a trigger which a change is warranted to address. The lack of a standardized anesthesia provider to PACU nurse handoff template was identified as a priority for the department. The PI formed a team of interdisciplinary stakeholders to evaluate the current handoff practice, review current evidence on the topic, and implement an evidence-based solution. The PI conducted an extensive review of the current evidence on handoff procedures and collaborated with key stakeholders at the clinical site to enact an evidence-based practice change in the form of a written handoff tool. The tool was implemented and then the PI evaluated the results to determine if the change enacted produced improved outcomes. These

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results were then disseminated with stakeholders at the clinical facility site for continued evaluation.

### **Population**

Anesthesia staff present at a regularly scheduled staff meeting were asked to participate. Certified registered nurse anesthetists (CRNAs), certified anesthesia assistants (CAAs), and post anesthesia care unit (PACU) nurses working at the time of project implementation that were willing to participate were included. Following project implementation, staff present at a subsequent regularly scheduled staff meeting were asked to complete a post-intervention satisfaction survey. Exclusion criteria included CRNA's, AAs, and PACU nurses not currently working at the time of project implementation or unwilling to participate. Medical doctors of anesthesia (MDAs) were excluded.

The anesthesia provider to PACU handoff process was observed for surgical cases on dates that were mutually agreed upon by the Chief CRNA and PACU nurse manager. Excluded cases included non-surgical gastrointestinal procedures such as endoscopies and colonoscopies.

### **Setting**

The setting for this quality improvement project was the PACU at a level III trauma center located in the southeastern United States. This facility is an epicenter for specialized medical services and care. The patients in this setting (PACU) were coming from a surgical operating room to recover in the PACU. The PACU environment and sample chosen compared well with current literature describing the implementation of a standardized anesthesia provider to PACU nurse handoff tool.

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### **Project Implementation**

After the pre-intervention staff satisfaction survey (Appendix B) and baseline observations were completed, the evidence-based educational intervention was provided. This included a power point presentation outlining the existing evidence on patient handoff reports and introduced the site-specific handoff tool (Appendix A). Participants were informed that there was no penalty for refusal to participate in the educational program or the use of the standardized handoff tool. The standardized handoff tool (Appendix A) was implemented for a period of four weeks. Following this four-week period, post-intervention staff satisfaction surveys and direct handoff observations were repeated.

### **IRB Approval/Permission**

Permission was granted from the University of North Carolina at Greensboro and the clinical facility site to conduct the project at their location. Both the university and clinical site deemed the project a quality improvement project not requiring IRB approval.

### **Data Collection**

Baseline observations of anesthesia to PACU handoff and chart reviews were conducted by the PI over a two-week period and consisted of 30 direct observations. The PI directly observed the use of a standardized handoff tool and the time taken from the beginning of handoff until the end. This time was then compared to the time charted for handoff to anesthesia stop. Anesthesia providers were asked to complete the pre-intervention satisfaction survey and attend the educational program at a regularly scheduled staff meeting. A random number generator was utilized to assign a number to link pre-intervention and post-intervention surveys. The educational program consisted of a PowerPoint presentation and reviewed current evidence on patient handoff and introduced the staff to the written handoff tool. The handoff tool was then

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implemented for four weeks. Upon patient transfer from PACU, the PACU RN placed the completed handoff tool in a secure lock box at the nurse's station, which the PI collected at the end of the week. Post-implementation observations of anesthesia to PACU handoff and chart reviews were repeated by the PI over a subsequent two-week period. Post-intervention observations consisted of an additional 30 direct observations. Anesthesia providers were asked to complete a post-intervention satisfaction survey regarding their satisfaction with the new handoff process.

To maintain data privacy medical record numbers were only used to access the correct electronic medical record for the chart review. The chart review was performed at the clinical site following direct observation for the purpose of identifying the documented handoff to anesthesia stop time. No PHI or MRN numbers were present on the chart review form. Upon project completion, all handoff tools and all additional identifying documents were destroyed. All data analysis information was stored on password-protected computers and deleted upon the QI project's conclusion.

### **Data Analysis**

The PI collected, prepared, and computed the data for data analysis. Data was analyzed using descriptive statistics comparing pre-intervention and post-intervention utilization of the standardized handoff tool, anesthesia provider surveys, and duration of handoff. An interval change following the educational intervention was evaluated. For the duration of handoff times a t-test assuming equal variance was calculated in order to compare the pre-intervention and post-intervention direct observation handoff times.

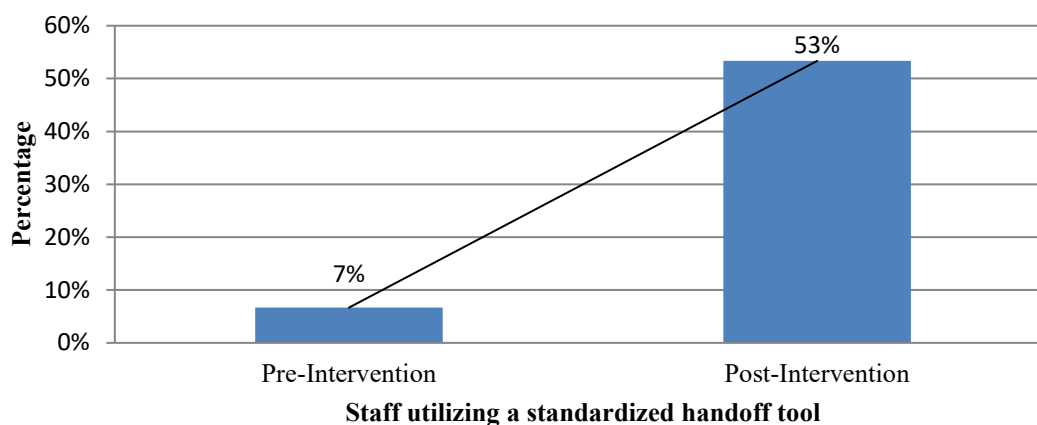
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**Results****Evaluation of Outcomes**

A total of sixty handoff report procedures were observed. These included 30 pre-intervention and 30 post-intervention anesthesia provider to PACU nurse handoffs. All handoffs were performed at the patient bedside and consisted of a verbal review of critical patient information. At baseline 7% of anesthesia providers were observed to utilize a personal handoff tool. The remaining 93% of anesthesia providers did not utilize a handoff tool when giving report. Following implementation of the standardized handoff tool, 53% of anesthesia providers were observed to utilize the standardized handoff tool when giving report as illustrated in Figure 1.

**Figure 1**

*Utilization of a Standardized Handoff Tool*



A total of 21 anesthesia provider staff satisfaction surveys were completed by CRNAs and AAs. Nine anesthesia provider pre-surveys (8 by CRNA's and 1 by AA's) were completed and 12 anesthesia provider post-surveys were completed. Anesthesia providers were asked to report their satisfaction with the amount of information transferred in report, the quality of report, their satisfaction with the overall handoff process, and the duration of time required for

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report. Response options included: “very dissatisfied”, “dissatisfied”, “neutral”, “satisfied”, and “very satisfied”. Satisfied and very satisfied were recorded as positive responses while dissatisfied and very dissatisfied were recorded as negative responses for data analysis. At baseline 67% of anesthesia providers reported that they were satisfied with the amount of information transferred, 56% were satisfied with the quality of the report and 67% were satisfied with the overall handoff report process. Pre-intervention, a total of 78% of anesthesia providers were satisfied with the amount of time required for handoff report. Post-intervention 100% of anesthesia providers reported that they were satisfied with the amount of information transferred, 83% were satisfied with the quality of the report and 92% were satisfied with the overall handoff process. Post-intervention, a total of 92% of anesthesia providers were satisfied with the amount of time required for handoff report.

The duration of handoff report was recorded for a total of sixty handoff processes. Pre-intervention, the average duration of handoff by anesthesia providers was 1 minute and 50 seconds with a range of 1-5 minutes. Following the implementation of the standardized handoff tool, the average time of report was 1 minute and 59 seconds with a range of 1-5 minutes. A two-sample t-test assuming equal variances to compare the duration of handoff were conducted, with a significance level of 0.5 as referenced in Figure 2.



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**Figure 2***t-Test: Two-Sample Assuming Equal Variances*

	<i>Pre- Intervention Time</i>	<i>Post- Intervention Time</i>
Mean	1.833333	1.736667
Variance	1.109195	1.14654
Observations	30	30
Pooled Variance	1.127868	
Hypothesized Mean Difference	0	
Df	58	
t Stat	0.352528	
P(T<=t) one-tail	0.36286	
t Critical one-tail	1.671553	
<b>P(T&lt;=t) two-tail</b>	<b>0.72572</b>	
t Critical two-tail	2.001717	

Post implementation 53% of anesthesia providers utilized the standardized handoff tool.

The mean duration of handoff when providers utilized the standardized tool was 1 minute and 59 seconds with a range of 1-5 minutes.

**Barriers to success**

Several barriers hindered the success of this project. These included poor attendance at the educational intervention, lack of familiarity with the handoff tool, and lack of utilization of the tool by anesthesia providers. The poor attendance at the educational intervention was caused by an unexpected turnover of greater than 75% of anesthesia providers at this clinical site. This

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led to staff shortages, a significant decrease in the number of operative cases being performed, and fewer patients arriving to the PACU. As a result, fewer staff were available for project participation and survey completion. The staff turnover made it impossible to link pre-intervention and post-intervention staff satisfaction results as originally planned. The limited time allotted for project completion prevented project extension from including the education of new hires and travel staff. Additional time to extend the project may have increased familiarity and utilization of the tool.

### **Strengths to overcome barriers**

To ensure that the handoff tool was utilized effectively by anesthesia providers, input was requested from key stakeholders in the facility. Their collaboration in the development of the tool was valuable in designing a tool that would address the specific needs of the facility and anesthesia providers. The educational intervention was performed at a time identified by the site as most beneficial to educate as many staff as possible. The tool was designed to be compact, easy to read and fill out, cost-effective, and relevant to the facility. A notepad containing 50 handoff tools was made available in every OR, the anesthesia lounge, and the PACU nurse's stations to ensure accessibility. The duration for pre-intervention and post-intervention data collection was extended by two weeks in an attempt to increase participation.

## **Discussion**

### **Key Findings**

The purpose of this quality improvement project was to implement a standardized anesthesia provider to PACU reporting process. This project evaluated if an evidence-based educational intervention increased utilization of a written handoff tool, increased anesthesia provider satisfaction with the handoff process, and improved handoff efficiency.

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Implementation of a standardized handoff process increased adherence to the use of a standardized handoff tool and improved anesthesia provider satisfaction. Implementation of a standardized handoff process, however, did not decrease the duration of report.

The implementation of a standardized handoff process increased utilization of the standardized handoff tool by 46%. This increase in adherence to Joint Commission guidelines represents an improvement, however 54% of anesthesia providers did not utilize the standardized handoff tool. Excessive staff turnover and poor attendance at the educational intervention likely contributed to this result. The facility was experiencing significant change, creating a tumultuous atmosphere that did not allow for a conducive learning environment.

The results of the anesthesia provider surveys showed an overall 25% increase in satisfaction scores following the implementation of the standardized handoff tool. This increase in staff satisfaction with the use of a standardized handoff tool is supported by current literature. Aronson et al., (2021) describe that when staff are involved in the development of the handoff tool there is increased staff satisfaction and increased utilization of the tool. Gates et al., (2021) also found a 100% increase in nursing satisfaction with workflow after the implementation of a standard handoff process in perioperative services.

Utilization of a standardized handoff tool did not show a reduction in the amount of time of report, but rather an increase of 9 seconds. The average time of report pre-intervention was 1 minute and 50 seconds versus the average time of report post-intervention of CRNA's utilizing a standardized handoff tool was 1 minute and 59 seconds. This increase in the duration of handoff when utilizing a standardized handoff tool is not supported by current evidence. Gates et al., (2021) report that following completion of a six-month implementation period, the use of a standardized handoff tool was associated with a 30% reduction in handoff time. While the

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findings of this project are not supported by current evidence, Robins (2015) noted in his research that due to limitations and subjective measurements of time, only a slight decrease in length of time for report was noted with the implementation of a standardized handoff tool. For the purpose of this project, handoff time was measured from observed handoff time to documented anesthesia stop time. There is variability in how anesthesia providers document the anesthesia stop time. Thus, a more accurate way to measure the time of report is needed in order to increase validity. The significant staff turnover also caused an influx of new staff unfamiliar with the standardized handoff tool. This may also have contributed to the increase in time of handoff with the utilization of the standardized handoff tool.

### **Stakeholder Impact**

Increased anesthesia provider satisfaction scores suggest that the use of a standardized handoff tool can enhance the satisfaction levels of anesthesia providers with the reporting process. Therefore, continued efforts to support this project at the clinical facility will be instrumental in the refreezing process. Although the measured time for handoff reports did increase with the use of a standardized handoff tool, this could be due to project limitations, lack of familiarity with the tool, and high rates of temporary anesthesia providers. Increased familiarity and continued, consistent use of the tool and permanent anesthesia provider staff could potentially mitigate the time for reporting using the standardized handoff tool. The increased use of the standardized handoff tool indicates improved adherence to Joint Commission recommendations.

### **Impact of Intervention**

The transfer of care from an anesthesia provider to a PACU nurse is a crucial time for the patient, the anesthesia provider, and the PACU nurse. However, this time is often fraught with

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distractions and a critical patient condition, making it challenging to relay information effectively. To address this issue, a standardized handoff tool can be utilized, providing a consistent and reliable way to convey information during this short period. A standardized tool offers structure and consistency, increasing provider satisfaction and adherence to Joint Commission recommendations. The Joint Commission has recommended the use of a standardized handoff tool due to the significant errors surrounding communication gaps within the transfer of care process. By utilizing a standardized handoff tool, gaps within this process can be reduced, leading to better overall care for the patient.

### **Connection to Framework**

Kurt Lewin's Change Theory was used as a framework for implementing a standardized handoff tool. The theory allowed staff to overcome their existing practices and accept the change process. During the process, multiple obstacles were encountered. The anesthesia department saw a complete change in providers, and nearly half of the operating rooms were closed due to a lack of anesthesia providers. This resulted in a decrease in the number of patients undergoing surgery and arriving at the PACU, which in turn decreased the number of PACU staff required per shift. The situation also brought many new anesthesia providers to the facility. Despite these challenges, education, open communication, and encouragement facilitated the success of the change process. As staff recommendations for improvements to the handoff tool are identified, revisions to the tool should be considered to enable the continued utilization and "refreezing" of the improved handoff process.

### **Recommendations for Improved Use**

For better utilization, the standardized handoff could be edited to avoid redundancy or wasted space in its current format. Also, with the continual influx of temporary anesthesia

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providers, an orientation on the importance of standardized handoff and the site-specific handoff tool should be implemented. Making the standardized handoff a form that starts with the patient/chart in pre-op and continues with the patient through the intraoperative period and into the PACU would allow for a more comprehensive picture of the patient and improve handoffs. Lastly, the identification of “champion” anesthesia providers and PACU nurses committed to using the standardized handoff tool could encourage refreezing of this process to become a sustainable standard of care.

### **Conclusion**

Anesthesia provider to PACU nurse handoff is vital for the safe transfer of the patient. This process is fraught with miscommunications and distractions, directly impacting the quality of communication during this period. A standardized handoff tool helps to establish clear, consistent, and thorough communication. The change in anesthesia provider to PACU nurse handoff using a standardized handoff tool is sustainable and economical. The standardized handoff tool is affordable and easy to replicate. Based on my project findings, to continue improving clinical practice, an individual will need to step forward and encourage the solidifying of the change.

The increase in adherence to Joint Commission recommendations and anesthesia provider satisfaction with implementing a standardized handoff tool suggests the continued use of a standardized handoff tool in anesthesia provider to PACU nurse handoff. While it is not in this project's scope to assess patient outcomes, I recommend a larger-scale study to evaluate the impact of a standardized handoff tool on patient outcomes. Lastly, I suggest that education be provided to each new hire or locum anesthesia provider to orient the provider to this standard of care and the benefits of utilizing a standardized handoff tool.

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## STANDARDIZED REPORT

**APPENDIX A: Handoff Tool**

Pt Initials: \_\_\_\_\_ WT: \_\_\_\_\_ Age: \_\_\_\_\_

**Surgery:****Allergies:****PMH:** HTN CAD CHF AFIB DM OSA PONV Anemia

Other: \_\_\_\_\_

**PRE-OP VITALS: BP:** \_\_\_\_\_ **HR:** \_\_\_\_\_ **SAT:** \_\_\_\_\_**PRE-OP MEDS:** Tylenol Gabapentin Celebrex Scop**LABS:** \_\_\_\_\_ **BGL:** \_\_\_\_\_**Anesthesia:** General ETT / LMA MAC Block \_\_\_\_\_**Airway:** Easy Difficult**IV Access:** loc/gauge: \_\_\_\_\_ loc/gauge: \_\_\_\_\_

VERSED: \_\_\_\_\_ FENTANYL: \_\_\_\_\_

KETAMINE: \_\_\_\_\_ PRECEDEX: \_\_\_\_\_

Tylenol: \_\_\_\_\_ Toradol: \_\_\_\_\_

Dilaudid: \_\_\_\_\_ Reversal: \_\_\_\_\_

**PONV:** Zof Dec Benadryl**Abx:** {Ancef Clinda Gent Cefoxitin} REDOSED: \_\_\_\_\_**I&O:** IVF:           Albumin:           **UOP:**           **EBL:****Notes:**

STANDARDIZED REPORT

APPENDIX B: Pre and Post Satisfaction Survey

1. Identifier (Random Number Generated by PI):

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2. Provider Type (please circle):                      CRNA                      CAA                      PACU  
 RN

3. Do you currently give (or receive) anesthesia-PACU report?    Yes / No  
 (Circle answer)

a. If yes, do you give (or receive) anesthesia-PACU report using a written handoff tool provided by WakeMed Cary?                      Yes / No                      (Circle answer)

<p>4. How satisfied are you with the current anesthesia-PACU report process?</p>	<p>VERY SATISFIED</p>	<p>SATISFIED</p>	<p>NEUTRAL</p>	<p>DISSATISFIED</p>	<p>VERY DISSATISFIED</p>	<p><i>If dissatisfied or very dissatisfied, please describe why.</i></p>
<p>5. How satisfied are you with the <u>quality</u> of</p>	<p>VERY SATISFIED</p>	<p>SATISFIED</p>	<p>NEUTRAL</p>	<p>DISSATISFIED</p>	<p>VERY DISSATISFIED</p>	

STANDARDIZED REPORT

<p><b>the current anest hesia- PAC U repor t?</b></p>						
<p><b>6. How satisfi ed are you with the amou nt of <u>time</u> requi red for anest hesia- PAC U repor t?</b></p>	<p>VERY SATISFI ED</p>	<p>SATISFI ED</p>	<p>NEUTR AL</p>	<p>DISSATISFI ED</p>	<p>VERY DISSATISFI ED</p>	
<p><b>7. On avera ge, how satisfi ed are you with the curre nt amou nt of infor matio n given</b></p>	<p>VERY SATISFI ED</p>	<p>SATISFI ED</p>	<p>NEUTR AL</p>	<p>DISSATISFI ED</p>	<p>VERY DISSATISFI ED</p>	

## STANDARDIZED REPORT

<b>or receiv ed durin g repor t?</b>						
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**Anesthesia-PACU Post-Intervention Handoff Satisfaction Survey**

1. **Identifier (Random Number Generated by PI):**

\_\_\_\_\_

2. **Provider Type (please circle):**                      **CRNA**                      **CAA**                      **PACU**  
**RN**

3. **Do you currently give (or receive) anesthesia-PACU report?**    Yes / No  
(Circle answer)

a. **If yes, do you give (or receive) anesthesia-PACU report using a written handoff tool provided during the Quality Initiative Project by UNCG SRNA's?**

Yes / No    (Circle  
answer)

<b>4. How satisfi ed are you with the curre nt anest hesia- PAC U</b>	VERY SATISFI ED	SATISFI ED	NEUTR AL	DISSATISFI ED	VERY DISSATISFI ED	<i><b>If dissatisfie d or very dissatisfie d, please describe why.</b></i>
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STANDARDIZED REPORT

<p>report process?</p>						
<p>5. How satisfied are you with the <u>quality</u> of the current anesthesia-PACU report?</p>	<p>VERY SATISFIED</p>	<p>SATISFIED</p>	<p>NEUTRAL</p>	<p>DISSATISFIED</p>	<p>VERY DISSATISFIED</p>	
<p>6. How satisfied are you with the amount of <u>time</u> required for anesthesia-PACU report?</p>	<p>VERY SATISFIED</p>	<p>SATISFIED</p>	<p>NEUTRAL</p>	<p>DISSATISFIED</p>	<p>VERY DISSATISFIED</p>	
<p>7. On average, how</p>	<p>VERY SATISFIED</p>	<p>SATISFIED</p>	<p>NEUTRAL</p>	<p>DISSATISFIED</p>	<p>VERY DISSATISFIED</p>	

## STANDARDIZED REPORT

<p><b>satisfied are you with the current amount of information given or received during report?</b></p>	<p>ED</p>				<p>ED</p>	
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8. **What barriers do you experience when using the (newly implemented) standardized handoff tool?**

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## STANDARDIZED REPORT

**APPENDIX C: Chart Review Audit**

\*Only the Time Portion of the Chart Review Audit will be Utilized

PART 1. Will access intra-operative documentation for the following items.

For medications or items will document Y for yes or N for no if they were administered or present in chart. If Item was not documented as administered in chart, then it will not count towards total count of items needed to be mentioned in report.

For example, if no UOP was documented and a foley was not listed as being present during the case, then the item does not count towards total number of items needed to be mentioned in report. However, if a foley was listed as being present during the case, then the item does count towards total count of items needed to be mentioned in report and will be listed as an omission.

\*Of note: No PHI or MRN's will be stored on the chart review form or removed from WakeMed Cary. All MRN's used to link the handoff to the chart review will be used immediately following direct observation and will be disposed of at WakeMed Cary in a facility approved container immediately following chart review.

Item	Mentioned In Report	Documented as administered in chart
Midazolam		
Fentanyl		
Ketamine		
Acetaminophen		
Ketorolac		
Hydromorphone		
Reversal		
Dexmedetomidine		
Antibiotics		
Albumin		
Ondansetron		
Scopolamine Patch		
Airway		
IV Access		
UOP		
EBL		

PART 2. Will access pre-procedure documentation for the following items. Will document Y for yes or N for no if they were present in chart. For PMH (past medical history), will use the anesthesia evaluation form to compare to items mentioned in report. Labs will only need to be mentioned in report if they were addressed or intervened upon during intra-operative care.

## STANDARDIZED REPORT

Item	Mentioned In Report	Documented as administered in chart
Allergies		
PMH (Past Medical History)		
Pre-operative Vitals		
Pre-operative Medications		
LABS		
BGL (blood glucose level)		
Anesthesia type		

PART 3. For timing of PACU report the post-operative area will be accessed to determine the time handoff was documented to the time anesthesia stop was documented. PACU report will be timed from the time the anesthesia provider starts giving report until their report is complete.

Cases will be numbered sequentially in the order they are observed. Case numbers will be used for all 3 parts of the chart review audit. Ex: Case 1, Case 2, Case 3...

Case numbers will be placed in the first column for this chart in Part 3. This will not be MRN's or other PHI.

Case	Time recorded during direct observation of PACU report	Time documented in chart from handoff to anesthesia stop
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