

IMPLEMENTING A STANDARDIZED HANDOFF CHECKLIST

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Contents

Abstract	3
Background and Significance	4
Purpose	5
Literature Review	5
Completeness and Accuracy	6
Identifying Key Components	7
Staff Satisfaction	8
Time	9
Decreasing Errors	10
Gaps	11
Conceptual Framework	12
Methodology	12
Setting and Population	13
Design	13
Translational Framework	15
Results	16
Discussion	18
Conclusion	21
Limitations	22
Recommendations for Others	22
Recommendations for Further Study	23
Resources	24
Appendix A	26
Handoff Checklist	26
Appendix B	28
Post-Intervention Survey	28

Abstract

Background: The transfer of care between healthcare providers is a crucial time. Accuracy and completeness are key in determining the quality of the patient care by the receiving provider. Handoff report between anesthesia and PACU staff is a critical time and the focus of this project. Improving handoff report in the PACU can decrease unnecessary medication errors, improve communication, and overall improve patient care. **Method:** A standardized handoff checklist tool was formulated and implemented for use by CRNAs and SRNAs. The CRNA/SRNAs were taught why a standardized process is necessary, about the handoff checklist tool, and how to use the handoff checklist in a pre-intervention informational session. After the meeting, the handoff checklist tool was implemented for a three-week period. After the three-week period ended, a survey was administered to CRNAs and SRNAs that utilized the handoff checklist evaluating their feedback on the tool. **Results:** Analysis of results showed the new handoff checklist increased efficiency, improved patient safety, verbal communication, and quality of handoff report. Staff also indicated it was very likely the handoff checklist would be used again in the future. **Conclusion:** The introduction of a standardized handoff checklist tool improved staff perception and willingness to implement a handoff tool in the future. The implementation of a standardized handoff tool was perceived by staff to decrease errors, decrease time spent from bedside, increase efficiency, decrease time spent in handoff, improved patient safety, verbal communication, improved quality of handoff report, and all participants were likely to utilize the handoff checklist in the future.

Background and Significance

Handoff report is defined as a process of exchanging vital patient information, responsibility, and accountability between healthcare providers (Dorvil, 2018). The purpose of handoff report is to ensure safe continuity of care and the delivery of best clinical practices (Dorvil, 2018). This process takes place daily between health care providers and is a vital process in patient care. Research has found that handoff reports are often inadequate. Poor handoff increases errors and can lead to poor quality patient care. An inadequate handoff report can affect patient care resulting in medication errors, delays in treatment, omission of follow up care and more (Halterman, Gaber, Janjua, Hogan, & Cartwright, 2019). These errors have the potential to cause serious patient injury or death. The handoff process is a source of patient harm and needs to be structured and thorough to decrease miscommunication.

The Joint Commission examined sentinel events and identified communication breakdown during patient handoffs as a major issue impacting as many as 80% of serious medical errors (Commission, 2017). Estimated patient deaths from medical errors range from 200,000 to 400,000 a year. This results in a cost of over \$17 billion dollars (Commission, 2017). Caruso et al found communication breakdowns between healthcare providers resulted in two-thirds of the reported sentinel events, and greater than 50% of these miscommunications occurred during patient care transfer (Caruso TJ, 2015). The handoff with the highest risk for incomplete or ineffective information transfer occurs between anesthesia providers and PACU RNs after surgery (Gurden, 2016). Inadequate handoff following surgery increased significant postoperative adverse events including medication errors, sentinel events, and poor patient outcomes (Caruso TJ, 2015). A standardized PACU handoff checklist and protocols are effective in decreasing incomplete handoffs. Checklists' have led to an improved PACU handoff process

which increases the quality of information transferred and enhances patient safety in the process (Caruso TJ, 2015). A systematic review done by Segall et al found post-operative patient handoff reports were incomplete, imprecise, informal, filled with intrusions, and inconsistent (Segall N, 2012).

The goal of this project was to implement a standardized checklist to be used as a guide during anesthesia to PACU handoff after surgery. The CRNAs willingness to implement the checklist will be assessed with this project. By creating a tool that is perceived as advantageous by the user, the more likely they are to use it and create a sustainable change to practice. A checklist was chosen over a written handoff report to decrease the amount of time the anesthesia provider spends away from patient care. By utilizing a handoff checklist, the goal of increasing accuracy and completeness of report is achieved without increasing the amount of time spent in transfer of care and away from the bedside.

Purpose

The purpose of this doctoral project was to improve the handoff process in the PACU by creating a tool that the CRNA team felt was valuable in decreasing errors, increasing quality of patient care, improving communication, and adding more structure and consistency to the transfer of care process.

Literature Review

There are many studies on the topic of PACU handoff reports in the hospital setting. A search was done utilizing two databases. PubMed was searched using the MeSH terms “PACU Handoff” and “Anesthesia”. Cumulative Index to Nursing and Allied Health Literature (CINAHL) was also used using the subject headings “handoff report” and “PACU”. A limit was

set on each database to include literature from the last five years (2016-2021). The literature was further filtered to focus on systematic reviews, meta-analysis, and randomized control trials. The exclusion criteria included handoff reports in the intensive care unit (ICU) and articles greater than five years old. The search engine Google Scholar was also utilized. Eighteen pertinent articles were identified and reviewed.

The major themes identified by the literature were inconsistent, incomplete, informal, and unstructured handoff reports (Caruso TJ, 2015). Handoff reports frequently omitted vital information required for safe patient care in the PACU. The literature offered many recommendations on improving the handoff process to make it more uniform.

Completeness and Accuracy

Handoff reports should contain all information vital to the patient's care and the information should be accurate to avoid potential medical errors. The effectiveness of a handoff report checklist to improve accuracy of information exchange was evaluated (Bruno & Guimond, 2017). It was concluded that the use of a checklist significantly improved the completeness and accuracy of handoff report by providing structure. This was achieved with the checklist because it served as a visual guide to make sure the anesthesia provider included all important information in the report to the PACU RN.

They modified a generic checklist with feedback from the users and found that an electronic medical record (EMR) integrated handoff checklist significantly improved accuracy of information reported during handoff (Halladay, Thompson, & Vacchiano, 2019). They were able to improve accuracy and therefore decrease the amount of erroneous information exchanged during handoff, which could lead to errors. They also were able to tailor the checklist to the

needs of the stakeholders at that facility which led to better outcomes and more compliance (Halladay, Thompson, & Vacchiano, 2019).

Omission of vital information during transfer of care can be just as detrimental as inaccurate information. The completeness of the handoff report was analyzed utilizing six criteria: patient identification, allergies, antibiotic administration, intake/output, estimated blood loss, and pain management (Robins & Dai, 2015). These are key components of a PACU handoff report that were evaluated by the team. PACU nurse recall of information was also improved with the use of a checklist.

Utilizing a checklist can provide a systematic method of presenting information that increases accuracy and retention of information, while decreasing omission of information. A checklist can benefit the person reporting, the one receiving the report and ultimately the patient by designing an effective checklist that the stakeholders perceive value in utilizing.

Identifying Key Components

While developing a handoff tool, it is vital to include certain key components. An incomplete handoff report could lead to the omission of vital information and result in medical errors. Six key elements that should be included in the handoff report were identified (Robins & Dai, 2015). These should improve the quality of information transferred in handoff report and to improve the overall care of the patient in PACU. The key elements were identified by a committee of staff members that were directly involved in patient care. The staff identified important components of the handoff report specific to the facility and the patient population. The key elements identified by the staff were patient identifiers, allergy information, antibiotic given, intake & output, estimated blood loss, and pain management. The staff believed that

including these key elements in the PACU handoff report would ensure vital information was reported to the PACU RN and lead to increased patient safety and staff's willingness to implement the tool into practice. The PACU RNs were asked to check off each key element reported and to rate the report as adequate or inadequate. They concluded that the handoff checklist helped providers correctly exchange information and increased the accuracy of the handoff (Robins & Dai, 2015).

Another method of handoff reporting is the use of SBAR (Situation, background, assessment, and recommendation) format to develop a checklist. The SBAR format is widely utilized in handoff reports in all areas of the hospital (Shahid & Thomas, 2018). It provides an abbreviated easy to remember checklist that addresses all important areas in a quality handoff report. The addition of a standardized checklist with key components improved the transfer of care by ensuring the provider receives more pertinent medical information (Halterman, Gaber, Janjua, Hogan, & Cartwright, 2019). The key components identified in this study included SBAR or a similar standardized checklist is beneficial to the PACU RN receiving report, the anesthesia provider providing the report, and most importantly, the patient. The key components identified for the situation portion of the report was patient identification, procedure with diagnosis, and allergies. The background portion contained past medical history, significant labs, baseline vital signs, and a baseline neurological status. The assessment portion contained the type of anesthesia, medications given, pain regimen, intravenous catheters (IVs), intake & output, and any surgical or anesthetic issues encountered during surgery. The final recommendation portion included abnormal results, where the patient was expected to go after PACU, and asked if additional questions or concerns were present.

Including staff members feedback when developing a handoff report increases the likelihood of compliance with the tool. With input from the stakeholders, the tool is tailored to the needs of the team. If the tool is deemed useful, then the compliance with the tool will increase. Long term success is dependent on buy in and compliance.

Staff Satisfaction

Staff satisfaction is another crucial part of implementing a handoff checklist. Without the support and compliance from staff members, the handoff checklist tool will fail. Several research studies have proven the importance of an increased staff satisfaction affecting the implementation of a handoff tool. These studies highlighted an important element to increasing staff satisfaction was to include them on the formulation of the handoff tool. This method ensures the new practice change will be positively perceived and decrease the resistance to usage(Halterman, Gaber, Janjua, Hogan, & Cartwright, 2019) .

Each study executed their handoff tool differently, but with the common goal of increasing staff satisfaction with the tool resulting in a successful practice change. A 73% usage increase with their PACU SBAR handoff was observed (Halterman, Gaber, Janjua, Hogan, & Cartwright, 2019). This handoff usage also proved sustainability because two months post-intervention a 72.2% usage score was still observed (Halterman, Gaber, Janjua, Hogan, & Cartwright, 2019). An increased PACU staff satisfaction was observed from Robins et al by a decrease in PACU RNs having to call back the anesthesia provider for clarification (Robins & Dai, 2015). A decrease in call backs to the anesthesia provider entailed that the handoff report was thorough and the PACU RN was able to get all pertinent information. An increased amount of call backs would decrease time spent caring for the patient and negatively affect their care and

safety. PACU RNs were able to initiate direct patient care without having to look up additional information up to 60% of the time after implementation of the handoff tool (Burns et al., 2018). This finding resulted in an increased staff satisfaction. Robins et al also asked PACU RNs to rate each handoff report adequate or inadequate with a yes or no answer (Robins & Dai, 2015). They observed an increase in adequacy of report score between the usage of the checklist vs no checklist (Robins & Dai, 2015).

Another method to increase staff satisfaction was giving staff members the courtesy of a pilot before implementation. The reason for the pilot would be to test out the handoff tool and then allow staff members feedback and tailor it to the staff's feedback. This method helps staff members feel valued and will ultimately increase staff satisfaction. This method was observed in the Lambert et al study where they chose to pilot the handoff tool for four weeks before they implemented it (Lambert & Adams, 2018). The staff was asked to help evaluate the content, flow, and the overall useability of the tool so it could be modified accordingly before implemented into practice (Lambert & Adams, 2018). Staff satisfaction was increased by this study because the facility made staff feedback a priority in the development

In conclusion, staff satisfaction is an important factor in making a successful practice change. Including the staff members in the formulation of the handoff tool and piloting the handoff tool before implementation is a great way to increase staff satisfaction. Another great benefit of the pilot is to allow for staff feedback and modification before implementation. These are great ways to increase staff satisfaction and make a successful change to practice. Another factor to consider would be if a handoff tool increases the time spent in the transfer of care in the PACU.

Time

If the addition of a handoff tool increases the amount of time spent in the transfer of care, there will be pushback as nurses are limited on time (Robins & Dai, 2015). If transfer of care time is increased, the compliance with the tool by staff members will decrease. The turnover time between cases would also be affected. Turnover time is heavily monitored and emphasized in many facilities and delay would increase costs. If the handoff tool increased turnover time, the facility and staff members could view the tool as a negative addition to workflow. Traditional handoff report is recited from memory by the CRNA/SRNA and doesn't require the anesthesia provider to take time out of their routine to write report for the receiving PACU RN.

The amount of time spent in transfer of care was not increased by the addition of the handoff tool, but the quality of report increased (Robins & Dai, 2015). The turnover time at the facility was also not affected. They utilized a checklist that served as a queue for the CRNA/SRNA and didn't require them to fill out a form.

Some chose to embed the PACU handoff checklist in the EMR, which prepopulated several items on the checklist (Halladay, Thompson, & Vacchiano, 2019). Handoff reports of one-minute or less were considered acceptable (Halladay, Thompson, & Vacchiano, 2019). There was an average of a one-minute increase in overall time in handoff report after implementation, but this was concluded to be an acceptable tradeoff considering the benefit gained (Halladay, Thompson, & Vacchiano, 2019). A one-minute difference in report is not enough of a difference to impact turnover time between cases.

A thorough and complete report decreases the time spent later verifying information that was omitted. Inquiring about omitted information requires the RN to contact the anesthesia

provider which delays patient care. A handoff report tool decreases delays in patient care and saves the nurse time. The timely report process benefits the PACU RN, the anesthesia providers, and most importantly, the patient. Decreasing time spent in report and follow up increases the time spent on patient care.

Decreasing Errors

The key driver in healthcare is a decreased number of errors leading to improved outcomes. Decreasing errors in the PACU can significantly increase patient safety. Multiple studies found that implementing a handoff tool to decreases errors (Halladay, Thompson, & Vacchiano, 2019)(Robins & Dai, 2015) (Bruno & Guimond, 2017). The Joint Commission reported in 2016 that communication failures in US hospitals were responsible for 30% of all malpractice claims resulting in 1,744 deaths and \$1.7 billion in malpractice costs over five years (Commission, 2012).

The number of omission errors during report were decreased with the addition of a handoff tool (Bruno & Guimond, 2017). The handoff tool improved the accuracy and quality of the information exchanged which led to increased patient safety in the PACU. Robins et al observed a potential decrease in errors related to miscommunication because of the implementation of a handoff checklist (Robins & Dai, 2015). This hypothesis was made with the implementation of their checklist tool for report in the PACU. Report increased in accuracy and helped the PACU RN be better prepared to assume care of the patient after surgery (Robins & Dai, 2015).

The addition of a handoff tool has shown to improve completeness and accuracy of information, identify key components specific to the facility, and not affect time spent in transfer

of care. This results in a decrease in errors and increase in safety for the patient while maintaining efficiency.

Gaps

The gaps identified in the literature was evaluating the effectiveness of a checklist to be used as a guide, rather than a form to fill out. The literature researched evaluated the implantation of a checklist requiring the anesthesia provider to fill out information on a sheet to assist them in report and little literature evaluated the effectiveness of a handoff checklist to be used as a visual guide for the report process. Requiring the provider to physically fill out a handoff report takes time away from the patient's care and increases the anesthesia provider's workload unnecessarily. Limited information was also found evaluating the efficiency of how the checklist decreased errors after permanent implementation. Many studies hypothesized the handoff process would decrease errors, but limited studies evaluated the errors decreased after implementation. These safety measures will not be effective to decrease errors if they are not consistently utilized by the staff.

Conceptual Framework

The framework utilized for this project was based on the Lewin's change theory. Lewin's change theory is a perfect fit to help standardize the nursing handoff process and assess staff perception on implementing the handoff tool. There are three components to Lewin's change theory that include unfreezing, changing, and then refreezing (Petiprin, 2020).

In the unfreezing component, the problem is made aware which allows people the opportunity to change their current ways of practice and realize they are counterproductive (Petiprin, 2020). In this phase it is important to identify and understand the resistance to the practice change. During the unfreezing portion of this project, staff members received an

educational session regarding the need for a standardized handoff process and the tool was introduced. The second component is change and was the implementation of the handoff checklist. The reason for implementing the handoff checklist during the change phase was to use a tool that staff would adopt. During the implementation, the standardized handoff checklist was piloted by CRNA/SRNAs when reporting to the PACU RNs. Finally, the third component is refreezing. This phase is important for the sustainability of the new handoff checklist tool. This component establishes the change as a new habit (Petiprin, 2020). Once a new practice is accepted by all users, it becomes routine for their standard of care. If the CRNA/SRNAs found that the handoff checklist was useful and effective they would potentially continue to use the checklist after the conclusion of the project to provide an effective report, however, this project did not address the refreezing stage.

Methodology

The purpose was to create a handoff checklist to be utilized for report between PACU RN's and anesthesia staff after surgery. The aim was to successfully implement a standardized checklist by evaluating the readiness and willingness of staff members to adopt the checklist into everyday practice. Standardizing the process should lead to improved patient safety, decreased medication errors, increase in quality of handoff, and increase quality of care.

Setting and Population

The setting for this doctoral project was a 218-bed level III trauma center in North Carolina. The hospital has ten operating rooms, two minor-procedure rooms, cystoscopy, and endoscopy suites. The surgical services provided are both comprehensive and diverse. The target population for this project was the CRNAs and SRNAs involved in the transfer of care from the

OR to the PACU. The CRNAs and SRNAs volunteered to participate in an informational session held at the hospital describing the importance of standardizing the handoff process. There were twelve CRNAs and two SRNAs present at the session. After the information session, the CRNAs and SRNAs volunteered to participate in a three-week pilot of the handoff checklist.

Participation was open to all staff CRNAs employed at the hospital and any SRNAs rotating there at the time of the project, even if they were not present for the informational session.

Specific demographic information was not obtained to maintain confidentiality with small sample size. The project team was composed of an SRNA and a CRNA faculty member who was a faculty member who assisted as a liaison with the study setting and helped recruit participants.

The SRNA took the lead in developing and implementing the handoff checklist, administering surveys to participants, and analyzing the survey data.

Design

CRNAs and SRNAs were recruited with assistance of a CRNA faculty member mentor. The facility holds a monthly meeting with CRNAs to discuss relevant topics in anesthesia. At this monthly meeting, the informational session was held to recruit CRNAs and SRNAs to participate in the project. The purpose of the project, description of the handoff checklist, and how to use the checklist were discussed in this informational session via PowerPoint presentation. At the end of the presentation, CRNAs and SRNAs were provided a 4X3 laminated handoff checklist card designed to conveniently attach behind their ID badge. The staff was asked to voluntarily participate in piloting the checklist for a three-week period. They were asked to utilize the handoff checklist in their handoff reports for the next three weeks. They were also asked to voluntarily provide their email address so that a post-survey could be emailed to them. After the three-week pilot, they were asked to participate in an anonymous survey to provide

staff perception of the handoff checklist. The survey was created in Qualtrics and emailed to them after the pilot. A two-week period was allotted to complete the survey, with a reminder send via email each week.

The handoff checklist was organized into sections formatted to resemble an SBAR handoff. SBAR stands for situation, background, assessment, and recommendations. The SBAR format has been shown to improve patient safety and has been widely recommended as a standardized method of handoff (Ruhomaulu, 2019). The sections of the handoff checklist are labeled patient, procedure, medications, and responsible medical doctor of anesthesia (MDA). An additional section is located at the bottom of the handoff checklist asking if there are additional questions or concerns about the patient. The patient section on the checklist includes identification of the patient, allergies, surgical procedure, type of anesthesia, past medical history, preoperative cognitive function, and limb restrictions. This section represents the situation and the background information of the SBAR format. The procedure section includes intubation conditions, lines, and fluid management. This section is representing the assessment portion of SBAR format. The medication section includes pain and anti-nausea medications administered during the procedure. Also includes the medications due in the PACU or any other pertinent intraoperative medications administered. This section is also representing the assessment portion of SBAR format. The bottom of the handoff checklist is a great reminder to anesthesia staff to identify the MDA responsible for this patient. By identifying the responsible MDA, the PACU RN is aware of who they need to call with questions or concerns about this patient in the recovery period. This eliminates time wasted for the PACU RN in trying to locate the responsible provider responsible for the patient and increases the margin for safety in the event an emergency arises. The end of the handoff checklist reminds the anesthesia provider to

ask the PACU RN if any questions or concerns are present for the patient. This section represents the recommendation portion of SBAR format. The key components identified for this handoff checklist were chosen from the literature on what key components should be included in a handoff report. I chose which of these components would best suited for the facility where the project was implemented.

The post-intervention survey asked the CRNAs and SRNAs about their perception of the tool. The survey asked the staff to compare their previous handoff method to the new handoff checklist in decreasing errors, time spent away from patient's bedside, time spent in report, increasing efficiency, patient safety, improving verbal communication, and quality of handoff report. The survey also evaluated how likely the CRNA or SRNA would be to utilize this handoff checklist again in the future. The very bottom of the survey provided a space for additional comments or concerns on the handoff checklist. The results were analyzed via descriptive statistics.

Literature review for this project was completed in the fall of 2020. The Qualtrics survey, educational PowerPoint for hospital staff, information letter, and handoff checklist were finalized in August 2021. Organizational approval was obtained in the month of August 2021. During the month of October 2021, the informational session was held for the CRNAs and SRNAs. The pilot took place through the month of October 2021. The post-intervention survey was sent in November 2021. Analysis of data was performed from November to December 2021.

Translational Framework

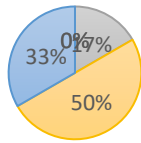
The translational framework utilized for this project was plan, do study, and act. The plan was to implement a standardized handoff checklist and increase staff perception and willingness to make a practice change. The ultimate result of this would be to improve patient care and

safety. A literature review was done on the topic of handoff report in the PACU to help create a handoff checklist tool to pilot. Then an implementation of a standardized checklist. Staff perception and willingness to use was measured with a post-intervention Likert scale survey. The staff perception was evaluated from the data collected from the post-intervention survey on staff perception and willingness to use. The permanent implementation of the handoff checklist into practice would be the next step of the process.

Results

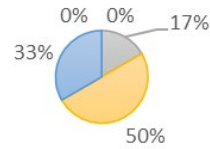
CRNAs and SRNAs participated in an informational session to learn about the project and how to use the handoff checklist. All questions and concerns were addressed at this information session. The handoff checklist cards were distributed at the end of the session. There were twelve CRNAs and two SRNAs present at the information session. Data collection began the Monday after the informational session was held and lasted for three weeks. The data collected from the post-intervention survey was evaluated using descriptive statistics to assess the perception of usefulness among the study participants. No participants answered “not useful” to the first seven questions asked on the survey. The eighth question received no responses of “very unlikely, unlikely, or unsure”. The results are displayed below as percentages. There were a total of six people that responded to the post-survey. Due to the need to maintain confidentiality, the post-survey was anonymous, and I was unable to differentiate how many were CRNAs vs SRNAs answered the survey. The CRNA/SRNAs had a three week time period after implementation to respond to the post-s

Decreasing Errors



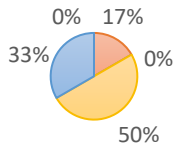
■ Not Useful % ■ Sorta Useful %

Time Spent Away From Bedside



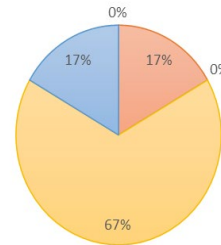
■ Not Useful % ■ Sorta Useful %
 ■ Not sure % ■ Very Useful %
 ■ Extremely Useful %

Increase Efficiency



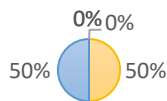
■ Not Useful % ■ Sorta Useful %
 ■ Not sure % ■ Very Useful %
 ■ Extremely Useful %

Decreasing time spent in report



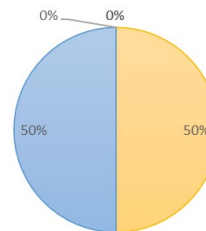
■ Not Useful % ■ Sorta Useful % ■ Not sure % ■ Very Useful % ■ Extremely Useful %

Improving Patient Safety



■ Not Useful % ■ Sorta Useful %
 ■ Not sure % ■ Very Useful %
 ■ Extremely Useful %

Improving Verbal Communication



■ Not Useful % ■ Sorta Useful % ■ Not sure % ■ Very Useful % ■ Extremely Useful %



Overall, the results of the post-intervention survey reflected a positive perception by staff members on the implementation of a standardized handoff checklist. Staff members perceived the handoff checklist decreased errors, decreased time spent from bedside, increased efficiency, decreased time spent in handoff, improved patient safety, verbal communication, improved quality of handoff report, and all participants were likely to utilize the handoff checklist in the future. It was unclear to some participants whether the handoff checklist decreased errors in the PACU, or decreased time spent away from the bedside by the PACU RNs. Further research would need to be conducted to evaluate the effectiveness of the handoff checklist in decreasing errors and time spent away from the bedside in the PACU. This project focused primarily on the CRNA/SRNA perception. It is difficult for them to assess the perception of the PACU RN. In conclusion, all CRNAs and SRNAs participating found the tool useful and would utilize it again.

Discussion

The traditional method of giving report in the PACU, observed from clinical, is based on the provider's memory of the events during surgery. This creates a large margin for error and is easily minimized by a structured handoff guide. This doctoral project aimed to structure this

process and assess staff perception and willingness to utilize a handoff tool in hopes for increased efficiency and increased patient safety.

The CRNAs and SRNAs were eager to implement this tool into practice. The handoff checklist tool is small, concise, and attachable to the back of the providers name badge for easy access. Although concise, this tool is thorough and includes all essential components of a proper handoff report, according to the literature. All providers favored the layout and size of the handoff checklist. A feedback comment received on the handoff report checklist was although the provider already utilized a similar process in their report, it was a great reminder and review.

The provider's perceptions on if the handoff tool helped to decrease errors is displayed in table 1. 17% of the providers were unsure if a decrease in errors had occurred. This would be difficult to assess due to the fact the provider gives a report to the PACU RN and immediately returns to the operating room (OR) to set up and begin another case. The provider doesn't experience much of the patient's PACU stay and wouldn't always be notified of errors made in the PACU. Providers describe the tool as very helpful with 50% indicating the tool very useful. The other 33% reported the new handoff report checklist to be extremely helpful in decreasing errors. Overall, it was perceived that the handoff tool aided in decreasing errors.

The staff perception of if the handoff tool decreased time spent away from the patient's bedside by the PACU RN is displayed in table 2. The data did not clearly support whether the handoff tool decreased time. 17% of the providers were unsure if this was helpful in decreasing the time spent away from the patient. 50% described it as very useful and 33% described it as extremely useful in decreasing the time spent away from the patient by the PACU RN.

The staff perception of the handoff tool increasing efficiency of report is displayed in table 3. 17% of providers described it as sort of useful. 50% of providers said the handoff checklist was very useful and 33% agreed it was extremely useful in increasing efficiency of the handoff report.

The staff's perception on time spent in report to the PACU RN is displayed in table 4. The studies reviewed on this topic were split. The results were inconclusive with 67% of providers agreeing that the checklist decreased time. The other 37% were unsure if there was an increase in time spent in report. Decreasing time spent in report was not a goal for the is checklist, but the hope was it did not increase time spent in report.

The perception by staff of the handoff tool on increasing patient safety is displayed in table 5. Providers found the tool very useful in improving patient safety 50% of the time. Providers found it extremely useful in improving patient safety the other 50% of the time. This solidifies the need for a structured handoff guide. It shows the staff members' realization of the lack of safety in the current handoff report method.

The perception of the handoff tool improving verbal communication between anesthesia providers and PACU RNs is shown in table 6. Again, 50% agreed it was very useful and the other 50% agreed it was extremely useful in improving the communication between providers. This suggests an improvement in verbal communication from the current method to the new one.

If staff perceived the handoff checklist improved the quality of report is shown in table 7. The prior method of handoff report was poor in quality and inconsistent. 50% of the staff members agreed the handoff checklist improved quality and consistency. The other 50% agreed it was extremely useful in improving the quality and consistency.

The willingness of staff members to utilize the handoff checklist again in the future is shown in table 8. There were 33% that agreed on it being likely they would utilize it again in the future. 67% of participants replied they would be very likely to use this tool in the future.

It is clear the handoff checklist tool improved the handoff process in many ways. Literature supports the use of a standardized handoff tool in enhancing patient safety. Staff members proved eager to utilize the tool and will likely utilize it in the future. The positive feedback received on the tool proves a need for structure and staff members are willing to change their practice routine to accommodate the checklist tool into handoff report.

Conclusion

This DNP project sought to examine the impact of a checklist and intervention to improve the structure and consistency of PACU handoff report by implementing a checklist. This checklist was successful in achieving the goal of positive staff perception that the handoff checklist tool would increase efficiency, improve patient safety, improve verbal communication, and overall improve the quality of handoff report in the PACU. To enhance the likelihood of adoption of the checklist tool into practice the tool needs to be relevant to the provider and perceived valuable by staff. Staff members proved likely to utilize this checklist tool again for handoff report. It is assumed by the results that the tool proved relevant and valuable to the staff members. The checklist was unable to prove if a decrease in errors resulted in the implementation. This would require further research on errors in the PACU linked to handoff report. It was also unclear if the handoff checklist increased, or decreased time spent in handoff report; this would also require further research. Despite the small sample size, there was enough data from the project to determine the benefit achieved from the implementation of the handoff

checklist. Recommendations for future studies would be to find whether the implementation of a handoff checklist helped in decreasing errors in the PACU.

Limitations

Although six CRNAs/SRNAs graciously completed the post-intervention survey for this project, the limited number of participants made it difficult to analyze statistics for the findings. In the future, it would be more meaningful and informative if more staff members participated in the project to provide more data to analyze. Additionally, the responses were subjective and the implementation of the checklist by the CRNAs and SRNAs were not monitored. Therefore, it is difficult to assess whether the checklist was used properly and consistently. For future projects, it would strengthen the study if the use of the checklist was monitored during the pilot period.

Recommendations for Others

A recommendation for others completing similar projects is to add a pre-intervention survey along with the post to be able to adequately compare the perception of the checklist pre and post intervention. Another recommendation would be to include the staff members in the creation of the handoff checklist tool. This would provide more investment and meaningfulness from the staff members which could result in a higher compliance and satisfaction rating. This would also ensure the handoff tool properly met the needs of the facility.

The inclusion of the PACU RNs for creation and implementation of the handoff tool would also be another recommendation. This way, their feedback could be assessed and utilized as well to create and to properly utilize the tool for handoff report. The more staff members involved in the formulation of the handoff tool, the more likely it would be complied with.

Recommendations for Further Study

There is a large variety of research supporting the use of a standardized handoff process, but there are many opportunities for further study in this area as well. A recommendation for the future would be to include the PACU RNs in the study and use this to compare the perception of the CRNAs and the PACU RNs. Future studies could also research errors made in the PACU resulting from a lack of information given in handoff report. Adverse outcomes could be monitored and identify if a correlation could be made between the adverse outcome and the handoff process. The assessment of the staff members satisfaction after the tool had been implemented for one year would also be an interesting study to perform.

Resources

- Burns, S., Parikh, R., & Schuller, K. (2018). Utilization of a checklist to standardize the operating room to post-anesthesia care unit patient handoff process. *Perioperative Care and Operating Room Management*, 13, 1–5. <https://doi.org/10.1016/j.pcorm.2018.10.002>
- Caruso TJ, M. J. (2015). Implementation of a standardized postanesthesia care handoff increases information transfer without increasing handoff duration. *JT Comm J Qual Patient Safety*, 35-42.
- Commission, J. (2017). Joint Commission center for transforming healthcare releases targeted solutions tool for handoff communication. *Joint Commission Perspect*, 1-3.
- Dang, D., Dearholt, S., Bissett, K., Ascenzi, J., & Whalen, M. (2022). *Johns Hopkins evidence-based practice for nurses and healthcare professionals; model and guidelines*. 4th ed. Indianapolis, IN: Sigma Theta Tau International
- D., G. (2016). Clear Communication: Listening, observing and ensuring that communication is two-way are essential health-care skills, whether you are dealing with patients, families or colleagues. *Nurse Standard*, 63.
- Dorvil, B. D. (2018). The secrets to Successful Nurse Bedside Shift Report Implementation and Sustainability. *Nursing Management* , 20-25.
- F, P., & Kaufmann J, L. M. (2015). Quality of handover in a pediatric post anestheisa care unit. *Pediatric Anesthesia*, 746-752.
- Funk E, T. B. (2016). Structured handover in the pediatric postanesthesia care unit. *J Perianesthesia Nursing*, 63-72.

L, B. (2015). Standardizing the OR to PACU patient hand over. *AORN Journal*, 10-12.

Mohsen Adib-Hajbaghery, M. T. (2018). Nurse-patient relationship based on the imogene's king's theory of goal attainment. *Nursing and Midwifery Studies*, 7(3), 141-144.

Nagpal K, A. M. (2013). Improving post operative handover: A prospective observational study. *Am J surg*, 494-501.

Petiprin, A. (2020). *Lewin's Change Theory*. Nursing Theory. <https://nursing-theory.org/theories-and-models/lewin-change-theory.php?msclkid=3fdb2ab2b3b011eca86233133a968031>

Petrovic MA, A. H. (2015). The perioperative handoff protocol: Evaluating impacts on handoff defects and provider satisfaction in adult postanesthesia care units. *J clinical anesthesia*, 111-119.

Potesio C, M. J. (2017). Improving Post Anesthesia care unit (PACU) Handoff by implementing a succinct checklist. *APSF*.

Robins H-M, D. F. (2015). Handoffs in the postoperative anesthesia care unit: Use of a checklist for transfer of care. *AANA Journal*, 264-268.

Ruhomaulu, Z., Betts, K., Jayne-Coupe, K., Karanfilian, L., Szekely, M., Relwani, A., McCay, J., & Jaffry, Z. (2019). Improving the quality of handover: implementing SBAR. *Future healthcare journal*, 6(Suppl 2), 54. <https://doi.org/10.7861/futurehosp.6-2s-s54>

Servas, L., Hayes, C., Mayhorn, T., & Milner, K. A. (2022). Navigating the path to a sustainable “pacu pause” and standardized perioperative handoff: a quality improvement project. *Journal of Perianesthesia Nursing*, 37(1), 44–47. <https://doi.org/10.1016/j.jopan.2021.06.104>

Shahid, S., & Thomas, S. (2018). Situation, background, assessment, recommendation (sbar) communication tool for handoff in health care – a narrative review. *Safety in*

Health, 4(1). <https://doi.org/10.1186/s40886-018-0073-1>

Simamora, R. H., & Fathi, A. (2019). The influence of training handover based sbar communication for improving patients safety. *Indian Journal of Public Health Research and*

Development, 10(9), 1280–1285. <https://doi.org/10.5958/0976-5506.2019.02755.4>

Appendix A

Handoff Checklist

PATIENT	
<input type="checkbox"/>	Patient Identification
<input type="checkbox"/>	Allergies
<input type="checkbox"/>	Surgical Procedure and Reason for Surgery
<input type="checkbox"/>	Type of Anesthesia (GA, TIVA, Regional)
<input type="checkbox"/>	PMH and ASA Scoring
<input type="checkbox"/>	Preoperative Cognitive Function
<input type="checkbox"/>	Limb Restriction?
<input type="checkbox"/>	Preop Vital signs
PROCEDURE	
<input type="checkbox"/>	Intubation Conditions (airway, quality of bag mask ventilation, oral airway used)
<input type="checkbox"/>	Lines (A-lines, IVs, CVCs)
<input type="checkbox"/>	Fluid Management (Fluids given, EBL, UO)
MEDICATIONS	
<input type="checkbox"/>	Analgia administered during case <ul style="list-style-type: none">▪ Time of most recent analgesia
<input type="checkbox"/>	Antiemetic administered
<input type="checkbox"/>	Medications due during PACU (antibiotics, etc.)
<input type="checkbox"/>	Other Intra-op medications (Steroids, Antihypertensives, etc.)
RESPONSIBLE MDA?	
DO YOU HAVE ANY QUESTIONS OR CONCERNS ABOUT THE PATIENT?	

Appendix B

Post-Intervention Survey

Q1. Compared to the Previous Handoff Report Process, How Useful Was This Tool For...

	Not Useful	Sorta Useful	Not Sure	Very Useful	Extremely Useful
Decreasing Errors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreasing Time Spent Away From Patient's Bedside after Report	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase Efficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decreasing Time Spent in Report	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving Patient Safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving Verbal Communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving Quality of Handoff Report	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2. Click to write the question text

	Click to write Column 1				
	Very Unlikely	Unlikely	Not Sure	Likely	Very Likely
How likely would it be for you to use this handoff checklist again in the future?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3. Any additional comments or concerns about the handoff checklist tool?

