IMPLEMENTING BEDSIDE HANDOFF IN THE EMERGENCY DEPARTMENT: A PRACTICE IMPROVEMENT PROJECT

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Contribution to Emergency Nursing Practice

- The purpose of this practice improvement project was to implement and measure the impact of bedside handoff that occurs at the time of nursing shift change within the emergency department.
- The primary outcome of this practice improvement project was improved communication and increased awareness of handoff practices.
- Key implications for emergency nursing practice based on this project are improved nursing communication, a standardized handoff process, and the recognition that bedside handoff can decrease errors.

Abstract

Introduction: Handoff in the emergency department is considered a high-risk period for medical errors to occur. In response to concerns about the effectiveness of the nursing handoff in the emergency department of a Midwestern trauma center, a practice improvement project was implemented. The process change required nursing handoff at shift changes to be conducted at the bedside, using an adapted situation, background, assessment, recommendation (SBAR) communication tool.

Methods: For this project, the intervention effectiveness was measured using pre- and post-implementation scores on a nursing handoff questionnaire, selected items on the Hospital Survey on Patient Safety Culture, and handoff observations documented by nursing leadership.

Results: Questionnaire results revealed no change between pre- and post-implementation for 5 of the 7 questions. Responses to 2 questions showed improvement post-implementation. Scores from the Hospital Survey on Patient Safety Culture improved from 2015 to 2016. Observation data showed that some nurses needed prompting to perform the handoff at the bedside, and only 40% used the electronic medical record during handoff.

Discussion: Results showed that nurses found the SBAR bedside report method easy to use and prevented the loss of patient information more effectively than pre-intervention practice. Despite the strong evidence in the literature supporting bedside handoff, questions remain concerning its sustainability, as some nurses may resist such a change in the process of shift reporting.

Key words: Nursing report; Nursing bedside report; Nursing handoff; Effective handoff; Observation; Self-report; Emergency department

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Introduction

Ineffective communication has been shown to be one of the leading causes of preventable medical errors in the United States.[1] A key report published by the Joint Commission Center for Transforming Healthcare (hereafter referred to as *The Joint Commission*) noted that communication errors resulted in the most reported sentinel events.[2] Numerous organizations have identified that communication among nurses is an essential component of safe patient care, especially during the transfer of patient information from one nurse to another: a process known as handoff. Effective

handoffs can help decrease adverse events and improve outcomes.[3] The importance of bedside handoff should not be underestimated, as it can be a successful approach to incorporating patients and families along with nurses in the safe transition of care.

The Joint Commission defines successful handoff as "a transfer and acceptance of responsibility for patient care that is achieved through effective communication from one caregiver to another."[4] Handoff in the emergency department is considered a high-risk period for medical errors to occur. Medical errors that have been identified within the emergency department include falls, administration of medication, administration of blood, and a deficiency of infection control practices.[5] Common factors in the emergency department, such as multiple interruptions, alarms, noise, attempts to multitask and overcrowding, negatively affect the handoff process.[6] As emergency departments have high patient turnover, high patient acuity, and unpredictable patient volumes, the transfer of patient information among nurses in this setting might be inadequate and unsafe.[6] Because of the risk factors that might be associated with handoff in the emergency department, using bedside handoff can assist with providing safe patient care.

The Joint Commission in 2006 established a patient safety goal of "implement[ing] a standardized approach to handoff communications, including an opportunity to ask and respond to questions."[6,7] In a survey that was done in a US hospital of 160,000 employees, more than half reported that important information regarding patient care was lost during shift report.[8] These data demonstrated the need to evaluate ways to make nursing handoffs more effective. The Agency for Healthcare Research Quality (AHRQ) survey results for the emergency department identified gaps in shift report: in particular, missing information concerning patient care.[3,9] To help decrease this finding, a systematic and structured approach to handoff is recommended.[9]

In response to concerns within a health system about the effectiveness of the current nursing handoff process, a practice improvement project was implemented in the emergency department of a Midwestern trauma center. This project was designed to help standardize the nursing shift change handoff by developing a process that required handoff to be conducted at the bedside using an adapted situation, background, assessment, and recommendation (SBAR) communication tool. The intervention's effectiveness was evaluated using 3 measures: pre- and postimplementation scores on a nursing handoff questionnaire, selected questions on the AHRQ Hospital Survey on Patient Safety Culture (hereafter referred to as the *patient safety survey*), and handoff observations documented by nursing leadership using a bedside shift report checklist.

Methods

This project was conducted at the emergency department of a Midwestern trauma center (level 1 adult trauma/level 2 pediatric trauma), serving patients ranging in age from newborns to centenarians, with approximately 130,000 visits per year. The emergency department has 85 beds plus hallway spots and is divided into 4 pods, where nurses may change assignments every 4 hours. Because of the high patient acuity usually associated with patients in the trauma room and category-1 rooms, bedside handoff was already being used, so they were excluded from this project. The ED nurses preferred and supported bedside handoff in these rooms because of the complexity of care these patients required and the necessity to see the patient and equipment clearly. Because of this, the other areas within the emergency department were the focus of this project.

The participants included all the RNs who worked in the emergency department. During the project's intervention period, 230 RNs were employed full time, part time, or on contingency, with the majority working 12-hour shifts. All 230 nurses participated in the education rollout. The nurses' ages ranged from 19 to 65 years, and the majority was female. For those who completed the survey, 39 nurses were associate-degree prepared, 99 were bachelor-degree prepared, and 4 had masters' degrees. The number of years as an RN nurse varied from new graduate to greater than 16 years. This project had Institutional Review Board (IRB) approval from the organization to be conducted.

Before the project implementation, there were no specific guidelines in place for nursing handoffs at shift report, and communication generally took place at the nurses' station. The goal of the intervention designed for the project was that nurses were to conduct handoff at the bedside using the SBAR Nursing Handoff worksheet (hereafter referred to as the *worksheet*) (Table 1). To facilitate this process, education was conducted with all the nurses. Education consisted of inservices demonstrating the handoff process using SBAR, having nurses simulate a demonstration of the handoff process, and a short PowerPoint presentation reinforcing the benefits of bedside handoff.

To evaluate the implementation of handoffs at the 6-am and 6-pm shift change, observations and documentation were completed using an AHRQ checklist[10] by a member of the department's leadership team. The leadership team consisted of the nurse manager, 4 associate nurse managers, 8 charge nurses, the clinical nurse specialist, and representatives from the Professional Nursing Council of the emergency department. The Professional Nursing Council consists of 10 bedside nurses

TABLE 1

SBAR: Situation, Background, Assessment, Recommendation Worksheet

S: Situation	Details of the patient's current situation.
	Chief complaint
	Surrounding circumstances
B: Background	Any information that is relevant to the injury or illness
	Past medical history related to chief complaint
	Significant information regarding patient's care/history
	Any testing patient has undergone
	Allergies
	Code status
A: Assessment	Patient's current clinical condition.
	Test results/abnormal findings
	Medications administered
	Ancillary support teams working with patient
	Recent vital signs
	IV status
	Cardiac monitor rhythm
R: Recommendation	Outstanding orders
	Test results waiting for Items about which the doctor should be called
	Patient's plan of care
	Questions for offgoing nurse

NOTE: Ask patients/families if they have any questions or comments that they would like to add.

who are working in the emergency department, elected by their peers to be on the council. The bedside nurses from this council assisted with adapting the SBAR tool for the ED nurses to use, were involved in designing and assisting with the inservicing of the ED nurses, as well as participating in the auditing process of bedside handoff. The observation checklist was introduced at the monthly leadership meeting before implementation of the project to allow the leadership team to review and ask questions about it. The investigator mentored leadership team members in the use of the checklist to ensure that data were collected in a consistent manner. The investigator reviewed the checklist with each leadership member the first time he or she used the tool to observe to ensure inter-rater reliability. Nurses were asked to complete a SBAR bedside handoff for nursing handoffs at the 6-am

and 6-pm shift changes. Observations started 1 week after implementation and took place 3 days per week. The 3 days per week were chosen randomly to address the concern of the Hawthorne effect as well as looking for consistency of the use of bedside handoff. Approximately 15 handoffs were observed each day.

Lewin's Theory of Planned Change was used to design and implement this practice improvement project. Lewin's theory is a 3-step model of change that consists of unfreezing, transitioning, and refreezing.[11] For this project, nursing handoff in the emergency department had been identified as problematic, as current practices were not standardized or evidence based. Using evidence-based practice, a new handoff process was implemented, transitioning away from the old practices. This transition included informing the nurses of how change would occur. Once implemented, it was important to stabilize or refreeze the change in the handoff process to allow it to become a natural part of the emergency department's culture. For the change to be sustained, the driving forces had to be strengthened, and the restraining forces had to be weakened (unfreezing).

DATA COLLECTION AND ANALYSIS

As a measure of effectiveness, a survey was developed for the nurses to complete pre- and post-implementation that included demographic questions as well as 7 Likert-scale questions[12] soliciting nurses' perspectives on the nursing handoff process in the emergency department (Table 2). The Likert-scale used was strongly disagree, disagree, agree, and strongly agree. Pre- and post-implementation nursing handoff questionnaire results were compiled and compared using quantitative measures. Two months after bedside handoff implementation, the nursing staff was asked to complete the post-implementation nursing handoff questionnaire. Frequency and percentages were used to summarize the exploration of data for categorical variables.

Nurses were asked to complete the AHRQ patient safety survey, which is administered annually in December. Data were compared from the 2015 and 2016 survey responses on the measures relating to handoff.

Finally, qualitative measures were used to analyze the observation data to uncover themes and evaluate handoff process consistency. Several nurses informally provided their thoughts on the new bedside handoff process to the investigator. Random audits of bedside handoff were done at 6 months post-implementation to assess for process sustainability.

TABLE 2
Nursing handoff questionnaire

	Pre- Strongly Agree + Agree =	Post- Strongly Agree + Agree =
1. I believe the bedside shift report I receive prepares me to give prompt patient care.	91%	82%
2. I am satisfied with the current method/bedside method of nursing report.	88%	78%
3. I have had a personal incidence of a poor patient outcome related to incomplete shift report.	57%	16%
4. I believe all nurses on staff provide complete and accurate shift reports.	43%	77%
5. I am familiar with Joint Commission guidelines for giving an adequate change of shift report.	77%	91%
6. I believe shift report serves to "debrief" me after a stressful shift.	43%	42%
7. I believe the information I receive on the patient's status is up to date.	87%	82%
8. I prefer bedside shift report to other methods we have used in the past (post-implementation only).		62%

Adapted from Smith S; 2012.

Results

Nursing perspectives regarding the handoff process were assessed pre- and post-implementation using the pre-/post-implementation survey. Approximately 63% of nurses pre-implementation and 70% post-implementation completed the questionnaires. The results revealed no significant change between pre- and post-implementation for 5 of the 7 questions. The nurses' responses to item 3 ("I have had a personal incidence of a poor patient outcome related to incomplete handoff") showed 43% disagreed with this statement in the pre-implementation questionnaire versus 84% in the post-implementation questionnaire. Pre-implementation, 43% of nurses agreed with the statement in item 4 ("I believe all nurses on staff provide complete and accurate handoffs") versus 77% on the post-implementation questionnaire. Post-implementation, nurses were asked their preferences of report methods; 62% of nurses' preferred bedside handoff to other methods.

The patient safety survey for 2016 had a 65% response rate of the nursing staff in the emergency department. The 2 items being reviewed for this project (F5R "important patient care information is often lost during shift change" and F11R "shift changes are problematic in this hospital") showed an improvement in scores from 2015 (pre-implementation: F5R 50%, F11R 39%) to 2016 (postimplementation: F5R 62%, F11R 47%). This was a significant improvement, as scores for these 2 questions have not been above benchmark for this emergency department since before 2012 (Fig. 1).

Three hundred observations of bedside handoffs were completed by 18 members of the leadership team within the 8-week time frame. During 14% of observations, nurses needed reminders to conduct the report at the bedside. Forty percent of nurses opened the electronic medical record (EMR) while performing the report with the oncoming nurse. All other components on the AHRQ observation checklist were met.[10]

Discussion

Nurses noted that implementation of bedside handoff helped reduce the number of poor patient outcomes related to incomplete reporting. Post-intervention, the nurses found the SBAR handoff method was easy to use and prevented the loss of patient information. Because of this, the nurses indicated that bedside handoff resulted in their being held accountable to each other. When bedside handoff was being completed, both the offgoing and oncoming nurses had the opportunity to promote situational awareness by viewing the patient and surroundings, reviewing orders, and discussing the plan of care with patients and their families. One nurse noted that this process promoted an "improvement in communication and provided adequate time for clarification." This finding supports the current literature that bedside handoff can increase communication and decrease patient errors associated with the handoff process.[5]
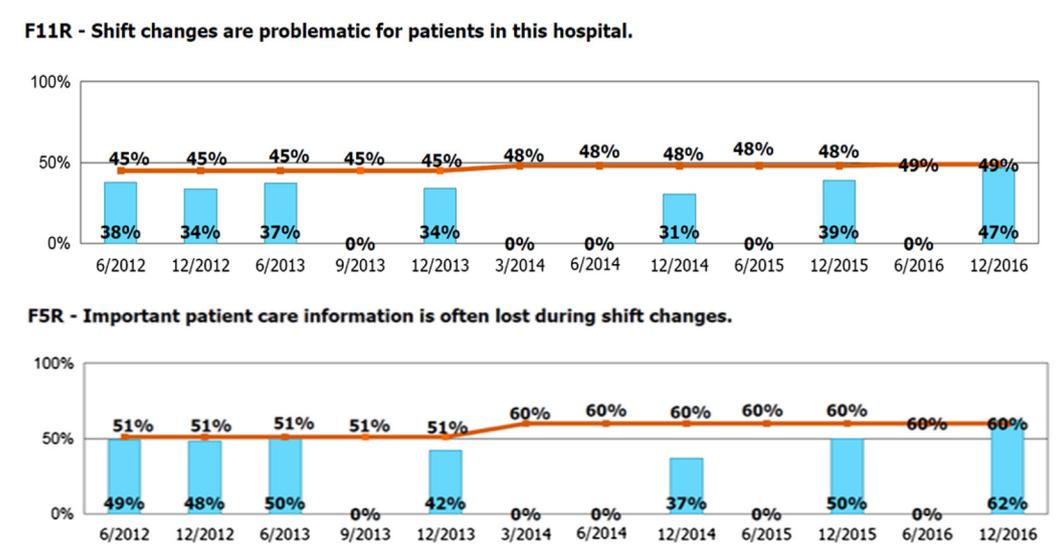
FIGURE 1

AHRQ Culture of Safety Scores. Horizontal data line is AHRQ benchmark.

The nursing pre-/post-implementation handoff questionnaire results for item 2 indicated that nurses were satisfied with current handoff practices at a rate of 88% (pre-implementation) versus 78% for bedside report (post-implementation). In an informal discussion, one of the nurses said, "completing report at the bedside did not allow for full disclosure of patient information, requiring additional information to be shared at the nursing desk and increasing report time." In addition, another nurse expressed, "being at the bedside increased distractions and interruptions, resulting in a poor handoff."

Although the nursing staff did have conflicting preferences for handoff being at the desk or bedside, the 2016 patient safety survey results indicated that they thought handoff was safer than in 2015. This aligns with the nursing pre-/post-implementation survey, asking nurses their preference/satisfaction on handoff practices. Unlike the 2015 results, in 2016 the benchmark scores were met for item F5R, "important patient care information is often lost during shift change" and nearly met (2% below benchmark) for item F11R, "shift changes are problematic in this hospital."

Improvements in the overall structure and quality of nursing handoff were noted during observations. The biggest challenge identified during observations was the nurses' failing to use the EMR to review patients' treatment plans only 40% of the time. When asked informally why they did not use the EMR, a nurse replied that she had "challenges getting the computers to work and because the work stations were mobile, it took too long to locate one that did." Nurses are being encouraged to use the EMR for bedside handoff despite the barriers, which are being addressed by the ED management and the IT department.

Even with the problem identified and the methodology determined, it was not easy to unfreeze the old process. There was—and continues to be—much resistance to change. Although the leadership team was initially on board with the implementation of bedside handoff, there came a time when leaders disengaged, and compliance with bedside handoff was no longer a priority. This resulted in decreased accountability of the nurses. Occasional observations are being completed, and it has been determined that, at 6 months post-implementation, bedside handoff compliance is at approximately 50%. Work still needs to be done to eliminate the restraining forces so the desired state can be reached, allowing refreezing to occur. Ongoing education, real-time feedback, and random audits may assist with solidifying the process and making bedside handoff part of the ED culture.

Patient feedback was not a planned component of this project. However, patient and family opinions on bedside handoff were randomly solicited. Some comments noted were "I appreciated hearing what was happening with my care," "I liked the report at the bedside because it allowed me to ask questions regarding whether I was being admitted or not," "it was nice to know my nurse was going home and who my next nurse was going to be," and "having the nurses at the bedside discussing my care allowed for my family to

hear what was going on, too." Involving patients and families in bedside handoff reinforced the organization's strategic planning goal of moving toward an environment emphasizing patient- and family-centered care.

LIMITATIONS

There are several limitations to this project. The emergency department has multiple shift changes. Because only 6-am and 6-pm handoffs were observed, nurse compliance to bedside handoff during the other shift change times remains unknown. Also, all surveys have some inherent limitations such as standard responses, nurses' willingness to respond honestly, misinterpreted questions, and participants responding with socially acceptable answers instead of honest responses. Because the data collected are neither a 2-independent group nor an identifiable paired design, statistical testing could not be performed using parametric or nonparametric methods. Finally, the Hawthorne effect, noted during observations of the bedside handoff, may have altered compliance to the process.

Implications for Emergency Nursing

To continue the transition to and sustain the practice of bedside handoff, it is important for the ED leadership to continue to support the change and address challenges noted by the nursing staff. The nurse is the most important component of this process change. Further discussion within a focus-group setting with the nurses could be helpful in evaluating the process outcomes and determining changes that need to be made to help sustain the effort. Knowledge of how handoff can improve communication and prevent patient errors was not enough to sustain the change in handoff process. In the future, providing real-time feedback on the handoff process may assist with effectively integrating bedside handoff over time. Also providing preliminary progress may assist with an ongoing commitment of the leadership team that, in turn, could promote the reaffirmation of the goals and benefits of bedside handoff to the nursing staff.

Conclusions

Despite the challenges of implementation related to bedside handoff, it is important that this be done to improve patient safety, communication, accuracy, and consistency in patient care. The informal patient feedback solicited during this process demonstrates the impact bedside handoff can have when including the patient and family in the process. Future research is necessary to understand barriers to effective bedside handoff in the emergency department and identify ways to improve its functioning and measure its progress. Research also should focus on how electronic technology can be used to support and enhance effective bedside handoff.

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