CLINICAL PRACTICE

A quality improvement study to improve patient and family satisfaction through handoff of patient care between emergency department and inpatient nurses

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ABSTRACT

Lack of handoff between the emergency department and inpatient units may result in increased errors and decreased patient/family satisfaction due to a lack of nursing knowledge of the patient upon admission. To address this concern, a quality improvement study was implemented by utilizing the organization's established text messaging system to promote communication between these two units regarding pertinent patient information and expected time of arrival to the inpatient unit. Despite efforts, nursing engagement was minimal due to the ongoing COVID-19 pandemic. Future successful implementation of this handoff process requires continued administrative support and nursing engagement.

Key Words: Communication, Patient handoff, Patient satisfaction, Quality of health care, Continuing nursing education

1. INTRODUCTION

Approximately 14% of emergency department (ED) visits resulted in an inpatient admission, or 20.1 million admissions.[1] Communication failures have been cited by The Joint Commission as the most common cause of sentinel events.[2] An effective handoff process can lead to improvements in number of patient falls, patient restraint usage, catheter-associated urinary tract infections (CAUTI), methicillin-resistant staphylococcus aureus (MRSA) infections, adverse events, and hospital mortality.[3]

2. NEED FOR HANDOFF

Handoff is the passing of patient information, responsibility, and accountability between two caregivers, particularly during a change of shift or between departments.[4] This transfer of care is critical for patient safety, yet continued examination is needed to create practice environments where nurses can quickly recognize patient status change, prevent errors, and minimize risks. Quality handoff processes must continue to become a routine practice to safely transition patients from one unit to the next. Education and preparation of nurses to be aware of organizational systems within the clinical setting can prepare them to use communication effectively to prevent errors and near misses, which can impact the quality and safety of patient care.[5]

Poor communication can result in quality and safety threats suggesting that a standardized verbal handoff reduces errors and preventable adverse events.[4] Although necessary, handoff comes with its own potential challenges such as time constraints, interpersonal tensions, interruptions, lack

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of privacy, and inconsistency in information delivered, so standardization of handoff is key.[4] Chien et al. reported that an effective handoff process required support by and education of nurses as well as support from leadership.[4] Hendrickson et al. states that the development of a shared mental model is effective for patient transfers and focuses on a goal of improving teamwork through communication during patient handoffs.[6] Hendrickson et al. revealed that interdisciplinary work and appreciation improved members' having ownership and goal alignment and being part of an organization that values safety.[6]

3. Evidence-based practice model

The model for this project was Kurt Lewin's Change Theory. The theory includes three steps to implementing change: unfreezing, freezing, and refreezing.[7] Smart phones were used as part of standard communication throughout the organization where this project took place and has been found to be efficient in the workplace ultimately increasing patient satisfaction by means of improved communication, but according to Rahman et al., education is necessary for staff to be motivated to implement the proposed change.[8] The first step, unfreezing, included educating staff nurses in the inpatient unit and ED of a proposed practice change.

The change phase of Lewin's theory consists of the actual practice change of the inpatient nurses initiating contact via the organization-provided smart phones with the ED to inquire any updates and estimated time of arrival to the unit after an admission order has been placed while continuing involvement to enhance employee adherence to the change.[7] The refreezing phase occurs when the practice change becomes the new standard of practice reflective of the organization's culture to provide optimal health and patient/family experience by increasing interunit communication.

3.1 Purpose

The purpose of this project was to increase patient and family satisfaction on a surgical unit at a pediatric hospital by using a HIPAA-compliant application to communicate to promote interunit communication, or handoff, between the ED and inpatient unit.

4. Methods

4.1 Design

This project used a quality improvement design. The project was determined to be non-human subjects research by the university and hospital affiliated Institutional Review Boards. A team was formed including nurses from the inpatient and ED units. Consulting members included the directors of both the inpatient and ED units. The project lead consulted with nurses in both units to discover benefits and barriers with increasing communication. Perceived benefits included increased preparation to care for the patient and increased patient safety/satisfaction. Perceived barriers included time constraints preventing time to reach out or not receiving a response from the ED.

4.2 Sample/Setting

This quality improvement project took place on a surgical unit at an urban, pediatric hospital in Ohio between October 3, 2021, and December 31, 2021. A HIPAA-compliant mobile phone application was being used to communicate with fellow nurses on neighboring inpatient units to receive report, notify of an incoming transfer from the recovery unit, and communicate with providers, which had resulted in greater preparedness and more efficient transfers when receiving admissions. When receiving patients from the ED, however, this communication tool was not used despite the organizational policy instructing the guideline for communication. The policy at the hospital stated if the patient was headed to the operating room or intensive care setting, the ED nurse would initiate handoff but if the patient was being admitted to other inpatient units such as this surgical floor, the staff nurses should contact the ED to receive report.

When surveying the inpatient nurses, they were not aware of this policy. Therefore, the flow of receiving an admission consisted of patient services notifying the charge nurse that a patient was being assigned to the unit, and the charge nurse then notifying the bedside nurse. After this initial interaction, there was no further communication aside from the nurses exploring the electronic health record for any updates. No plan of care or estimated time of arrival was disclosed, creating frustration amongst staff and patients.

Helmig et al. trialed utilization of an electronic mail application for interactions between staff for handoff or provider notification, which improved interprofessional communication and increased accessibility of clear communication by effectively transferring patient information and plan of care.[9] This intervention allowed staff to overcome the persistent barriers of not being able to connect by telephone to provide handoff and inconsistent information being provided across patients.[9]

4.3 Intervention

Intervention components based on the unfreezing stage of Lewin's Change Theory were:

1) Education provided via email to inpatient nurses explaining the process change.

2) Email sent to ED nurse of intervention, so they were expectant of communication.

3) Weekly reminders were sent, via email, to inpatient nurses to thank them for participating in the quality improvement project and remind them of the new process.

Intervention components based on the freezing stage of Lewin's Change Theory were:
4) Inpatient charge nurse notified inpatient nurse of admission from the ED.
5) Admitting nurse explored the electronic health record to review patient information and data in the patient care timeline and identify ED nurse caring for the patient.
6) Inpatient nurse texted ED nurse on the messaging application on hospital provided mobile phones to ask any questions and for an estimated time of arrival.
Intervention components based on the refreezing stage of Lewin's Change Theory were: 7) Ongoing reminders to ED nurse to maintain communication.
8) Interdepartmental meetings to maintain the handoff process.

4.4 Evaluation

Following the patient's arrival to the floor, the inpatient charge nurse or inpatient nurse asked patients/families four questions regarding their transfer of care from a survey (see Figure 1) created by the project lead. The survey questions assessed the level of satisfaction regarding general transfer of care from the ED to inpatient unit, level of satisfaction with the patient/family's knowledge prior to leaving the ED, level of satisfaction of nurse's knowledge upon arrival to the inpatient unit, and level of satisfaction regarding coordination between ED and inpatient unit staff, if observed. The patient/family answered the questions using a 5-point Likert scale ranging from 1-highly dissatisfied to 5-highly satisfied. The evaluation data were analyzed using descriptive statistics.

The project lead also met with inpatient nurses to ask about their experience with the new handoff process. Their responses were documented in a notebook and the responses were summarized.

5. Findings

5.1 Patient Satisfaction

Seven surveys were completed. The mean scores regarding various aspects of transfer of care from the ED to the inpatient unit suggest that patients/families were generally satisfied with the transfer of care process that was made known to them.

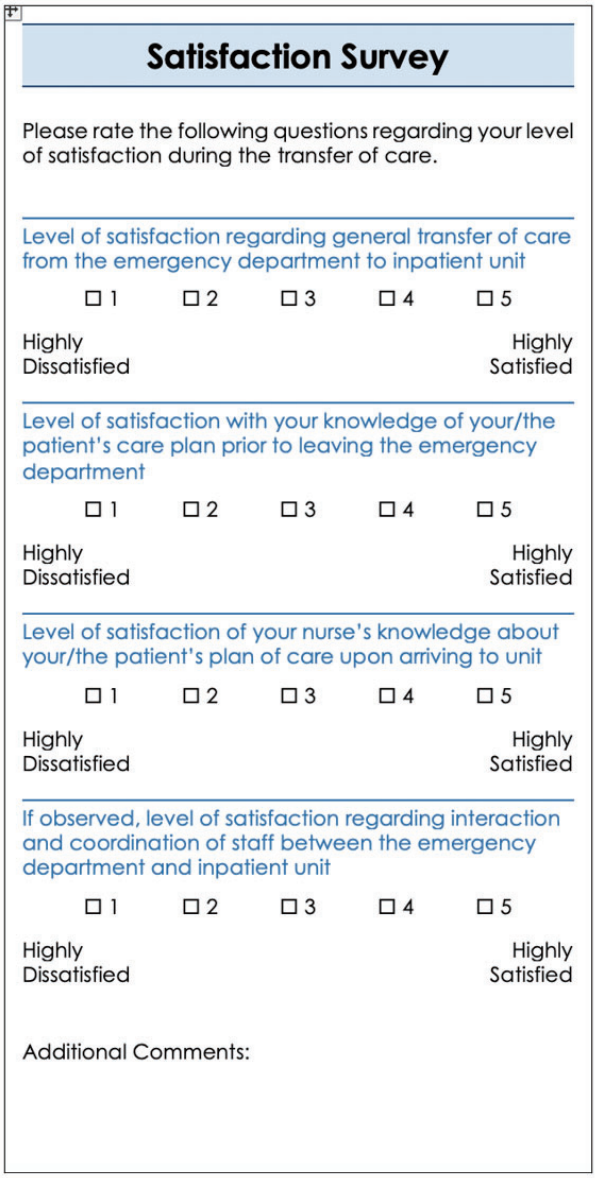

Figure 1. Survey provided to patient/families after arriving to inpatient unit

Table 1. Patient/family satisfaction with transfer of care (n = 7)

Questions	Mean score
Level of satisfaction regarding general transfer of care from the ED to inpatient unit	4.5
Level of satisfaction with your knowledge of your/the patient's care plan prior to leaving the ED	4.2
Level of satisfaction with your nurse's knowledge about your/patient's plan of care upon arriving to unit	4.4
If observed, level of satisfaction regarding interaction and coordination of staff between ED and inpatient unit	4.1

5.2 Inpatient Nurse Experience with New Handoff Process

When surveying inpatient nurses prior to and during implementation, the collective feedback included that they were concerned for increased risk of error when receiving patients to the unit from the ED without receiving report, because many providers do not complete their progress notes before admission. Consequently, many nurses have had to ask the family directly for the plan of care.

During implementation, several inpatient nurse stated that the ED nurse did not respond when texted, even after multiple attempts, and that the message was not read until after the patient already arrived. When the ED nurse did respond, inpatient nurses stated that the communication was very helpful in planning for the patient's arrival.

6. Discussion

The COVID-19 pandemic was a continued disruption to the healthcare system affecting quality improvement projects such as this one. In particular, it was challenging to balance the recruitment of nurses to improve quality of care without increasing their load of daily tasks. Due to only seven surveys being returned over the course of the intervention phase, the project was steered in a different direction to analyze what could be improved upon for future quality improvement projects. Implications for practice include promoting staff adherence through ongoing education and support from leadership. Shah et al. describe ways in which they have attempted to improve quality of care during the pandemic including creating a common theory to tackle issues, understanding and improving processes, measurement to inform decision making, plan-do-study-act cycles to test interventions, and supporting learning and redesign for the future.[10] Understanding and improving processes is notable as Shah et al. describe process mapping by creating flowcharts and other aids to help visualize steps in a process.[10] For future work, this may be a tool to incorporate into education to provide a visual and target staff's learning styles as opposed to simply text.

The project did not go as planned due to the limited number of surveys that were completed, but there were several things that could be brought forward for future accomplishment. At the beginning of the implementation phase of the project, leadership members from the inpatient and ED units were enthusiastic about the proposed change. Reynolds discusses one of the most important tasks is to build personal relationships.[11] The project lead was an employee at the site and unit where the project was implemented, which helped gain buy in from the unit leadership and fellow nurses. Buy in is vital for change in healthcare organizations while carrying out the vision of the organization where the project is taking place.[4] The project lead educated inpatient staff nurses regarding the proposed change and steps of implementation and informed the ED nurses to be expectant of forthcoming communication from inpatient nurses. Explaining the rationale and importance of project implementation was vital for success.[11]

A limitation to the project was the state of the current culture in healthcare. COVID-19 had brought forward a variety of challenges to implementing quality improvement projects such as work fatigue due to nurses being physically, physiologically, and emotionally taxed.[12,13] Yoder et al. discusses to lead with agility and grace to appear calm, empathetically listen, and reflect and respect situations from different perspectives.[14] Therefore, this project could improve in the future by meeting more regularly with staff to listen to and discuss their concerns and barriers to participating while facilitating positive team dynamics to empower and foster engagement.[15]

7. Conclusion

Patient/family satisfaction will continue to be at the pillar of organizational mission, and there will be an ongoing need for quality improvement to increase this factor. Although not completed as intended, this work is useful in practice to promote awareness to ensure that quality improvement projects are not a burden, but a step in promoting support with the goal of improving patient outcomes.

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Authors Contributions

Dr. Sluder was responsible for developing the project, implementation, collecting and analyzing data, and drafting the manuscript. Dr. Gillespie edited the manuscript and provided revisions as well as ongoing feedback throughout the project process. All authors read and approved the final manuscript.

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