Improving Bedside Handoff: Evaluating the Impact of a Standardized Handoff Process

Ronnita Usher, DNP, APRN, FNP-BC, FNP-C

Background
The Institute of Medicine publication, To Err is Human, concluded that failures in communication and teamwork contribute to avoidable deaths annually. One of the report’s primary findings is that medical errors do not result from individual mistakes but can be attributed to defective systems, methods, and circumstances that lead people to make mistakes or fail to prevent them (Kohn, Corrigan, & Donaldson, 2000). In 2010, the Joint Commission (JTC) reported that over 40% of medication-related sentinel events occur because of failures in communication processes (Ardoin, et al., 2011). In 2011, a study conducted by the Veteran Administration National Patient Safety Center: communication failures were identified in 70-80% of the 12,000 root-cause analyses of adverse events (Faiella, Carmack, Robinson, Murphy, & Dunn, 2007). Inadequate communication processes establish opportunities for errors as care providers fail to exchange complete and consistent information (Jukkala, James, Autrey, & Azuero, 2012). Unfavorable handoffs likely occur due to insufficiency of exchange of information between the receiver and giver (Patterson & Wears, 2010). Inadequate handoffs can result in adverse events and cost the United States (US) billions of dollars annually (De Vries, Ramrattan, Smorenburg, Gouma, & Boermeester, 2008). The purpose of this project was to evaluate a standard bedside handoff process and its impact on a medical surgical unit. Patient safety is a global and national concern. The Joint Commission (2008) National Patient Safety Goal 2, improving the effectiveness of communication among caregivers, was used to guide the project on a medical-surgical unit.

Methods: Setting & Sample
The project took place on 38-bed medical-surgical unit within a large acute care facility. The patient mix (n = 1,802), primarily consists of female patients (n = 1,148), age 60 and over (n = 1,201), admitted through the Emergency Department (ED) (n = 1,208). At the time of the pre-intervention phase of the pilot, 32 nurses were employed and at the post phase of the pilot, 29 were employed. To be included in this project, nurses needed to be employed full or part time on the unit.

Methods: Standardized Tool
The SIBAR (Situation, background, assessment, recommendation and thank) competency checklist was used to assess quality and consistency in report. It was created by the Slater Group as an instrument to shape handoff among ED nurses in hospitals across the US. Using the SIBAR (T) is a good exercise for nurses to examine each other’s documentation, assess the patient together, and scan the environment (Baker, 2010). The SIBAR (T) competency checklist has been used in hospital systems across the US (Baker, 2010; Rush, 2012). The SIBAR tool was previously implemented in a large catholic hospital system. Over a period of two years, the new process resulted in a 20% decrease in avoidable deaths annually. One of the reports primary findings is that failures in communication and teamwork contribute to avoidable deaths (Kohn, 2000). The Institute of Medicine publication, Building a Safer Health System. Washington, D.C: National Academy Press, 27(1), 240-246.

Methods: Survey
Medical Shift Report Communication Scale survey (MSR) was used to measure nurses’ perceptions of communication (Jukkala, et al., 2012). The 27-item survey collects data in three domains: communication openness, quality of information, and shift report. Each scale item is scored on a Likert scale with 1 = strongly agree to 4 = strongly disagree, for a total possible score of 36, with lower scores indicating a greater perception of communication among nurses on the medical-surgical unit.

Open communication
• I find it enjoyable to talk openly with others on this unit.
• It is easy to ask advice from nurses on this unit.
• It is easy for me to talk openly with nurses in the MICU.
• Communication between nurses is very open.

Quality of information exchanged
• The accuracy of information passed among nurses on this unit leaves much to be desired.
• I feel that certain nurses do not completely understand the information they receive.

Shift report
• The change of shift report I receive prepares me to care for my patient.
• It is often necessary for me to go back and check the accuracy of information.
• The change of shift report I receive on my patients helps me do my job well.

Methods: Education
Thirty Minute Web-Based Module Based On Best Practice
Course Objectives:
• Define bedside handoff
• Define standardization
• Define SIBAR and how it relates to handoff
• Define the ongoing nurse’s role
• Define the role of Epic and how it relates to handoff
• Define the sequence of bedside handoff
• Review the bedside handoff pocket card
• Demonstrate an effective standardized bedside handoff

One-on-One Coaching Sessions
• Interdisciplinary rounds
• Staff meetings
• Shift starters

Process Improvement Methodology
Six Sigma DMAIC
• Define – Defining the goals
• Process charter, focus groups held
• Measure – Baseline data (pre-intervention data)
• Four measures
• MSR Survey
• Bedside handoff observations
• White communication board use
• Length of bedside handoff time
• Analyze – Root cause analysis, identification of defects
• Feedback sessions
• Improve – Implementation and evaluation period
• Implementation
• Education
• Post Intervention Data
• Control – Hardwire and sustain the new process
• Identify limitations in the project

Results
Comparison of MSR Survey between pre and post intervention (N = 33)

<table>
<thead>
<tr>
<th></th>
<th>Pre (n=15)</th>
<th>Post (n=15)</th>
<th>t</th>
<th>p</th>
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<tbody>
<tr>
<td>Total Score</td>
<td>19.34 (3.65)</td>
<td>17.44 (3.34)</td>
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<td>.05</td>
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<td>Shift Report</td>
<td>7.31 (1.56)</td>
<td>6.60 (1.94)</td>
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Comparison of Observation Scores between pre and post intervention (N = 26)

<table>
<thead>
<tr>
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<th>Pre (n=13)</th>
<th>Post (n=15)</th>
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<tr>
<td>Total Score</td>
<td>29.81 (6.49)</td>
<td>27.01 (3.13)</td>
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Cross Tabulation of White Communication Board Use (N=30)

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<thead>
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<th>Yes</th>
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<th>χ²</th>
<th>p</th>
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<tr>
<td>Educating</td>
<td>Post 13 (71%)</td>
<td>Post 2 (10)</td>
<td>5.40</td>
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<td>Nurse Manages</td>
<td>Post 12 (53%)</td>
<td>Post 3 (14)</td>
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<td>.10</td>
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<td>Physical Exam</td>
<td>Post 10 (67%)</td>
<td>Post 5 (18)</td>
<td>4.82</td>
<td>.03</td>
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<tr>
<td>Process</td>
<td>Post 16 (58%)</td>
<td>Post 4 (14)</td>
<td>4.82</td>
<td>.03</td>
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<tr>
<td>Barrier to Care</td>
<td>Post 15 (50%)</td>
<td>Post 3 (15)</td>
<td>6.65</td>
<td>.01</td>
</tr>
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Conclusion
Standardized bedside handoff:
• Increased patient centered care
• Served as a team building model
• Reduced communication breakdown
• Resulted in similar findings from the original researcher’s study using the MSR survey
• Reduced length of bedside handoff time

Limitations
• Convenience sample
• Limited sample size of bedside observations (N=30)
• Limited to one unit
• Short project duration (23 weeks)
• Independent sample of bedside observations
• Selection bias due to:
  • Motivation of staff
  • Participant & APN relationship
  • Competing priorities
  • Nurse turnover

References