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Patient Hand Offs: Facilitating Safe and Effective Transitions of Care

Amanda Kaye VandenBerg
Grand Valley State University

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PATIENT HAND OFFS: FACILITATING SAFE AND EFFECTIVE TRANSITIONS
OF CARE

Amanda Kaye VandenBerg

An Evidenced-Based Practice Protocol Submitted to the Faculty of

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Dedication

This project is dedicated to my wonderful family and friends. Without their support and encouragement I could have never survived graduate school.

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Abstract

Problem: The hand off at the change of shift is a critical time for information exchange which can have significant impact on quality of care and patient safety. The end of shift hand off was identified as an area for improvement on a medical-surgical-acuity adaptable hospital unit.
Literature review: Literature suggests that hand offs conducted at the patient's bedside can help to decrease overtime, improve patient satisfaction scores, and address patient safety/quality issues. Evidence also supports the use of a standardized format for report.
Protocol/Intervention: The first step is to provide better education to patients and families on admission regarding the standard for bedside report. Nurses will ask the patient/family if they wish to be awakened if they are sleeping to be included in the hand off. If the answer is yes, a card will placed on the patient's door to alert staff of their wishes to be included in report.   The second step is to create a report utilizing the SBAR (Situation, Background, Assessment, Recommendation) format. This tool would be laminated and affixed to the units work-stations-on-wheels (WOWs). The third step is to reinforce the unit standard of having Patient Care Assistants answer call lights during report time to limit interruptions.   **Benefits/Barriers:** Anticipated benefits to better standardizing hand offs include: improved communication between nurses, improved communication between nursing and patients/families, a more efficient hand off process with less omission of information, and decreased time to conduct the hand offs. Perceived barriers include: potential costs, staff engagement, and compliance.
Outcomes: Patient satisfaction, staff satisfaction, unit costs (related to decreased overtime), and patient length of stay will be targeted to improve with this protocol.

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Chapter 1

Introduction

The concept of patient hand offs is one that has come into sharper focus over the last decade. The Agency for Healthcare Research and Quality (AHRQ) (2008) identified that the term "hand off" is often used interchangeably with other terms such as handover, sign-out, sign over, cross coverage, and shift report. A hand off is the transfer of information and responsibility for the care of a patient from one healthcare provider to another (AHRQ, 2008). Hand offs occur frequently and at various stages throughout the patient's stay. There are intrafacility hand offs when the patient is admitted or transferred from one unit to another within the same facility; interfacility hand offs when the patient is being discharged or transferred to another facility; and unit level hand offs when caregivers change shifts or responsibility. Hand offs also occur between all levels of caregivers from unit aids and nurses to physicians. For the purpose of this paper the focus will be on nurse hand offs at the change of shift.

The Scope of the Problem

Staggers & Mowinski-Jennings (2009) described the nursing hand off as a dance with "discernible movement between the participants including an exchange of facts (patient name, age, vital signs, lab values, etc.)" (p.394), observations and judgments based on those observations, and clarifying details. Hand offs take many different forms varying among institutions, specific units, and even individual nurses. Nurses use tape recorded, written, or verbal formats to exchange information and these exchanges can occur at the bedside, staff room, or at a central nursing station (O'Connell, MacDonald, & Kelly, 2008). Over the last decade the patients seen in the inpatient care setting have

become increasingly more complex requiring higher levels of care, more complex interventions, and coordination of multiple specialties to manage their disease processes and co-morbidities. This makes effective hand offs between caregivers much more crucial to prevent gaps in care or potential harm to the patient such as medication errors or potential patient death (AHRQ, 2008).

In its 2000 report, the Institute of Medicine (IOM) estimated that anywhere from 44,000 – 98,000 patients die each year due to medical error and that effective communication can play a key role in preventing these errors. In 2006, the Joint Commission acknowledged the importance of effective communication when a standardized format for hand off communications was established as one of its National Patient Safety Goals (Runy, 2012). National Patient Safety Goal 2e called for healthcare institutions to "Implement a standardized approach to 'hand off' communications, including an opportunity to ask and respond to questions" (The Joint Commission, 2006, p.6). Ineffective communication is a commonly acknowledged as a contributing factor to medical errors (Reisenberg, Leitzsch, & Cunningham, 2010).

It is estimated that end of shift nursing hand offs occur minimally 2-3 times per day for each patient (Lamond, 2000). These hand offs take various forms that often vary based on the nurse's own personal style. There have been several key barriers identified that contribute to communication breakdowns during hand offs. Runy (2012) identified 10 barriers to effective hand offs: a) lack of education in nursing schools b) historical support for individual autonomy c) lack of engagement of patients and families in the care process d) resistance to change among staff e) lack of time to devote to handoffs f) issues with physical settings including background noise and interruptions g) language

barriers h) failures in mode of communication i) lack of definitive research to identify

best practices for hand offs j) lack of financial resources to implement a standardized

process. Nurses have identified barriers to effective hand offs such as too much or too

little information being given, inconsistent quality, limited opportunity to ask questions,

equipment failure, and multiple interruptions (Welsh, Flanagan, & Ebright, 2010).

Considering the importance of effective hand off communication to patient safety, the

need to address these barriers is essential to providing effective quality care.

   The hand off is a traditional part of nursing practice (O'Connell, et al, 2008). The

nursing hand off is the primary way to exchange information and promote continuity of

care for the patient. The complaint, "I didn't receive very good report on this patient" is

often heard on nursing units. One of the problems with nursing hand offs is that there are

so many different ways to conduct them, from written to recorded, to face-to-face. The

Joint Commission (2006) has called for standardization of the hand off process along

with the opportunity to ask and respond to questions. This would require a transition to

an interactive conversation between nurses during hand offs (Sandlin, 2007). It should be

noted though that even face-to-face hand offs do not completely solve the issues of

ineffective communication. Reisenberg, et al (2010) noted that the verbal style of hand

offs could be characterized as "partial, cryptic" and "remarkably haphazard". This

variability in hand offs can create confusion and make information recall difficult; as

noted in one study that demonstrated that nurses only recalled 20-34% of the report

content (Reisenberg, et al, 2010). Observations of hand off have shown that nurses often

use varied styles, tones, and organization to emphasize information (Staggers &

Mowinski-Jennings, 2009). Also, according to Staggers and Mowinski-Jennings (2009),

most hand offs were rarely completed without some form of interruption, whether it be by other staff, patients, or equipment. Interruptions can be distracting, interrupting the nurse's train of thought and making crucial information easier to miss, whether giving or receiving report. Any interventions to improve nursing hand offs must consider these factors.

The Joint Commission's recommendation is to use a standard format to improve hand off communication. There are various models that can be considered, either already utilized elsewhere in health care or in other high risk industries such as the military or air travel. Standardization is only part of the issue. Care must be taken to minimize interruptions during hand offs. Another consideration is how much to involve the patient/family in beside report, as there has been much attention to hand offs at the bedside that invite the patient to participate. Whatever changes are enacted, the bedside nurses will need to be engaged and embrace these changes for improving the hand off. In many cases this may require a transformational change and culture shift.

For this project, the clinical area of interest was a medical/surgical progressive care (MSPC) unit at an acute care hospital in western Michigan. The increased complexity of care for many patients has made effective hand offs more critical. An expanding knowledge base has spawned more categories of health providers and more specialized units designed for specific disease processes, procedures, and phases of illness (AHRQ, 2008). According to AHRQ (2008), the most frequent errors associated with the hand off process are errors of omission. The patient population on MSPC unit is mainly cardiac and renal patients who often present with multiple comorbidities creating a busy and complex care environment. The current practice on the MSPC unit is to

conduct hand offs at the bed side, though this is not always consistent. The unit has

recently seen a drop in patient satisfaction scores related to nurse communication. There

is evidence that conducting nursing hand offs at the patient's bedside helps to increase

patient awareness and accountability and may lead to an improvement in patient

satisfaction (Andersen & Mangino, 2006).

Nurse satisfaction can also be impacted by the hand off process. Lack of time,

multiple interruptions, poor support from colleagues, and receipt of inadequate

information can all lead to nurse dissatisfaction (Thomas & Donahue-Porter, 2012).

Extended time needed to deliver or receive report can also lead to increased overtime for

staff. According to Thomas & Donahue-Porter (2012) the time to conduct end of shift

report could take upwards of 60 minutes. Improving the hand off process may help to

decrease overtime and help increase staff satisfaction.

A lack of standardized process for delivering information during hand offs has

been identified by the leadership of the MSPC as an area needing improvement. The unit

utilizes a standardized electronic report tool incorporating the SBAR (Situation,

Background, Assessment, Recommendation) format, but it is under-utilized. It is

important to identify barriers to the use of this tool along with possible format changes to

help improve patient satisfaction scores and help with other patient outcomes related to

safety and continuity of care. It is also hoped that re-tooling the hand off process may

lead to greater staff satisfaction and decreased costs related to overtime.

Chapter 2

Literature Review

The hand off process has been put under the microscope over the last year largely

due to a 2005 study by the Joint Commission that found that as many as 70% of sentinel

events were caused by communication breakdowns with half of those occurring during a

hand off (Runy, 2012). Review of sentinel events by The Joint Commission from 1995-

2004 produced similar findings in that 65% of those events could be traced to issues with

communication (Runy, 2012). These findings lead to the Joint Commission identifying

the standardization of the hand off process as one of its 2006 national patient safety goals.

National Patient Safety Goal 2E requires organizations to "Implement a standardized

approach to 'hand off' communications, including an opportunity to ask and respond to

questions" (Riesenberg, Leitzsch, & Little, 2009, 27). Hand offs occur between all

disciplines in the health care system, but for the purposes of this paper the focus will be

on nursing hand offs at the change of shift. Standardization and improvement of the

nursing hand off is critical. Nurses are pivotal to ensuring continuity of care since they

are accountable for care 24 hours a day, are seen as a key communication partner for all

healthcare professionals, and are often the informal coordinators of the increasingly

complex care provided in the hospital setting (Smeulers, van Tellingen, Lucas, &

Vermeulen, 2012).

In order to determine how to best improve the hand off process at the unit level,

two separate clinical questions can be considered using a PICO (population,

intervention/issue, comparison of interest, outcome) format:

- 'Would patients on the unit benefit from improved nursing hand off skills as compared to the current process by exhibiting higher satisfaction scores for nurse communication and fewer safety errors?'

- 'Would nurses on the unit benefit from improved nursing hand off skills as compared to the current process by exhibiting less serious safety errors and decreased staff cost for overtime?'

<div align="center">Review of the Literature</div>

A review of the literature was conducted using CINAHL, PubMed, The Cochrane Library, and Google Scholar. The search terms used were: "handoff", "hand off", "handover", "hand over", "report", and "end-of-shift report". The search was narrowed to look for only articles in the English language published between 1990 and 2012. The search was not limited to only nursing hand offs. The search yielded 4,480 results which were narrowed based on title and then based on whether or not any type of research was conducted. In the end, 16 articles were deemed applicable, though only one study was a randomized-controlled trial. Each study's strengths and weaknesses are examined in this review. The studies are grouped according to the outcomes being researched.

Effectiveness of the hand off process

Stahl, Palileo, Schulman, Wilson, Augenstein, Kiffin, & McKenney (2009) conducted a cohort study of physician teams in trauma and surgical intensive care units (ICU's). Their objective was to determine the amount of information degradation during hand offs in a 24 hour period. A 10-item checklist based on Department of Transportation and FAA protocols for information and human tracking factors was developed to evaluate the hand offs. Each ICU physician team was assigned a fellow or

attending observer. The 1 month study was divided into two 2-week periods. During the

control period the teams hand offs were simply observed with the observer using the

checklist to track which patient care items were completed or lost for two weeks. During

the second two week period (the experimental period) the team members were given the

checklists to fill out on morning rounds and to then use during hand off. The observers

then collected the checklists and compared them to their own notes at the end of a 24

hour period. The study noted a significant reduction in lost information with the use of

the check list ($p<0.0001$) with 20.1% of patient information lost during the control period

and 3.6% being lost during the experimental period. The most common types or

information lost during report were in descending order: critical laboratory/test results,

antibiotics/cultures/medications, nutrition/vent/other, tubes/vascular access devices, and

consults. The study determined that 10.9% of critical patient care items were lost during

a 24 hour period due to communication failures mostly due to errors of omission.

The findings of this study seemed consistent with pervious observations by the

Joint Commission. The authors noted that flaws of their study included that they did not

tie their interventions to any outcomes. They also posed that there may have been a

Hawthorne effect in that the study participants knew they were being observed and this

may have made them more conscious of the information they presented during hand offs.

While statistical data was reported, the authors did not disclose how they obtained these

numbers. Other weaknesses included that there was no randomization, the use of a

convenience sample, and that there was little to no description of the actual sample size.

Overall it would be difficult to generalize the findings of this study, partly because

nursing hand offs often differ in format from physician hand offs and that the study was

conducted in an ICU setting which may make transferability to an acute care unit difficult.

Kerr, Lu, McKinlay, & Fuller (2011) focused on the ritual of nursing hand offs. Their aim was to look at current hand off practices and nurses opinions about the quality of those interactions. The sample of nurses (n=153) was taken from 23 acute care units in a three hospital organization. A survey with a Likert-type scale was used to collect data. The results of the survey showed that in this organization all hand offs were verbal and participants utilized an information sheet though the actual styles of report varied considerably. The units utilized group reporting methods, individual nurse-to-nurse, or a combination of both. The hand offs occurred in a variety of locations on the units from the nursing workstations, charge office, hallway, store room, utility, to one unit which conducted bedside report. Two-thirds of the participants noted that they preferred the combination of verbal and written hand offs, one-third noted concerns about interruptions, and about half suggested that information presented was subjective. The authors were surprised to find that over 80% of the participants did not want to change their current hand off practices. The authors felt the results showed that nursing hand offs had developed into a ritual that had remained mainly unchanged for decades and was heavily based on hierarchy, power, and control.

This study does not provide the strongest evidence. The authors note that a closed ended survey was used not giving the participants the opportunity to provide further information beyond the questions asked in the survey. It was also noted that only nurses working the afternoon shift were asked to participate in the survey removing the opportunity to compare data between shifts. The authors also note that they made no

effort to investigate why the nurses were reluctant to change hand off processes. Overall the study provides supportive data of the perceptions that staff nurses have about hand offs. However, it may have been more helpful if the authors had done a statistical comparison between units or perhaps between the three hospitals of the system.

Pothier, Monteiro, Mooktiar, & Shaw (2005) compared three different styles of hand offs to determine the amount of data lost for each style. The authors created a simulated hand off experience using twelve fictional patients. Each patient was given 21 data points to be handed over. The sample was a convenience sample of 5 nurses. The patients were randomly assigned to three groups representing the three different styles of hand off: verbal (verbal hand off with no note taking), written (verbal hand off with note taking), and sheet (use of typed sheet with patient data points and verbal review). A telephone style of report was used with one participant handing off all of the 12 patients and the receiving nurse waiting 60 minutes to hand off the 12 patients using the same styles to the next participant. The cycle was repeated until the fifth nurse handed off the patients back to the investigator. The study found that the highest number of data points was lost using the verbal only style. The use of a pre-printed sheet offered the lowest number of data points lost. The differences between the three groups were statistically different ($p < 0.001$). A strong point of this study was that the investigators made an attempt to randomize aspects of the data collection and had control over the type of patient secondary to simulation. The major weakness of the study was the very small sample size of 5. It would be interesting to see the study recreated with a large sample size and perhaps randomize the participants to one particular style of hand off.

O'Connell, MacDonald, & Kelly (2008) conducted a survey to determine the strengths and limitations of current hand off practices. The authors used a mixed methods approach distributing and survey with closed and open ended questions related to current report practices. Five hundred surveys were distributed throughout 22 wards of a tertiary care hospital in Australia. Seventeen nurses from 21 of the wards completed the survey. The authors felt that results were consistent with previous studies in that key themes centered around pertinent information being omitted during the hand off, too much irrelevant information being reported during hand off, information received was mainly subjective, hand offs taking too much time, that a large amount of information passed on could be found in the patient chart, and the presence of multiple interruptions. The qualitative data collected showed that nurses preferred receiving report from the nurse directly providing care to the patient, the need to be able to ask questions or clarify information, and that report took too much time. Mixed perceptions about bedside report were found with major concerns being patient confidentiality and how to best hand over sensitive information in front of patients and or their family members. This study was well done. The statistical analysis of the quantitative data was thorough. The use of open ended questions also allowed nurses to express further perceptions or suggestions for how to improve hand offs.

Content of hand offs

Lamond (2000) examined the patterns of content contained in the nursing hand offs in a comparison of two hospitals in the United Kingdom. Five consecutive hand offs on each ward were recorded along with the medical and nursing documentation for 15 patient on the same wards were collected. A multidimensional scalogram analysis

(MSA) was used to analyze the data from both report and the chart. The sample consisted of the 60 patients whose information was examined. It was found that the mean time for report was 34 minutes. Information that showed up most consistently in report included general patient information (name, birth date, age, diagnosis), date of admission, resuscitation status, level of consciousness, discomfort/pain, diet, skin issues, intake and output, mobility, care needs or plan of care, medications, consultations, patient condition, psychological, and plan for medical care. It was noted that content from the chart was much more detailed and contained more information than the content of report though some information such as psychological issues were reported more often in report than they were written down. The MSA tool used to analyze data was validated and reliable. The sample was smaller in size and one of convenience which the author notes as a limitation to the study. The authors note that conclusions cannot be drawn from this study related to the effectiveness of the nursing hand offs or the nurses communication skills. It would have been helpful to perhaps conduct some statistical comparisons between the data from report versus that collected from the chart. It would have also been interesting to see if this study could be reproduced in the United States with similar results.

Dowding (2001) studied the effect that manipulating the content of report had on the nurse's ability to plan care. The author looked at the theory of information processing which proposed that humans have a limited capacity for information processing and that they often use reasoning 'short cuts' to assist in processing large amounts of information which rely on existing knowledge or experience to draw on. The author looked at how alterations to the structure and schema consistency would affect the nurses' ability to

retain information and plan care. Structure had two components retrospective (task-oriented) and prospective (patient focused). The sample was a convenience sample of 48 registered RNs from general medical and surgical wards at two hospitals in Scotland. They were randomly separated into one of four groups: Retrospective & schema consistent, retrospective & schema inconsistent, prospective & schema consistent, and prospective & schema inconsistent. The information content studied was schema consistent or inconsistent. The dependent variables included a) the accuracy of nurse's recording information on patients b)the amount of information recalled after the shift report c) the quality of the care plan that was constructed.

To conduct the experiment the subjects were played an audiotape of the appropriate shift report based on their grouping. They were encouraged to take notes during this. When report was finished they were asked to count backwards from 100 while their notes were removed; then they were given 5 minutes to write down as much information as they could remember about the patient. They were then given 10 minutes to write down a plan of care for that patient. It was found that participants who heard a retrospective report created more effective care plans. Schema consistent content also allowed for subjects to more accurately recall information; though overall there was poor recall for both schema and both report structures. Two-way analysis of both independent variables found that recall was better for prospective, schema consistent report but there was no statistical difference in the ability to plan care. The study was well designed and the subjects were randomly assigned to one of the four study conditions. The study was one of convenience making generalizability difficult and Dowding (2001) notes that the findings should be treated with caution since the patient scenarios used were fabricated.

Barriers and facilitators to effective hand offs

Welsh, Flanagan, & Ebright (2010) studied both taped and written end of shift reports to identify factors that either limited of facilitated the hand off process. The authors conducted a pilot study using short semi-structured interviews with nurses regarding the hand off process, the tools they used during the process, and the ideas they had for improving hand offs. A convenience sample of 20 nurses from a large veteran's administration medical center included both RNs and LPNs from two medical/surgical units and an intensive care unit. The nurses were interviewed in a semi-private room (break room) either individually or in pairs. Analysis of the interviews suggested six barriers and four facilitators to the end of shift hand off. Barriers identified included too little information provided during report, too much information given during report, inconsistent quality of information, limited opportunity to ask questions, equipment malfunction, and multiple interruptions. Facilitators identified included pertinent content being given, the ability to take notes, face-to-face interaction with outgoing nurse, and structured form or checklist. The authors noted that two other trends emerged during the study as well; nurses accessing the electronic medical record to augment or verify information from report and that an effective end of shift report aided in planning shift work. Overall this small, qualitative study uncovered themes that seemed consistent with other literature. Convenience sampling was used for the study which the authors noted could lead to the data being skewed to those with more extreme opinions. It may have been better to conduct the interviews in a more private area other than a break room. Generalizability may also be compromised due to the small sample size and that some of

the units used tape recorded hand offs which is not the norm at all institutions. Some of the responses, such as equipment failure, were specific to the taped report process.

Riesenberg, Leitzsch, & Cunningham (2010) conducted a systematic literature review to identify common themes and best practices related to hand offs. They reviewed English-language articles on hand offs published between January 1, 1987 and August 4, 2008; which focused on nursing hand offs in the United States were included. Based on the criteria and evaluation 20 articles were reviewed. Common barriers identified for the hand off process were related to communication, lack of standardization, equipment issues with communication medium (electronic, paper, phone, etc.), environmental issues (mainly distractions or interruptions), lack or misuse of time, complexity of cases or high case loads, lack of training/education on hand offs, and human factors (poor staffing, stress, feeling rushed, memory limitations, high turn-over rates, emotion, and sensory/information overload). Common facilitators identified were good communication skills, use of a standardized process (tools, templates, mnemonics, etc.), use of technology (electronic hand off system, using a computer for report, etc.), Environment strategies like limiting interruptions or creating a less chaotic space for hand offs, training and education using role playing or scenarios, involving staff in development of tools or training, and consistent expectations and support from leadership. The authors identified that the evidence for hand off best practices is not empirically strong. Often the data from the studies was difficult to generalize due to the design of the research. The literature review was very thorough and the authors utilized a system for evaluating the strength of each study. A limitation of their review was that they only focused on nursing hand offs and studies conducted in the United States. While

the generalizability of studies from other countries or studies related to other disciplines such as physicians may be difficult, looking at these studies may have uncovered other trends that would worth investigating in relation to nursing hand offs.

Standardized tools and mnemonics to aid hand offs

Jukkala, James, Autrey, & Azuero (2012) developed a tool to better organize report in a medical ICU setting. The tool they developed was built according to body systems (neurological, cardiovascular, gastrointestinal, genitourinary, and skin/wounds) along with other information needed to conduct care (laboratory values, protocols, procedures, social/family, plan of care, and new orders). They conducted a quality improvement study using the Plan-Do-Study-Act model. The study was conducted on a 25 bed Medical ICU in a large academic health center with 43 nurses, 34 of which completed the final evaluation of the tool. The survey used looked at three domains: communication openness, quality of information, and shift report. Survey results showed a statistical improvement in the perception of the quality of the shift report domain after implementation of the tool, but not significant change in perception of the open communication or quality of information domains. The authors felt that the results showed their tool to be effective but called for further research to fully validate the tool. Caution must also be used in that the tool was developed specifically for the critical care environment and may not be appropriate for other care area such as a general medical/surgical unit. Generalizability is also difficult due to the small sample size

Schroeder (2006) provided an anecdotal overview of her PACE mnemonic for hand offs. The goal of the PACE mnemonic is to create a standardized format with which to conduct a hand off. The P (patient/problem) looks at the patients demographics

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such name, age and diagnosis. It also implies a summary of pertinent medical history, allergies, and any restrictions. The A (assessment) concentrates on the nursing assessment of the patient related to the patient's problem. The C (continuing/changes) reviews the patient's continuing needs and any recent or anticipated changes in condition. The E (evaluation) allows the nurse to finish with an overview of the patient's responses to nursing and medical interventions. The author reports that use of the PACE tool helped to decrease report time and eliminate omissions. No statistical data was provided related to the use of the tool on the unit nor did it appear that the tool had been validated up to this point. Further research would be needed to build evidence to support the use of the PACE tool.

Haig, Sutton, & Whittington (2006) looked at the use of the Mnemonic SBAR (Situation, Background, Assessment, and Recommendation) to improve communication between clinicians. Following the implementation of SBAR at a medical center improvements were noted related to several outcome measures. Medication reconciliation saw an improvement from 72% to 88% on admission and from 53% to 89% on discharge. Adverse patient events saw a drop from 89.9 per 1000 patient days to 39.96 per 1000 patient days. A drop in adverse drug events also dropped from 29.97 to 17.64 per 1000 patient days. No formal study was done related to the use of SBAR. The implementation of the tool was not specific to nursing hand offs but also focused heavily on communications between disciplines (i.e. nurse to physician). No statistical analysis was conducted on any of the data that was collected to see if the improvements in measures were significant. This was also not a systematic study so there is no way to link the implications of the tool to the outcomes.

Riesenberg, Leitzsch, & Little (2009) conducted a systematic review of the literature specific to hand off mnemonics. The authors searched for English-language articles using Ovid MEDLINE, CINAHL, and HealtSTAR published between 1987 and June 4, 2008. The terms searched were hand-off, handoff, signout, sign out, sign-out, handover, hand-over, signover, or sign-over. 2,590 articles were identified which were narrowed down to 46 articles after review. The authors noted that 24 hand off mnemonics were identified with SBAR being the most frequently mentioned mnemonic. The authors noted a lack of high quality outcomes studies and that only four of the 4 articles actually collected data on the mnemonics. It was noted that the current evidence is not strong enough to recommend any one mnemonic or the use of any mnemonic for that matter, as a best practice. The authors felt that publication bias may have limited the search in that typically only studies with positive results are published. Overall the review was thorough though the authors did not reveal how they reviewed each article.

Hand offs at the bedside

Andersen & Mangino (2006) studied the effect that moving end of shift report to the bedside had on the quality of report. They compared data related to nurse and patient satisfaction as well as nursing overtime hours before and after implementation of bedside report. The nurses were still encouraged to obtain general information about the patient from the kardex, but then the actual hand off of information from the out-going nurse was conducted at the patient bedside with encouragement for the patient to participate. At the completion of report the patient's priorities were identified. This change was piloted on one medical/surgical unit before house wide implementation. Data collected prior to implementation included financial data for nurse overtime, satisfaction surveys of staff,

and patient satisfaction data related to 4 questions from the hospital's

current satisfaction survey felt to indirectly measure quality of hand offs. Following

implementation, the authors noted a decrease in nurse overtime by over 100 hours in the

first two pay periods post implementation. Staff satisfaction surveys reflected mostly

positive statements from staff with increases in the interpersonal relationships,

accountability, and receiving pertinent information. The authors also noted positive

comments from physicians about the knowledge of the nurses related to the patients.

 Patient safety scores increased for 3 of the key areas monitored: how well the nurse kept

the patient informed, how well staff worked together to care for the patient, and staff

made an effort to include the patient in decisions about their treatment. No statistical

analysis was conducted to show if the improvements in overtime or patient satisfaction

scores were significant. It can be assumed that the sample populations were the patients

and nurses on the pilot unit but a sample(s) was never clearly defined.

Thomas & Donahue-Porter (2012) looked at creating a standardized handoff

process to be used throughout their 15 hospital nationwide health system. They

conducted a pilot test and compared data before and after implementation of an

evidenced-based handoff process; one medical-surgical unit from seven of the hospitals

in the system was chosen to participate in the pilot. The goal of the improvement had

three components: standardize the format of report, standardize the process of report, and

invite the patient and family to participate in the process. The standardized format

chosen was I PASS the BATON (Introduction, Patient, Assessment, Situation, Safety

concerns, Background, Actions, Timing, Ownership, and Next). Report was conducted at

the patient's bedside and the patient and any family present were invited to participate in

the handoff process. Data collected looked at nursing satisfaction with the handoff

process and patient/family satisfaction scores using the Press Ganey survey. It was noted

that initially nurses felt uncomfortable sharing information at the bedside but as the

implementation continued nurses found that bedside report saved time, increased

knowledge of the patient, and increased accountability for both staff and the patient.

 Newer nurses also reported that they felt more empowered using the I PASS the BATON

format because it gave them clear cues on what to report on. Satisfaction related to

opportunities for learning also increased. The units saw a consistent increase in patient

satisfaction scores after implementation of the new handoff process. No clear sample was

identified for the study. Also, no statistical analysis was conducted to compare the results

of the nurse and patient satisfaction scores pre and post intervention.

Use of computerized sign-out tools

Van Eaton, Horvath, Lober, Rossini, & Pellegrini (2005) looked at the effect of a

computerized rounding and sign out system on hand offs between medical residents.

 Restrictions on the number of hours residents are allowed to work have increased the

number of hand offs between residents and thus increased concerns about communication

breakdowns. In this study 14 inpatient resident teams were divided with half performing

a traditional hand off and the other half using the newly implemented electronic system.

 At a specified point in the study the two groups were switched with the control group

now using the electronic tool and the intervention group going back to the traditional

methods. The outcomes measured were continuity of care which looked at the number of

patients being missed during rounds and also self reports by the residents about

continuity of care as well as work flow efficiency. The study period was 103 days. Over

all, the researchers found a statistically significant reduction in the number of patients missed on rounds. In the resident's assessment of the intervention it was noted that there was an overall feeling that the electronic system helped improve sign-out quality and continuity of care. There was also a statistically significant reduction in the time spent during rounds by about 1.5 minutes per patient and also a decrease in time spent hand copying patient data during pre-round times. This study was designed as a randomized control trial which increases the strength of the findings. Limitations noted included that the electronic system had already been in use at the institution meaning that the residents in the control group had to switch back to their traditional methods of sign-out and that also some of the residents had secretly maintained their lists in the electronic system. It may be difficult to generalize the results of this study to nursing as hand offs between nurses may differ from those between residents. Any such electronic tool would also need to be studied in relationship to nursing hand offs.

Evidenced Based Practice Guidelines

Currently there are no Evidenced Based Practice (EBP) guidelines related to nursing hand offs. One EBP guideline related to hospitalist hand offs by Arora, Manjarrez, Dressler, Basaviah, Halasyamani, & Kripalani (2009) was found. The hand off recommendations from Arora, et al. (2009) were that time should be dedicated to a verbal exchange of information, a template or technology solution should be used to access and record information, new users should be trained on hand off expectations, and tracking should be done to assure that the correct hospitalist is caring for a patient after service change. Recommendations for the verbal exchange included that the process should be interactive, sicker patients are given priority during the exchange, and insight

on what to anticipate of next steps is given (Arora, et al, 2009). The content of the hand

off should include discussion on all patients being handed off, be kept in a centralized

location, be up to date, have anticipated events clearly labeled, and highlight action items

for the incoming hospitalist (Arora, et al, 2009). This hand off is very general with no

real specifics on how to best conduct the hand off or even what format to use. This may

be due to the lack of any strong empirical evidence regarding the best practices regarding

hand offs. Again the guideline was specifically designed for hospitalists and not nurses,

so generalizability to nursing hand offs is difficult.

General recommendations

Overall the evidence for best practices related to nursing hand offs is weak at best.

Only one randomized control study related to hand offs was found, and that was specific

to medical residents not nurses (Van Eaton, et al, 2005). There are dozens of mnemonics

mentioned or being used at various institutions with SBAR, I PASS the BATON, and

PACE being some of the most notable however there is little to no empirical evidence

validating these mnemonics (Riesenberg, et al, 2009). The unit for this project currently

uses an electronic SBAR tool for nursing hand offs, though the tool is inconsistently used

by the nurses. There is beginning evidence supporting moving hand offs to the bedside

and involving the patient and family in the process. What is currently known related to

hand offs is that the process is unorganized, poses significant threats to patient safety and

continuity of care, and can also play a role in staff satisfaction and costs related to

overtime. What is not known is the best way to fix the problem.

Conclusion

It is difficult to make specific recommendations for how to improve the hand off process on the unit given the lack of evidence. Beginning evidence suggests that hand offs at the bedside are more efficient, improve patient and nurse satisfaction, and decrease nurse overtime (Andersen & Mangino, 2006 & Thomas & Donahue-Porter, 2012). Since the unit already conducts bedside hand offs, one recommendation would be to stay with this practice and look to better standardize the content of the hand offs. There is vague evidence supporting the use of a mnemonic to standardize report with SBAR being the most commonly cited tool (Riesenberg, et al, 2009). The unit currently has an SBAR tool that is being used very infrequently. The recommendation could be made to either revamp the current tool using staff input to make it more valuable or to work with staff to customize another mnemonic tool such I PASS the BATON which according to Thomas & Donahue-Porter (2012) showed promise. To this point it does not appear that any research has attempted to compare multiple mnemonics to determine which is more applicable. It may be worthwhile to conduct a study on the unit to compare the two mnemonics(SBAR versus I PASS the BATON) to see if one shows more promise than the other.   Whatever changes are made to the hand off process on the unit it is clear that more research is needed to further validate best practices related to hand offs.

Chapter 3

Conceptual/Theoretical Context

The concept of the nurse to nurse hand off at the change of shift is one that on the surface appears to be fairly simple. Pertinent information regarding the care of the patient is passed from one nurse to the next; this idea seems concrete and straight forward. With that said, The Joint Commission (2006) has singled out hand offs as a significant issue related to patient safety and continuity of care. Unfortunately these seemingly simple hand offs occur in varied hectic environments between individuals with varying degrees of experience who use multiple means of communication to pass along information. According to Staggers & Mowinski (2009), significant gaps or discontinuities in care typically occur during the change of shift hand off. In order to determine why hand offs continue to be ineffective and pose significant threats to patient safety and continuity of care, potential root causes for such inefficiencies must be examined.

The Donabedian Structure-Process-Outcome model of quality care provides a framework to look at potential issues surrounding patient hand offs. The Donabedian model identifies how the role of the nurse, the care environment, and even the patients contribute to an outcome. The model is broken down into three main components: structure, process, and outcome. These components are then broken down into contributing variables. The structure component takes into consideration the variables of the patient, the nurse, and organizational variables. Factors related to nursing include the educational level of the nurse along with experience and skill level. Variables associated with the patient are demographics such as age, gender, education, and the type and

severity of illness and other comorbidities. Workload, staff mix, staffing numbers, and the work environment are examples of organizational variables. The process component looks at the nurse's independent, medical-care related, and interdependent roles. The independent role includes interventions that are nurse directed and do not require a provider order. The medical-care related role refers to interventions that are directed by medical orders. The interdependent role looks at interventions that are shared by the interdisciplinary team such as case management, team communication, and coordination of care. The outcome component focuses on outcomes that are nurse-sensitive and includes six categories. These six categories include: prevention of complications; symptom control; knowledge of the disease, treatment, and management of side effects; functional health outcomes like physical, social, cognitive, mental functioning, and self-care; satisfaction with care; and cost. The Donabedian model proposes that structure variables influence the process variables which in turn affect the outcome variables (Doran, 2011).

The concept of patient hand offs, despite its initial simple appearance, is actually a very complex, multifaceted one. Multiple factors can play a role in the effectiveness of a hand off and the hand off itself can have significant affects on patient outcomes. This is why the Donabedian model is a good fit to help breakdown and analyze the concept of hand offs. The Donabedian model takes a very broad view of an issue allowing for analysis of multiple factors instead of focusing on just one facet. The model allows the reviewer to not only account for the nurse's level of experience but also patient and organizational/environmental issues that may play a large role in how effectively or ineffectively a hand off is carried out.

Factors Affecting Hand offs

The Donabedian model can be used to analyze and better organize each of these complex facets and potential barriers into structure, process, or outcome.

Structure

Many of the issues related to hand offs can be categorized into the three variables of the structure component of the Donabedian model: patient, nurse, or organizational.

There are several factors related to hand offs that can be considered to be patient variables. The patient variable looks at factors such as age, severity of illness, and comorbidities. The patients seen in the acute care setting are aging and becoming more and more complex. According to the AHRQ (2008), as healthcare evolves it becomes more specialized, meaning that patients are seen by a greater number of clinicians resulting in more hand offs than what were seen a few generations ago. The patients seen in the health care system today are sicker and often present with multiple comorbidities which further complicate their care. For example, a patient with congestive heart failure, Type 2 diabetes, end stage renal disease, and peripheral neuropathy will often be seen by multiple specialists, require a wide variety of laboratory and diagnostics tests, and may be on multiple medications. The bedside nurse now becomes responsible for weeding through all of this information to find that which is most pertinent to the care of the patient and passing that on at the end of the shift. This can very easily lead to errors of omission during hand offs.

The nurse variable of the Donabedian model refers to the educational level and experience of the nurse. Patricia Benner (1984) describes the changes that occur as a nurse moves from novice to expert in their career. The practice of novice nurses is

guided by rules and is generally inflexible; as they move through the steps of advanced

beginner, competent, proficient, to expert, they begin to rely not only on rules but also

past experiences and can better prioritize and organize information (Benner, 1984). This

is important in regards to the hand off process in that the novice or advanced beginner

nurse may have a more difficult time processing patient information and deciding what

pieces of that information should be prioritized. This could result in information being

omitted or lost in the myriad of less pertinent details. Communication barriers such as

omissions of information, wrong information, duplicate or irrelevant information, and

misunderstood information can all alter the transfer of pertinent data from nurse to nurse

(Riesenberg, Leitzsch, & Cunningham, 2010). Also perceptions of hierarchy between

expert/experienced nurse and novice nurse, can alter the dynamics of the report and may

inhibit questioning of information (Riesenberg, et al, 2010).

Organization is the third variable of the structure component. Environmental

factors can play a significant role in the hand off process. Interruptions by patients,

families, physicians, or even other nurses can disrupt the flow of a hand off causing

information to be missed or misunderstood (Riesenberg, et al, 2010). Also according to

Riesenberg, et al (2010), other environmental and human factors such as time constraints,

large patient assignments, stress, and fatigue can alter the transfer of information of given

during hand offs. Consider the example of the nurse who has to report off on six patients

at the end of a shift and not only has to report off to one nurse but possibly another 2-3

nurses because the patients have been split into multiple new assignments for the next

shift. This can make the hand offs more cumbersome and time consuming, especially if

the acuity of the patients is higher. The nurse may hurry report to be able to move on the

next nurse which could lead to loss of information; or decrease the time that the oncoming nurse has to ask questions. The location of the hand off can also have an impact. If the hand off is conducted at a busy nursing station this would increase the opportunity for distractions. Even with bedside report, distractions could arise from the patient, family, and/or equipment.

Process

Potential interventions to improve hand offs can be considered in the process component of the Donabedian Model. The independent role of the nurse must be carefully considered. An intervention to enhance communication such as a standardized tool (e.g. SBAR or I PASS the BATON) may need to be modified to meet the unique needs of the nurse. Such tools would also need to be tweaked to meet the unique needs of each unit and the populations served there. Wallum (1995) suggested the use of the nursing care plan and the idea of primary nursing, a core group of nurses that consistently care for a given patient, as ways to improve the hand off process. Use of the electronic medical record to enhance report could be a key solution to standardizing hand offs (Riesenberg, et al, 2010). This intervention would fit into the interdependent role of the process component as the medical record is shared between disciplines and not just nursing. Another consideration is that of bedside report which would include the patient and family in the report process. Thomas & Donahue-Porter (2012) noted that bedside report improved patient satisfaction, increased knowledge about patient priorities, and gave the patient more accountability in their plan of care. Another study by Andersen & Mangino (2006) noted similar increases in patient and staff satisfaction and also noted a decrease in overtime hours by over 100 hours after implementing a bedside report. These

studies suggest that further investigation into the practice of bedside report would be worthwhile.

Outcome

Effective hand offs can have a significant impact on several measurable outcomes related to patient care. The most significant outcome impacted by effective hand offs is that of patient safety. The Joint Commission has already emphasized this by making clear communication one of its National Patient Safety Goals. When looking specifically at the nursing hand off at the change of shift, the primary purpose of the hand off is to convey essential patient care information, promote continuity of care to meet therapeutic goals, and ensure the safe transfer of care of the patient to a qualified and competent nurse (AHRQ, 2008). Unclear communication during a hand off can cause pertinent information to be missed resulting in possible drug errors, delays in care, missed opportunities for patient education, and other negative consequences. The outcome of patient safety can be broken down further into several more specific outcomes including serious safety event rates (SSERs); rates of medication errors; patient length of stay (LOS); increased incidence of pressure ulcers; and serious infections such as central line associated blood stream infections (CLABSI), or catheter associated urinary tract infections (CAUTI), just to name a few. A sentinel event implies that serious, potentially permanent or life threatening harm was experienced by the patient. An Australian study found that communication between staff was a contributing factor in about 20-25% of sentinel events implying the importance of clear communication during hand offs in ensuring patient safety (O'Connell, 2008).

Another outcome that should be considered is that of patient satisfaction. The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) assesses patients on their experiences in the healthcare system. One of the questions included is how well the nurses communicated with the patient or kept them informed (U.S. Department of Health & Human Services (HHS), 2012). While this question is more specific to nurse-patient communication it also has implications related to hand offs. If key pieces of information are lacking in a hand off, the oncoming nurse may appear less informed to the patient and thus affect their satisfaction in how well the nurse communicates. Questions such as "staff include you in decisions regarding treatment" and "staff worked together to care for you" can be answered based on the hand off process. Patient satisfaction data is publicly available and can impact consumer's decisions on where to go for their health care needs.

Staff satisfaction is a more difficult outcome to measure but also important. Surveys can be used to measure staff satisfaction with hand offs before and after implementation of an intervention. Staff satisfaction can also potentially be measured by looking at turn-over rates. Happy staff tend to stay in their current jobs so higher turn-over rates on a unit could be indicative of decreased satisfaction. The end of shift handoff can also be a time of relationship building and learning among staff members. It is believed that poor hand offs can contribute to decreased nursing satisfaction and may increase knowledge deficits of novice as well as more experienced staff nurses (Dean, 2009). Dean (2009) suggests that some current hand off practices may not reflect the nursing profession's reputation of caring because many nurses are not so caring to one another during hand offs. Improving and standardizing the hand off process can allow

for better sharing of not only patient information, but can be a time to share nursing-based innovations or research related to a particular diagnosis (Dean, 2009).

Cost is also an important outcome to evaluate related to hand offs. Cost can be measured in several ways. As the Affordable Care Act is more fully implemented, reimbursement will be withheld for hospital-acquired conditions such as CLABSI's, CAUTI's, and pressure ulcers. Information such as increased risk for skin breakdown, or the presence of a line and opportunities to consolidate entries should be included in the hand off process assisting staff in keeping with unit protocols related to these quality measures. Another potential cost saving is that of staff overtime. As previously mentioned one study showed that implementation of a standardized, bedside report decreased nurse overtime by more than 100 hours over two pay periods (Andersen & Mangino, 2006). Decreasing overtime, can provide huge cost savings for units.

Conclusion

The Donabedian Structure-Process-Outcome Model helps to look at the many facets of a clinical issue. The hand off process at the change of shift is one that is complex and involves many compounding variables. This model helps to reveal each of these variables and how they can impact the desired outcomes. In regards to hand offs variables range from the experience level of the nurse to the involvement of the patient, to interruptions and distractions on the unit to involvement by members of the interdisciplinary team. All of these variables must be considered in order to determine how to best improve the hand off process.

Chapter 4

Clinical Protocol

The clinical hand off is defined as the transfer of information from one health care provider to another when the responsibility for the patient shifts from one provider to another. The clinical protocol to improve the change of shift hand off process will be implemented on a 24 bed medical/surgical progressive care (MSPC) unit in a large mid-western hospital. This protocol was developed to enhance the hand off experience on the unit for both staff and patients and their families. This protocol is designed to impact three main components of the hand off process (Figure 2): location (at the bedside), standardization of hand off content, and control of the environment (limited interruptions).

Unit Assessment

Inefficiencies during hand offs have been identified as a key issue for the MSPC unit. Staff have expressed frustrations with the hand offs they have received. Patient satisfaction scores related to communication with nursing have been lower than desired. Interventions to improve hand offs on the unit align with the Process section of the Donabedian Model, specifically the independent and interdependent roles of the nurse. As part of the unit assessment, staff were sent a short 10 question electronic survey (Appendix D) asking for their perceptions related to the current hand off process on the unit. Staff were also interviewed in person and several hand offs were observed to determine where the main issues occur.

A SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis (Appendix E) was completed to determine barriers and opportunities for improvement.

There were several strengths that were identified for the current hand off process. These included that bed side hand offs had already been implemented, there was already an electronic SBAR tool to guide report, charge nurses attempt use of geographic assignments so that patients were not spread out across the unit, and patient assignments are made so that a nurse receives hand offs from no more than two nurses. Many weaknesses with the current process were identified. Bedside hand offs were not conducted 100% of the time for various reasons. The SBAR tool is considered overwhelming, redundant, and time consuming by staff and is rarely used. There were often multiple interruptions during hand offs, including call lights (the most frequent interruption) and interruptions by patients or family members. Also identified was that information received during report was often inconsistent. One nurse stated that "I don't need a story, I need the facts" and wanted these facts to be verified by the provider orders. It was also noted that sometimes nurses would begin doing other things, like assessing the patient during the exchange of information.

Opportunities to improve the bedside hand off process focused on consistency of information and limiting interruptions. Informing patients and families upon admission about the hand off process was identified as a key opportunity. This could be a time to explain to the patient/family of the importance of limiting interruptions during the hand off and saving questions until the hand off is complete. Having some kind of readily available standard "outline" for hand offs was also identified as a need. Staff were very clear that they did not want another checklist or tool to fill out, rather some sort of visual guide. Improving call light response by the PCA's during hand offs was also identified

as an opportunity for improvement. This was currently happening to some extent but the unit nurses felt it could be reinforced.

Several potential threats to improving hand offs were identified. Most of the threats were related to conducting bedside hand offs. The main issues of concern are:

- that the patients are asleep and the nurses are not sure whether to wake them or not.

- the unit does have a few semi-private rooms so privacy concerns come into play.

- patient may have psychosocial "issues" that staff do not feel comfortable discussing in front of the patient/family.

- language barriers may exist between the nurse and the patient/family.

- having too many family members in the room.

- patients that are hard of hearing.

- time constraints.

- other interruptions such as those from physicians or other providers.

- admissions that arrive during the change of shift.

Education for the patient and family were identified as a key issue. Evidence shows that bedside hand offs help to decrease time and improve patient satisfaction (Andersen & Mangino, 2006 & Thomas & Donahue-Porter, 2012) so it is important to overcome barriers and continue this process on the unit.   Providing a script for staff may help them to deliver a more consistent message to patients/families regarding how bedside hand offs occur. This can also present an opportunity for staff to educate patients/families about limiting interruptions during hand offs. A significant barrier to bedside hand offs was that nurses were not sure what to do if the patient was asleep. By

asking the patient their preference on admission and having a clear visual (the card on the door) that they do wish to be awakened for hand offs may help to overcome this barrier.

The poor consistency of information given during hand offs was also a key issue that was identified by staff. Hand offs should "stick to just the facts" as one nurse clearly stated. This nurse felt that often other staff spent too much time giving out information that was either not pertinent or was their opinion and could not be verified by the EMR. The hand off template would be reminder for staff to cover those most pertinent details during hand offs.

Interruptions were another key concern from staff regarding hand offs, which is consistent with findings from the literature (Staggers & Mowinski-Jennings, 2009). Call lights were identified as a key source of interruptions by several staff members. The unit had recently implemented a new standard of having the PCA's answer call lights during hand off times. This was not being done on a consistent basis, and in fact a couple of the nurses commented that it often depended on which PCA was working that day. Re-educating the PCA's and encouraging this practice to continue could help decrease the number of interruptions the nurses experience during hand offs.

The Protocol

Hand offs at the bedside

Part one of the protocol looks to improve the process of conducting hand offs at the patient bedside. This will include scripting for staff (appendix A) to use during the admission process to better educate families on what a bedside hand off entails. The patient will also be asked by staff whether or not they wish to be woken if asleep when

the hand off is taking place. If they do wish to be woken, a card (appendix B) will be

placed on the patient's door so that staff are made aware of their wishes.

Consistency of information

Part two of the protocol looks at helping to better standardize the content of a

hand off so that the most pertinent information is communicated to the in-coming nurse.

A hand off template (Appendix C) using the SBAR format will be created as a reference

for nurses during the hand off process. This template will be laminated and attached to

the work-stations-on-wheels (WOW's) that are utilized by the nurses throughout their

shift. The template will serve as a guide for the nurses to the content they should be

covering during a hand off. The Situation section will include prompts to include items

like patient identifiers, the reason for admission, and code status. The Background

section will include prompts to cover the patient's significant medical history, activity

level, cultural/language considerations, and significant events that have occurred thus far

in the patient's stay. The Assessment section will include prompts to include assessment

findings using a body systems approach. This section will also include prompts for pain

management, IV fluids and lines, wounds, high risk indicators such as fall risk or Braden

scores, and any significant lab values or recent studies. The Recommendation section

will include prompts for the patients plan of care for the next shift. This will include

items such as any planned diagnostics, labs, or procedures, or if the patient is expected to

discharge soon. The final prompt for this section will be to remind the out-going nurse to

allow the in-coming nurse to ask any questions.

Limiting interruptions

Part three of the protocol will focus on limiting interruptions during hand offs. This will include reinforcing a current unit standard that the Patient Care Associates (PCA's) will answer all call lights during hand off times. They will not interrupt the nurses conducting hand offs unless there are urgent patient needs such as changes in vital signs, changes in blood sugar, pain management needs, etc.

Conclusion

Hand offs create a complex and multifaceted process. In order to make change of shift hand offs more efficient a three pronged approach is need based on feedback from unit staff. This approach will attempt to improve three main areas of the hand off process improving compliance with bedside hand offs, improving the consistency of information received, and limiting interruptions during hand offs.

Chapter 5
Implementation, Feasibility, and Evaluation

Implementation

There are a few things that need to be taken into consideration to promote

successful implementation of the protocol. First and foremost is staff buy in. Before

implementation it will be critical to get input from staff on the key elements of the

protocol especially the SBAR report template. Considering the unit's specialty

populations it will be important for staff to give feedback on what key information for

those population should be shared during report. The unit utilizes a shared governance

model to allow staff to be involved in unit decision making. The first step of

implementation will be to bring the proposed protocol to one of the unit's shared

governance council meetings to get feedback from staff.

Once staff have had a chance to give feedback the next step is to determine

resources needed for implementation. The "Wake Me for Report" cards will need to be

created in the hospital's document library so that copies can be ordered on a ongoing

basis. It will also be key to identify a convenient storage area for the cards to that staff

will be able to access them easily. For the SBAR report template, copies will need to be

made and laminated. There will need to be enough copies for each work station on

wheels (WOW) on the unit and a few extra in case any get damaged or lost. The

templates will need to be attached to the WOWs so that they won't get lost as easily. It

will also be a good idea to try and print the templates small enough so that they fit easily

on the WOWs but big enough so that they are still legible.

Education will be the other key piece for implementation. The education will

need to take a couple of different approaches. A flier will be created to highlight the

changes including the scripting for families on admission, the use of the wake me for report card, and that the PCA's will be expected to answer call lights during report times. This information will be posted in the breakroom and emailed to staff. Another way to help reinforce the education will be to set time aside during staff meetings to review the components of the protocol and to allow staff to ask questions and discuss potential challenges. Staff meetings can also be used to reinforce with the unit PCAs the importance of answering the call lights during report times to limit interruptions.

Following implementation regular follow-up with staff will be important. It will be especially to follow up on individual basis with staff that are non-compliant or struggling with aspects of the protocol to not only develop accountability but to also assess if there are previously unidentified barriers to use of the protocol.

Feasibility

For implementation of the protocol, potential costs, benefits and barriers must be considered. One of the first things to consider is that of cost. Costs to implement the protocol should be relatively low. A majority of the costs involved will be with the printing of the paper materials for the protocol; the "Wake Me for Report" cards and the SBAR templates. There are also potential cost savings if this protocol is successful. Andersen & Mangino (2006) estimated that successful implementation of bedside report decreased unit overtime by 100 hours over a two pay period time frame. If the average registered nurse makes $26 per hour we can hypothesize that the unit could save an estimated $3900 in overtime over two pay-periods.

Staff buy in is another potential barrier for the protocol. Of most concern is that of compliance by the PCA's. This has been a past issue for the unit. Nurse have

identified that there are some PCA's on the unit that are not as reliable as others when it comes to answering call lights. It will be important to conduct individual follow up with these staff members if this continues to pose a problem after implementation.

Another potential issue identified concerns the wake me for report cards. Unit leadership voiced concern that these cards could be potentially used as an excuse to not conduct bedside report. It will be important to be very clear during education that bedside report is still the expectation of the unit and that report should only be conducted outside of the patient room in extreme circumstances or if the patient has verbalized that they do not wish to be awoken for report. It will also be important for staff to remember that when educating patients and families, that they emphasize the benefits of bedside report to the patients/families.

One other factor that must be considered is that the unit will be moving to a different floor within the hospital in the very near future. This will mean a lot of change for unit staff including an increase in beds. It would be prudent to assess whether or not implementation of the protocol would be most beneficial before or after the move. The new unit may present barriers to hand offs that are not seen in the current space.

Evaluation

Evaluation of the protocol will mostly involve looking at the outcomes identified by the Donabedian Model. Of most interest will be patient satisfaction scores. This outcome was the primary reason for looking into how to improve the report process on the unit. A comparison of patient satisfaction scores related to communication between nursing and patients will need to occur. A run chart may be a useful tool to help track patient satisfaction over time and to continue to look for trends.

Staff satisfaction will also be an important outcome to measure. Follow up interviews with staff will help to gather qualitative data related to improvements in the hand off process. It will also be helpful to resend out the survey that was sent out to staff. Some questions would need to be changed to reflect the changes related to the protocol. It would be helpful to send this back out to staff six months after implementation and perhaps a year after implementation and to compare the responses for all three surveys. The survey will also help to assess if interruptions continue to be an issue for staff and if so which interruptions are still most prevalent.

Unit costs related to overtime will also need to be measured. Effective bedside report has been shown to drastically reduce overtime (Andersen & Mangino, 2006). It is hoped that this protocol will help to streamline the bedside report process for the unit thereby reducing overtime for staff and reducing costs.

There are several other outcomes that may be indirectly affected by improved handoffs. Hand offs have been identified as key area to improve patient safety by The Joint Commission (2006). Safety can be affected in several ways. Better communication of fall risk or potential for impaired skin integrity could help to prevent patient injury due to falls or pressure ulcers. Better communication of the patient's medications could help to reduce medication errors. Better communication of the patient's plan of care could help reduce length of stay and facilitate more efficient discharges. All of these outcomes can continue to be measured even if they are not directly tied to the hand off process.

Conclusion

The end of shift hand off is a time honored nursing ritual that can have significant impact on several outcomes not only for patients but also for staff. The Joint

Commission (2006) has called for standardization of this process to improve patient

safety and continuity of care. The change of shift hand off, if done properly, can open the

door to multiple avenues to improve the quality of patient care; patient safety;

relationships between nurses, patients and their families; and also among other nurses.

The quest to create the perfect hand off is a complex and difficult task, but one that has

the potential to produce great rewards for both patients and nurses.

Figure 1

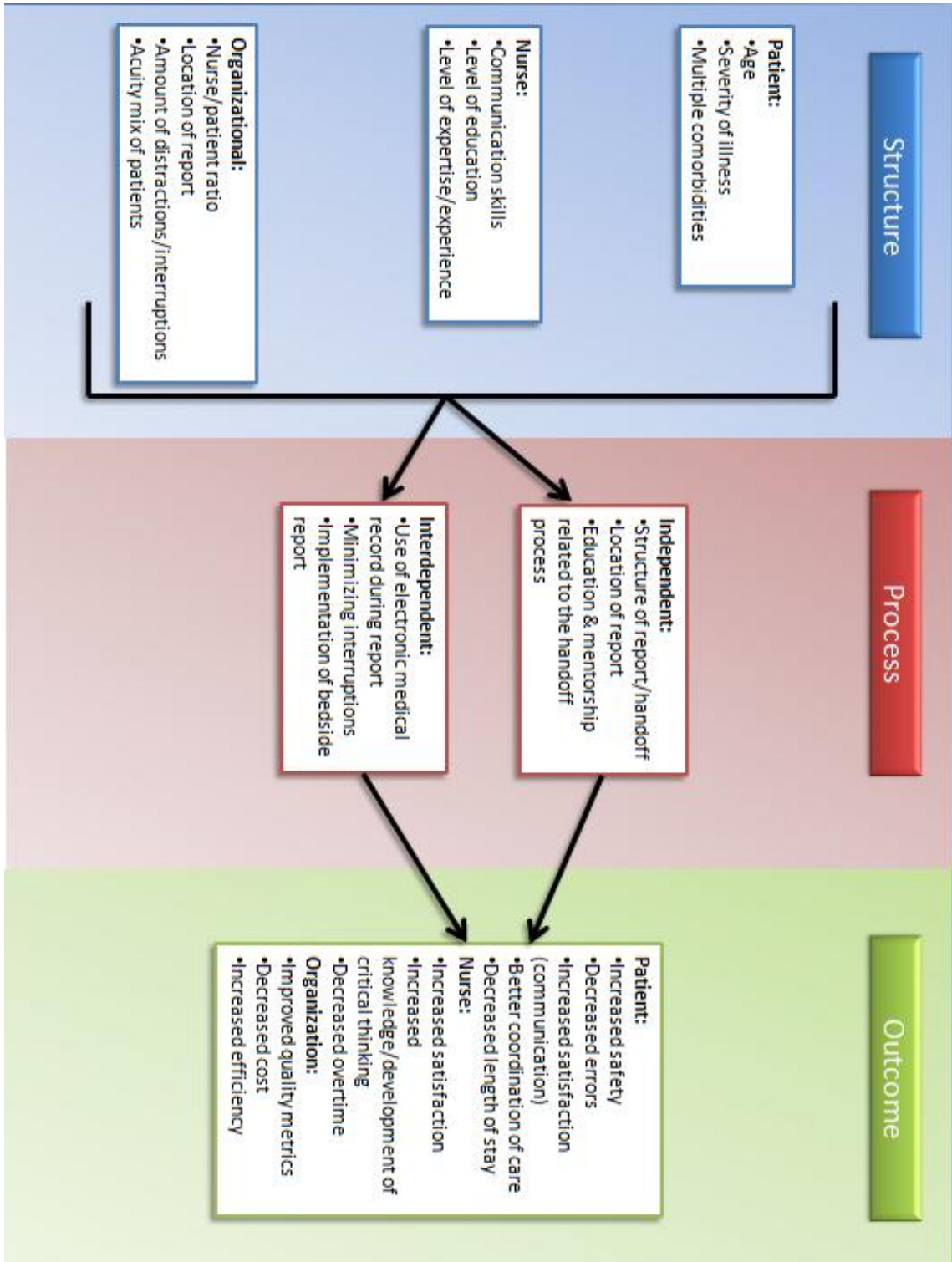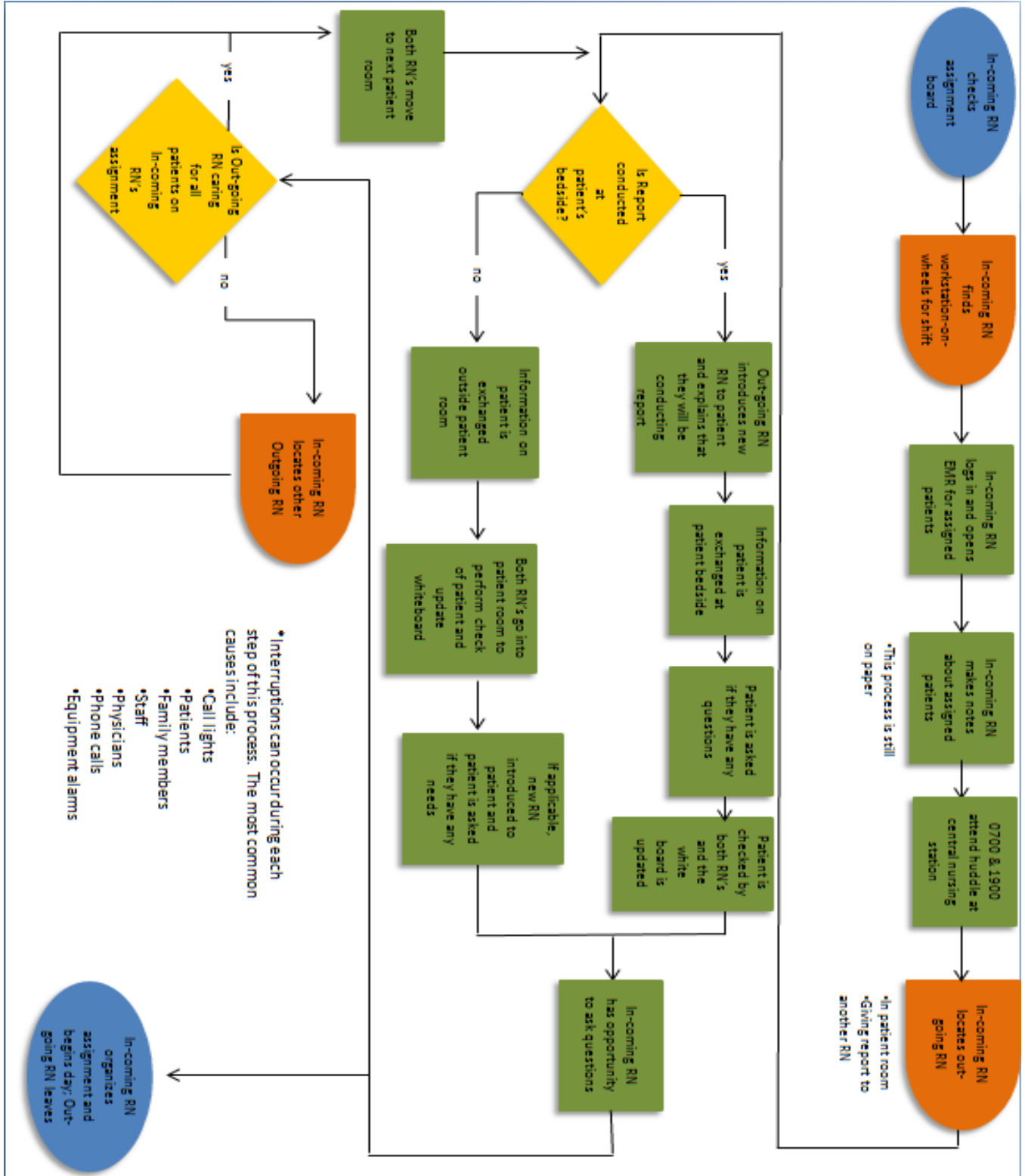Donabedian Structure-Process-Outcome Model for Patient Hand Offs

Figure 2

Flowchart of Unit Hand Off Process

Appendix A

Scripting for Patients and Families Regarding Hand Offs at the Bedside

- "We would like you to know that we value your input into your (your loved ones) plan of care while you are here with us. That is why we conduct our report at the change shift at the bedside."
- "We value your knowledge of your illness and want you to be actively involved in planning your care."
- "During report we ask that you listen as the nurses pass along important information about your care."
- "It is important to limit the number of distractions to the nurses while they are doing report so that they don't miss any important information about your care."
- "You will be given the opportunity to make any comments or ask questions, we ask that you wait until the nurses have finished sharing information unless you have an urgent need or question."

Appendix B

Wake Me Up For Report Card

□ **<u>YES</u>**, I want to be involved in bedside report! If I am sleeping, please wake me up when you are ready for report.

□ **<u>NO</u>**, Please do not wake me up if I am sleeping during report times. Please discuss my plan of care with me once I am awake.

Appendix C

Hand off Template

S Situation	• Patient Name • Patient Date of Birth/Age • Reason for admission/transfer • Code status
B Background	• Significant past medical history • Significant clinical events • Cultural issues/Language barriers • Isolation? • Interdisciplinary team: PT/OT, Speech, etc.

A
Assessment
	Significant vital signs
	Significant lab values
	Assessment by System:
	    • Neuro
	        ○ Mental status
	        ○ Changes from baseline
	    • Respiratory
	        ○ O2?
	        ○ Other devices?
	    • Cardiovascular
	        ○ Abnormal rhythms
	        ○ Monitoring
	    • GI/GU
	        ○ Diet
	        ○ Tube feedings/rate
	        ○ Foley
	        ○ Dialysis schedule
	    • Musculoskeletal
	        ○ Activity level
	        ○ Restrictions/assistive devices
	    • Skin
	        ○ Braden Score
	        ○ Wounds/dressings
	    • Psychosocial
	Pain:
	    • Level
	    • Scale used
	    • Pain medication given/last time?
	Tubes/Drains/Invasive lines
	IV Fluids:
	    • Line type/site
	    • Fluid/rate
	    • IV medications/drips
	Other:
	    • Fall risk
	    • Bed alarm
	    • Restraints

R Recommendation	• Planned procedures, labs, studies? • Anticipated discharge? • Top patient goal(s) for shift • Was plan of care discussed with patient/family? • Questions?

Appendix D

Staff Survey Results

1. What works well with the current hand off process?
   - provides a continuous timeline of care providers
   - Setting eyes on patient during bedside report
   - PCAs take vitals and HUCs answer call lights during hand off time so that RNs can focus all their attention on giving/getting report.
   - Charge RN's attempt to keep continuity of care (RNs receiving their patients back from the shift prior) and also attempt to do "assignment for assignment" so each RN isn't receiving report from 3-4 RNs.
   - history and problems

2. How often do you conduct report at the patient's bedside?

		Response Percent	Response Count
All of the time (100%)		12.5%	1
Most of the time (75-99%)		75.0%	6
Some of the time (< 75%)		12.5%	1
Never		0.0%	0
	answered question		8
	skipped question		0

3. What do you see as barriers to report at the bedside?
   - isolation, patient who constantly interrupt our conversations
   - Demented patients. Pts who are heard of hearing. Pts whose biggest complaint is being woken up. Pts who are confused/chatty - makes report longer.
   - Language, information that the pt may not know, inappropriate behaviors that have taken place, pt sleeping and not want to be bothered
   - Patient is sleeping, patient has visitors
   - RNs not wanting to do bedside report because it will take longer than doing it outside of the room (because patients and their family often ask questions).
   - Bizzarre pt behavior (i.e. psychosis, pain med seeking), judgmental attitude by nursing staff, pt sleeping, nothing to place report sheet on to write.
   - In the morning, patients want to be left alone (they are awakened at 3am for vitals, 4-5am for lab, 6 am for meds, etc.) or patients that are sleeping. In the evening, bedside report takes place more often.
   - patients don't want to hear the story over again and again when they don't feel well and would like to sleep

4. How often do you use the electronic SBAR hand off tool for end of shift report?

		Response Percent	Response Count
All of the time (100%)		0.0%	0
Most of the time (75-99%)		12.5%	1
Some of the time (<75%)		50.0%	4
Never		37.5%	3
	answered question		8
	skipped question		0

5. What do you see as barriers to using the Electronic SBAR hand off tool?
   - not enough time
   - Redundant to report. Takes up time. Accuracy of info?
   - not convenient
   - Too many other more essential tasks to complete
   - It seems like a waste of time to use the tool because few people actually look at it later in the day.
   - Lack of interest. I don't know of any nurse who reads that form at the beginning of their shift.
   - No one reads them.
   - we have a time line and NEED to get it done fast

6. How satisfied are you with the current report process?

		Response Percent	Response Count
Very satisfied		12.5%	1
Satisfied		62.5%	5
Neutral		25.0%	2
Unsatisfied		0.0%	0
Very unsatisfied		0.0%	0
	answered question		8
	skipped question		0

7. How relevant is the information you receive during report?

		Response Percent	Response Count
Very relevant		37.5%	3
Relevant		37.5%	3
Somewhat relevant		25.0%	2
Not at all relevant		0.0%	0
	If somewhat or not at all relevant please describe Show Responses		2
		answered question	8
		skipped question	0

- Sometimes people do not give accurate reports. Report should stick to the facts rather than saying things that have not been verified.
- everything I need to know is in the computer and I can look it up as I NEED to

8. How often are you interrupted during report?

		Response Percent	Response Count
All the time (100%)		12.5%	1
Some of the time (75-99%)		62.5%	5
Not very often (<75%)		25.0%	2
Never		0.0%	0
		answered question	8
		skipped question	0

9. What are the most common sources of interruptions? (choose all that apply)

		Response Percent	Response Count
Patients		87.5%	7
Equipment		62.5%	5
Physicians/Providers		50.0%	4
Staff		75.0%	6
Family members		37.5%	3
	Other (please specify) Hide Responses		2

Responses (2) | Text Analysis | My Categories (0)

GOLD FEATURE: Text Analysis allows you to view frequently used words and phrases, categorize responses and turn open-ended text into data you can really use. To use Text Analysis, upgrade to a GOLD or PLATINUM plan. [Learn More] [Upgrade »] ✕

Showing 2 text responses   No responses selected

call lights/bed alarms
2/16/2013 9:23 AM   View Responses

phone calls
2/14/2013 12:38 AM   View Responses

10. What do you think would help to improve the report process?
- to have time for report without interuptions.
- asking before bed if the patient would like us to wake them up for bedside report.
- PCA/HUCs answering lights
- A streamlined checklist
- Re-inforce the importance of bedside reports to RNs
- More dedication by nurses to do report in the room and then pass inforation that the pt should not hear after report outside the room.
- Nothing.
- have the check list up to date so we know whats been done and what needs to be done so when its time to discharge the patient you have everything done.

Appendix E

SWOT Analysis

Strengths	Weaknesses

• Report conducted at bedside
• Electronic SBAR tool
• Use of geographic assignments
• Limit to no more than 2 nurses to receive/give report
	• Report not conducted at bedside 100% of time
	• SBAR tool poorly utilized
	    o SBAR tool overwhelming
	    o SBAR tool redundant
	    o SBAR tool time-consuming
	• Inconsistent information given
	    o Too much information
	    o Don't "stick to the facts"
	    o Can't verify information with orders
	• Multiple interruptions
	    o Call lights
	    o Patients/families
	    o Other staff
	    o Physicians
	    o Phones
	    o Equipment alarms
	• Nurse begins to do other things during report (i.e. assessment, charting, etc.)

Opportunities	Threats

• Improve time spent at bedside
• Provide better education to families about bedside report on admission
• Create standard outline for report content
• Limit interruptions
	• Bedside report:
	    o patient asleep
	    o semi-private rooms
	    o 'troublesome' patient/family
	    o 'psych' issues
	    o Language barriers
	    o Multiple family members at bedside
	    o Patient hard of hearing
	• Time constraints
	• Patient interruptions
	• Change of shift admissions
	• Staff buy-in

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