STRUCTURED INTERDISCIPLINARY ROUNDS AND COMMUNICATION ON A GEOGRAPHIC MEDICAL UNIT: A PILOT STUDY

by

Holly Tillman Wahab

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Approved by:

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Dr. Meredith Troutman-Jordan

_____

Dr. Sharon Vincent

_____

Dr. Michael Ogle

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Dr. Amsalu Bizuneh

ABSTRACT

HOLLY TILLMAN WAHAB. Structured interdisciplinary rounds and communication on a geographic medical unit: a pilot study. (under the direction of DR. MEREDITH TROUTMAN-JORDAN)

Introduction

Effective, concise, and consistent communication is essential for safe, quality patient care. However, traditional models of physician rounding can result in gaps and delays in communication between team members involved in the patient's care. Structured Interdisciplinary Rounds (SIDR) aims to increase communication among team members by assembling the team together to discuss each patient and his or her plan of care. SIDR utilizes a checklist tool to keep the communication focused and concise.

Methods

The study design was an observational descriptive study utilizing a convenience sample of participants in SIDR rounds. A 2-part survey was distributed to SIDR participants. Part 1 contained questions on perceived communication between the healthcare team on the unit prior to implementation of SIDR. Part 2 asked about perceived communication after SIDR implementation. SIDR meetings were observed to describe the SIDR process, use of a SIDR communication tool and the observed communication that occurs between healthcare team members.

Results

Results indicated a significant change in perceived communication flow on the paired survey items before and after the implementation of SIDR for all survey participants who

completed party 1 and part 2 (n=22, p= 0.016). Observations revealed variable process and minimal use of SIDR communication tool.

Discussion

Implementing SIDR improved perceived communication among healthcare team members participating in rounds. Improving the SIDR process and ensuring use of the SIDR tool may further improve communication. These improvements could translate into improved quality of patient care, decreased length of stay, and enhanced team cohesiveness.

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CHAPTER 1: NATURE OF THE PROJECT

Introduction

Recent trends have been demonstrating that hospitalized patients are presenting with increasingly complex health issues. They are sicker, older; more complicated, and require multiple disciplines in health care including physicians, nurses, advance practice clinicians, physical therapists, and other ancillary services. In spite of this, interpersonal communication skills and teamwork have been historically underemphasized in professional training (O'Leary et al, 2011). According to the American Hospital Association, rising inpatient acuity has been reflected by an increase in Medicare beneficiaries with inpatient admissions that included an ICU stay. Medicare patients are also more likely to suffer from chronic disease such as heart disease, kidney disease, stroke, diabetes, and cancer, which along with the rising rate of obesity, has contributed to the increasing complexity of hospitalized patients (American Hospital Association, 2012). With so many people involved in the care of hospitalized patients, it is important that the care team communicate efficiently and in a timely manner. Effective and concise communication by the various healthcare providers is essential to the delivery of high quality, safe patient care. Improved communication has been associated with increased quality patient care, decreased length of stay due to addressing discharge needs earlier (O' Mahoney, Mazur, Charney, Wang, & Fine, 2007), and improved patient satisfaction (Townsend-Gervis, Cornell, & Vardaman, 2014), as well as prevention of adverse events (O'Leary et al, 2011). In contrast, communication failures have been found to be a

leading cause of adverse patient events (O'Leary, Sehgal, Terrell, & Williams, 2011). Current evidence indicates the integration of standardized tools and behaviors in the care process are needed to enhance safety in the progressively complex care environment (Lingard et al, 2005). These tools have included checklists and consistent communication procedures, such as utilizing SBAR (Situation, Background, Assessment, Recommendation) for relaying patient information (Cornell, Townsend-Gervis, Vardaman, & Yates, 2014). Interdisciplinary rounds, localization of physicians to a geographic unit, which is a hospital unit of similar patient diagnoses with all or the majority of patients assigned the same physician (O'Leary et al., 2009. Singh et al., 2012), and communication checklists are methods that have been utilized to enhance communication among the treatment team (O'Leary et al., 2011; O'Leary, et al., 2009).

Problem Statement

Effective, concise, and consistent communication is essential for safe, quality patient care. However, traditional models of physician rounding can result in gaps and delays in communication between team members involved in the patient's care, resulting in possible adverse patient events. In the hospital setting, physicians usually travel from one unit or patient to the next in unpredictable patterns, resulting in missed opportunities to share perspectives and coordinate care with nurses, discharge planning personnel, pharmacists, and therapists which almost certainly contributes to inter-professional silos and hierarchies, nonspecific care plans, and failure to initiate or intensify therapy when indicated (Stein et al., 2015). These issues are related to inadequate healthcare team communication. Structured Interdisciplinary Rounds (SIDR) aims to increase communication among team members by assembling the team together to discuss each

patient and his or her plan of care. SIDR utilizes a checklist tool to keep communication focused and concise. SIDR does not replace traditional physician rounding but is intended to increase healthcare team communication and address known communication gaps. Prior to SIDR implementation on the study hospital unit, the unit operated using the standard of care wherein patients on the unit were assigned to multiple physicians and physician rounding occurred at unpredictable times during the day. Communication between physicians and nurses, pharmacists, and case managers occurred on an individual basis and may consist of the physician being paged for information to be relayed or notes placed in the chart for other healthcare team members to review. This style of communication may lead to delays in patient care, miscommunication between disciplines, and decreased input from healthcare team members.

Purpose of Project

The purpose of this project was to describe and evaluate perceived healthcare team communication among team members following implementation of SIDR on an adult geographic medical unit.

Significance of Project

This project is significant as a pilot study, evaluating the effect implementing SIDR rounds has had on communication among healthcare team members in a specific hospital unit. Hospital administration and the hospitalist group supported the implementation of SIDR as it was felt that improving communication among team members would ultimately improve patient care on the unit, improve discharge times by addressing needs earlier, and improve patient satisfaction. By observing and describing communication that occurs during SIDR, inefficiencies and inconsistencies could be

identified informing improvement in the SIDR process, thereby improving the communication among healthcare team members. Increasing and enhancing communication may then lead to improvements in patient safety, increases in patient satisfaction, and decreased patient length of stay. SIDR was designed to efficiently cover specific aspects of patient care related to safety, quality, and discharge planning.

Clinical Question

Does implementing Structured Interdisciplinary Rounds (SIDR) on a geographic medical unit positively influence perceived communication among health care team members?

Project Objectives

The objectives of this project were to examine the effect of implementing SIDR on communication between healthcare team members.

1. Describe SIDR meeting communications observed during rounds.
    a. Who attends SIDR rounds?
    b. What content is discussed during SIDR rounds?
    c. What is the communication process during SIDR rounds?
    d. What are the barriers to communication during SIDR rounds?
2. Describe communication experiences over time as reported by SIDR team members.
    a. Describe how SIDR team members perceive communications in terms of flow, clarity, errors, and barriers through administration of a survey of healthcare team members who participated in SIDR.

b. Compare the effect of perceived communication among healthcare team members following the implementation of SIDR.

CHAPTER 2: LITERATURE REVIEW

A literature review was performed using the following search terms: interdisciplinary rounds, structured interdisciplinary rounds, SIDR, IDR, and healthcare communication in PubMed, CINAHL, Cochrane database, and Google. Scholar.

Several important and unique barriers to effective communication among healthcare professionals exist in medical hospital units: teams are large and formed in an ad hoc fashion and team membership tends to be dynamic and dispersed. Physicians, nurses, and pharmacists also work in shifts or rotations, resulting in team membership variability and instability. This leads to inconsistent and ineffective communication among team members (O'Leary et al, 2009; 2011). There have been many different approaches tried in the hospital to attempt to increase and enhance communication among healthcare team members.

Recent hospital trends have focused on increasing communication among the health care team to improve patient outcomes. Interdisciplinary rounds (IDR), also called multidisciplinary rounds (MDR), have been utilized as a means to assemble the patient care team and improve communication among team members on the patient's plan of care. Improving communication among multi-disciplinary clinical teams has been reported to reduce the rate of adverse medical events (O'Leary et al., 2011), improve collaboration and teamwork (O'Leary et al., 2014), help improve the focus and timeliness of communications on various units in an academic trauma center (Sen et al., 2009), and enhance timely information exchange and improve team cohesion (Lindgard et al., 2005).

These findings were reported in a variety of acute care hospital settings, including medical-surgical care units (O'Leary et al., 2011), various units in an academic trauma center (Sen et al., 2009), and in hospital operating rooms (Lingard et al., 2005).

Studies of multi-disciplinary clinical team communications have used early stage designs including retrospective records review (O'Leary et al., 2011), cross-sectional survey (O'Leary et al., 2011), cross-sectional observation (Sen et al., 2009) and pre-implementation qualitative interviews (Lingard et al., 2005). O'Leary et al. (2011) examined records of 370 randomly selected patients admitted to the interventional unit and control units (n=185 each) in the 24 weeks after and 185 records of patients admitted prior to the implementation of structured interdisciplinary rounds. The intervention included regular interdisciplinary meetings using the interdisciplinary rounds structured format. The authors found that SIDR significantly reduced the adjusted rate of adverse medical events per 100 patient-days with the rate of adverse events on the intervention unit at 3.9 events per 100 patient-days compared with 7.2 and 7.7 per 100 patient-days respectively for the concurrent and historic control units (O'Leary et al., 2011). The authors associated this reduction with improved communication facilitated by SIDR, as poor communication has been shown to be a major cause of adverse events (O'Leary, 2011). In a separate survey study, O'Leary et al., (2014) examined provider perspectives of the quality of communication and collaboration they experienced with other disciplines on a unit where SIDR was implemented. The investigators suggested the unit implementing SIDR had higher levels of collaboration and teamwork compared with the control unit and recommended further study to assess the effect of SIDR (O'Leary et al, 2014).

The communication content of daily multi-disciplinary discharge rounds was observed in seven patient care units in a trauma center for 23 consecutive days for content, time spent, and successful implementation of communicated plans (Sen et al., 2009). 1,769 patient-discussions were observed. Discussions were timed and their content coded. Implementation of communicated plans was assessed during sequential working days. Discussion content included clinical issues, complications, discharge plans, and care advancement. Short-duration, goal-focused communication facilitated implementation of 94% of the communicated plans and the majority of delays were related to system factors (Sen et al., 2009). The authors concluded that the short duration and goal-focused communication might contribute to sustainable multidisciplinary rounds. They also noted that the successful implementation of communicated plans discussed during MDR demonstrated the time was well spent (Sen et al., 2009).

Lingard et al. developed and implemented a prototype checklist and asked operating room team members to implement this tool prior to 18 surgical procedures. A research assistant prompted the checklist discussions and trained observers recorded field notes. Eleven brief feedback interviews were conducted. The communication of the operating teams was felt to be enhanced by the use of this structured tool to provide case information, confirm details, articulate concerns, and support team building, education and decision-making (Lindgard et al., 2005). The feasibility of this checklist to promote team member communications in the operating room was found to promote information exchange and team cohesion (Lingard et al, 2005). One limitation found was the variability in team members' preoperative workflow patterns, which made it difficult for all team members to be present at the checklist discussions (Lingard et al., 2005).

These communication tools may also have a role outside the operating room. Research indicates that process-oriented tools used during multi-disciplinary healthcare rounds also serve to improve communication (Gurses & Xiao, 2006). Process-oriented tools have been created by care providers to organize clinical information before rounds and have been used to support consistent communication through efficient information sharing during rounds (Thompson, Jacob, Fulton, & McGavin, 2004; Young, Horseley, & McKenna, 2000). These communication tools have often included the patient's active diagnosis, test results, care plan, and any discharge issues.

Interdisciplinary rounds were implemented and studied over a nine-month period on three medical-surgical units in an acute care hospital utilizing an SBAR communication protocol. Four patient review conditions were observed across three medical-surgical units: baseline, daily interdisciplinary rounds, paper SBAR, and electronic SBAR, which was interdisciplinary rounds and SBAR. Review time (seconds), tools used, location, and field notes were recorded for 960 patient reviews. The authors found the time required for interdisciplinary teams to review patients was significantly shorter with interdisciplinary rounds, decreasing from 102 seconds to 69 seconds, but using SBAR did not reduce times further. Overall the study concluded that interdisciplinary rounds and SBAR provided structure, consistency, and familiarity, which resulted in improved situation awareness (Cornell, Townsend-Gervis, & Vardaman, 2014).

In summary, evidence is emerging in support of the use of SIDR to enhance multidisciplinary clinical team communication. While a limited amount of evidence applies to the medical unit setting, multidisciplinary input indicates there were strategic

support, hospital management support, and multidisciplinary clinical provider support to examine implementation of SIDR on a medical unit and its effect on communication in a local urban hospital.

Conceptual/Theoretical Framework

Evidence based-practice is an approach to clinical practice based on the principal that decisions in practice should be based on research evidence that leads to best practice. Healthcare providers critically assess and utilize the highest level and strongest evidence to achieve optimal outcomes for their patients (Melnyk, & Fineout-Overholt, 2011).

This project utilized the Plan-Do-Study-Act (PDSA) model. This model is part of the Institute for Healthcare Improvement Model for Improvement. Originally it was called the Shewhart Cycle and later was also referred to as the Deming Cycle after W. Edwards Deming, who utilized the PDSA Model and brought it the masses (Best & Neuhauser, 2006). The cycle is used to make changes that lead to improvement in a manner of continuous quality improvement. It is considered a never-ending process of evaluation and re-evaluation. The ultimate goal was to reduce variation and improve quality. This model consists of four stages:

Plan the change to be implemented.

Do carry out planned test or change.

Study the data before and after the change. Reflect on what was learned.

Act to plan the next change cycle or full implementation of the change.

This model fits well for the utilization of the SIDR approach to communication on a geographic medical unit as PDSA creates a framework for continued evaluation and improvement of the process of interest.

The planning stage of this project involved planning the change to be implemented. This included reviewing the evidence, meeting with stakeholders, educating staff on the SIDR tool, communicating the SIDR meeting format, and communicating team member expectations. During the planning phase, it was important to educate staff on the purpose of SIDR in improving communication and establishing staff buy-in to ensure success. Meeting times, required attendees, and meeting format were established.

The doing phase involved carrying out the planned change. Activities during this phase included creation and implementation of the SIDR tool, implementing SIDR meetings three times per week, meeting quarterly with stakeholders, and revising the SIDR tool as needed based on stakeholder and participant feedback. During the doing phase, SIDR was adjusted to fit the needs of the medical unit and the attendees.

The studying phase in this project involved observing the SIDR meetings and taking notes on the SIDR communication process, identifying barriers to communication, documenting attendees, and observing the actual time SIDR takes to complete. The studying phase also included surveying SIDR attendees on their perception of communication since the implementation of the SIDR meetings.

The acting phase for this project involved planning the next change cycle, which would include making further changes to the SIDR process and/or implementing SIDR

on other medical units. This would also include identifying issues with the current SIDR process and improving it.

The goal of applying the PDSA model to SIDR was to establish a framework for effecting and evaluating change on the medical unit. This model allowed for almost constant evaluation and improvement in the process prior to expanding the change to other units or settings. The PDSA model also provides a framework for continued improvement of the SIDR process. It is an extremely valuable tool for planning, implementing, and evaluating quality improvement initiatives in the hospital setting.

CHAPTER 3: PROJECT DESIGN

This project was designed to examine communication between healthcare team members following implementation of SIDR on an adult geographic medical unit. Structured Interdisciplinary Rounds were implemented on a geographic adult medical unit with predominately renal and gastroenterology related diagnoses in January of 2014. The study was an observational descriptive study, which consisted of a convenience sample of healthcare providers who participated in SIDR rounds. Pre-SIDR planning meetings were held with participants including hospitalist medical director, hospitalist clinical lead, nursing administrator, nursing unit manger, hospitalist nurses, pharmacy manager, unit pharmacist, and unit case management. These meetings were instrumental in designing the SIDR process and determining implementation date, follow up meetings, and required attendees. The SIDR meetings were scheduled three times per week (Monday, Wednesday, and Friday) to coincide with the hospitalist schedule. SIDR meetings were held in a private break room at 10:00 a.m. to preserve patient privacy and minimize interruptions. The required attendees included the attending physicians for the unit, charge nurse/unit nurse manager, case manager, unit pharmacist, and bedside nurses. The physician predominately led the rounds. Each bedside nurse in turn, presented his or her patients one at a time, ideally utilizing the SIDR communication tool as a guide to ensure required information was discussed. The SIDR communication tool was created in collaboration between the hospitalist clinical lead, DNP student, and SIDR committee members by reviewing the literature for communication tools used in hospital settings for

structure and content. The SIDR communication tool consisted of a 1-page checklist used as a guideline for patient presentations (Appendix D). By the end of SIDR, each patient's plan of care should have been clearly communicated and agreed upon by the healthcare team. The SIDR communication tool was designed to keep the communication clear, concise, and focused, with discussion contained to less than 1 hour for the average of 15 to 17 patients.

Methodology

This study design was an observational descriptive study utilizing a convenience sample of health care provider participants in SIDR rounds. Because the SIDR rounds were implemented before the study began, a retrospective survey was conducted as part of the participant survey. Part 1 of the survey asked questions on perceived communication between the healthcare team on the unit prior to implementation of SIDR. Part 2 of the survey asked about perceived communication after SIDR implementation. The survey included questions on perceived communication between healthcare members and the perceived effect of implementing SIDR on the perceived communication and patient quality of care as well as patient and family satisfaction. The surveys were administered at the same time to participants as a front and back document. SIDR meetings were observed by the DNP student to describe the SIDR process, use of SIDR communication tool and the observed communication that occurs between healthcare team members.

Subjects

Participation was voluntary and participants consisted of doctors, nurses, case managers, and other health care team members participating in SIDR rounds on the study

unit. The sample was a convenience sample of 31 clinicians of multiple disciplines who participated in SIDR rounds on the geographic medical unit during fall and winter of 2015. These individuals were observed during SIDR meetings and invited to complete the SIDR survey.

Setting

The project setting was an adult geographic medical unit with predominately renal or gastroenterology related diagnoses in a large urban hospital in the southeastern US. This unit would be considered a lower acuity as it is not an intensive care unit or intermediate care unit. The study was conducted during the fall/winter.

Tools/Measures

Structured Observations: A structured observation tool was created and utilized by the DNP student to collect data on communication that occurred during SIDR on the study unit. The observation tool was created in collaboration between the DNP student and an experienced researcher from the student's DNP program. The observation tool was created to answer questions on how communication occurs during SIDR rounds. Observation is a systematic data collection process where investigators use their qualitative research skills to examine people and processes. The tool was designed to assist the DNP student and provide structure to the observations. The SIDR observation log was used to collect information about the date/time of rounds, main diagnoses of patients discussed during the rounds, start and end time of rounds, disciplines attending, number of patients presented, use of SIDR tool, and observations on meeting flow and communication between team members. Barriers and facilitators to meeting attendance were documented, if applicable.

SIDR Communication Surveys: An adapted SBAR (Situation, Background, Assessment, Recommendations) Assessment Survey (Sears, Lewis, Craddock, Flower, & Bovie, 2014), a paper and pencil survey was used to collect information regarding SIDR communications. The SBAR assessment survey was originally designed by the Toronto Rehab Hospital and was used by Sears et al. to measure communication improvement after implementing SBAR in an acute care setting. With permission from the author, minor revisions were made to the instrument for use in assessing communication changes after implementing SIDR. (Appendix E). The survey contains 2 parts. Part 1 asked the participant to answer questions on their perception of communication on the study unit prior to the implementation of SIDR. Part 2 asked questions on their perception of communication following SIDR implementation. The survey also collected data on participant's age, years in healthcare, and job title. The surveys contained 10 items assessing and evaluating communications on a 5-point scale (strongly disagree to strongly agree and not at all to significantly) as well as write in answers (Appendix C).

Intervention and Data Collection

The project intervention was the implementation of SIDR on the study unit in January 2014,which was aimed to improve communication among team members, decrease discharge delays, and improve patient satisfaction. A SIDR communication tool was created to focus the communication during the rounds. Data collection occurred for 12 weeks during the fall and winter of 2015. Data collection consisted of observations of SIDR meetings and an anonymous survey distributed to the healthcare team members who participated in SIDR. The survey was made available during the SIDR meetings for participants to complete. The survey was also made available to the hospitalist

physicians in their practice office. The DNP student personally observed the SIDR meetings using the SIDR observation log as a guide for field notes.

Project Analysis

IRB approval was obtained from the hospital IRB where the study took place as well as UNC Charlotte IRB. Informed consent was designed by the hospital IRB and attached to each participant's survey (Appendix E). Surveys were made available during observed SIDR meetings and participation was voluntary. Surveys were also made available in the hospitalist office and were voluntary. Three questions on part 1 of the survey (pre-SIDR implementation) were matched with three similar questions on part 2 of the survey (post-SIDR implementation) for analysis. Using SPSS, a paired T-test was performed for all participants who completed part 1 and part 2 of the SIDR survey (n=22). A nonparametric Wilcoxon analysis was performed for MDs, RNs, and other job titles due to the small sample size and non-normal sample distribution. SIDR meeting observations were analyzed to describe the SIDR communication process and recurring write-in comments were categorized.

The fiscal implications of implementing SIDR potentially could be significant as it does not cost additional dollars or require additional staff for SIDR to occur. Previous studies have demonstrated a decrease in adverse patient events (O'Leary et al, 2011), Foley catheter removal compliance and decrease in readmissions (Townsend-Gervis et al, 2014), and decreasing patient length of stay (O'Mahony et al, 2007). Each of these improvements has the potential to reduce healthcare costs to both the acute care facility and the patient.

CHAPTER 4: PROJECT FINDINGS

The study sample consisted of 31 surveys. Of those, 22 surveys had completed part 1 and part 2 indicating the participant had been in the same position on the study unit before and after implementation of SIDR. The sample consisted of physicians, nurses, pharmacists, dieticians, and case managers. (see Appendix A, Table 1). The overall mean age was 39.7(SD) and mean years in healthcare were 12.8(SD).

A paired *t-test* was conducting on the three questions in part 1 that were paired with three similar questions in part 2 and analyzed for significant change. Results indicated a significant improvement in perceived communication flow on the paired items before and after the implementation of SIDR for all participants (p=0.016). (see Appendix A, Table 2). Due to small sample size, and non-normal sample distribution, Wilcoxon Signed Ranking Test was performed on the subgroups of physicians (Z= 0.981, p=0.327), nurses (Z=-2.060, p=0.039), and other (Z=-1.826, p=0.068). The physician group showed improvement in perceived communication following SIDR implementation (average rank 4.5 vs. average rank 6.17) though it was not statistically significant (see Appendix A, Table 3). The nurse group also showed improvement in perceived communication following implementation of SIDR (average rank 0.00 vs. average rank 3.0) and was significant with a p-value of 0.039 (see Appendix A, Table 4). The "other" subgroup included pharmacists, case management, and dieticians also showed improvement in perceived communication following SIDR implementation (average rank 0.00 vs. 2.50) nearing significance with a p-value of 0.068 (see Appendix

A, Table 5). Part 1 of the SIDR survey also included a write in question inquiring the perceived challenges of implementing SIDR. Answers by most to least were: inconsistency between physicians (10), time constraints (10), appropriate people attending (6), not using SIDR form (1), staff buy in (1), logistics of getting everyone together (1), unit process changes (1), and does not directly include patient (1),

SIDR meetings were observed directly by the DNP student over a 12-week period to document communication and observe meeting flow. Nine SIDR meetings were observed for a total of 205 patient observations. The meetings ranged from 35 minutes to 88 minutes with average meeting time of 62 minutes. Meeting style varied by physician from conversational to question and answer format. Meetings were informal and stayed on topic for the majority of meetings. The SIDR form was used 28 times (13.6%) to guide patient discussion content either by the nurse or physician.

Discussion of Results

Survey results indicate that implementing SIDR has improved perceived communication among healthcare team members who participated in SIDR. This improvement was significant for all participants analyzed together as well as the RN group. The "other" group consisted of pharmacists, dieticians, and case management was nearing significance. This improvement in communication may reflect that prior to implementation of SIDR, pharmacists and dieticians were not included routinely in patient care discussions and did not have much interaction directly with the attending physician. If they had a question or issue they would have to page the physician and await a call back or place a note in the electronic medical record and wait for it to be read. The same situation existed for case managers. By bringing the multiple disciplines

involved in the patient's care together, updates and collaboration can occur in real time, face-to-face with opportunity to collaborate and clarify plan of care. This reduces miscommunication, delayed communication, or missed communication. This improvement in communication may translate into improved quality of patient care, decreased discharge delays, reduced patient length of stay, and increased patient and family satisfaction. The SIDR meetings may also foster a more cohesive healthcare team and increase familiarity among team members, possibly reducing or eliminating barriers to effective communication.

A recurrent theme in the survey write in answers was the lack of consistency and time constraints as barriers to the SIDR process. When implemented, SIDR was structured to ensure quick flow between patient presentations and make efficient use of the time. The SIDR communication tool was designed to focus patient data to safety, quality, and discharge issues. This communication tool was intended to keep patient discussions brief and focused. In observing the meetings, the SIDR communication tool was infrequently used, resulting in tangential conversations and incomplete data collection. Even though SIDR had been in place on the unit for almost a year at the time of the observations, it is unclear if the process has been examined or re-evaluated until this study. In following the PDSA model, improvement to the process should be made including re-training participants in meeting format and the importance of utilizing the SIDR communication tool with plan in place for regular re-evaluation.

This study had several limitations. The study was conducted on a medical unit consisting of adult non-ICU and non- intermediate care patients, which may limit generalizability to other units, more critically ill patients or a pediatric population. The

sample size was small and predominantly made up of physicians and nurses. The SIDR communication tool was inconsistently used making it difficult to measure its contribution to the effect in perceived communication. The SIDR Communication Survey was adapted for use in this study from a survey originally used to evaluate SBAR as a communication tool and not previously used in this capacity. This survey also did not utilize the exact same wording in pre- and post-questions, therefore questions were matched for content for analysis. Part 1 of the survey was retrospective, asking participants to recall communication on the study unit prior to implementation to SIDR approximately one year earlier. This introduced the possibility of recall bias. Future study should include a larger sample size, varied patient population, and matched pre-and post-test questions.

CHAPTER 5: DISCUSSION

Implications

Implementing SIDR three times weekly on the study unit resulted in a perceived increase in communication among healthcare team members who attended the meetings. This increase in communication may translate into increased quality of patient care, decreased adverse events, improved teamwork and collaboration, and decreased patient length of stay. This method of communication is cost effective, as it does not require additional staff members or staff hours and is easily implemented in the hospital setting.

SIDR may be effective in different settings to improve communication such as pediatric hospital units or ICU settings. Conceivably, SIDR may be useful in outpatient settings such as long or short-term rehab or skilled nursing facilities where multiple disciplines are involved in the patient's care. Other geographic hospital units may find SIDR useful in improving communication between healthcare team members such as oncology/hematology units, neurology, and cardiac care. The patients admitted to theses units also tend to be complex, requiring multiple team members from different disciplines involved in their care.

Summary

This small pilot study showed SIDR positively impacted communication on an adult geographic medical unit based on participant surveys. SIDR observations indicated the SIDR process was consistent in format, though meeting length varied between physicians. The SIDR communication tool was infrequently utilized to focus patient

discussion and likely would improve the quality of the meeting content if utilized as designed.

Recommendations

In order to maintain the perceived positive effect SIDR has had on communication, SIDR meetings need to consistently continue three times weekly. Emphasis should be placed on being prepared for SIDR and utilizing the communication tool to focus the patient discussions during SIDR. Feedback should be obtained from participants on a regular basis in order to improve the SIDR process. SIDR should also be evaluated at regular intervals through observation and meetings with stakeholders to ensure the process is being executed as designed. Re-training should be conducted as needed. Most of all, new physicians, nurses, and other healthcare team members should be oriented to SIDR in an effort to further cement it as a culture change. The culture change is essential to sustaining SIDR as a permanent communication process on the study unit. It is also important for healthcare team members to understand why SIDR is important as a communication process. Not only does SIDR improve perceived healthcare team member communication, this improvement may decrease adverse patient events and improve overall patient care. Unit morale may also be improved as each healthcare team member is valued and their input is respected at the SIDR meetings. Patient care then becomes a more collaborative process between everyone involved.

There were several important lessons learned during this implementation process for future SIDR implementation projects. During the planning phase, pre-SIDR meetings were held to create the communication tool, design meeting format, and create a timeline for implementation. The meetings were attended by nursing managers, pharmacy

managers, hospitalist leadership, and administration. Plans were then communicated to the units and physicians at their scheduled unit or team meetings. In retrospect, more input could have been solicited from the hospitalist physicians, as they were instrumental in leading the meetings and effecting the SIDR culture change. The communication tool, a paper document, expected to be completed and used to guide information exchange during SIDR. This could be perceived as extra work by the nursing staff, creating resentment and lack of buy in. The SIDR form could potentially be placed in the SIDR meeting room and used as a guide for discussion without requiring an extra form to be filled out. Re-evaluation of the process at regular intervals would also be essential to successful SIDR implementation. This would include meeting observations and feedback from participants including suggestions on how to improve the process. The healthcare team should feel a part of the SIDR process rather than feel as if the change were being dictated to them.

Communication is an issue in healthcare that will likely continue to be a focus. As more facilities transition to electronic medical records, there is potential to have reduced in-person communication between the members of the healthcare team. Physicians no longer need to physically go to a unit to "write orders" in the chart as this can now be done remotely by computer. This reduces opportunities for patient discussion between the healthcare members that may have previously occurred. Nurses or other disciplines may be hesitant to call the physician over what they perceive as a simple question or to offer an idea or suggestion on their patient's plan of care. SIDR creates the opportunity for this collaboration, ideally encouraging questions and suggestions.

Further SIDR studies could include larger sample size, additional required SIDR attendees such as physical therapy or consulting physicians, different patient populations, and healthcare settings. SIDR's effect on quality measures such as falls, infection rates, length of stay, Foley catheter removal compliance and VTE (venous thromboembolism) prevention compliance, and patient satisfaction could also be considered for future study.

Improving communication in the hospital setting has the potential to improve patient outcomes and decrease length of stay. This may result in decreased costs to both patients and facilities implementing SIDR.

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APPENDIX A: TABLES

Table 1: Description of sample

Job Title	Frequency	Percent
MD	14	41.9
RN	11	35.5
Dietician	2	6.5
Case manager	2	6.5
Pharmacist	2	6.5
Total	31	100

Table 2: Paired sample test pre- and post SIDR intervention survey results. All participants. 95% Confidence Interval.

	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	*t*	*df*	Sig. (2-tailed)
Post SIDR N=22	-2.364	4.226	0.901	-4.238	-0.490	-2.623	21	0.016

Table 3: Wilcoxon Signed Ranks Test for MDs
a. post-SIDR<pre-SIDR b. post-SIDR>pre-SIDR c. post-SIDR=pre-SIDR

		N	Mean Rank	Sum of Ranks	*Z*	Asymp. Sig. (2-tailed)
MDs	Neg ranks Pos ranks Ties Total	4a 6b 2c 12 14	4.5 6.17	18.00 37.00	-0.981b	0.327

Table 4: Wilcoxon Signed Ranks Test for RNs
a. post-SIDR<pre-SIDR b. post-SIDR>pre-SIDR c. post-SIDR=pre-SIDR

		N	Mean Rank	Sum of Rank	*Z*	Asymp. Sig. (2-tailed)
RNs	Neg Rank Pos Rank Ties Total	0a 5b 1c 6	.00 3.00	.00 15.00	-2.060b	0.039

Table 5: Wilcoxon Signed Rank Test for Other: pharmacist, case management, dieticians.
a. post-SIDR<pre-SIDR b. post-SIDR>pre-SIDR c. post-SIDR=pre-SIDR

		N	Mean Rank	Sum of Rank	Z	Asymp. Sig. (2-tailed)
Other	Neg Rank Pos Rank Ties Total	0a 4b 0c 4	0.00 2.50	0.00 10.00	-1.826b	0.068

APPENDIX B: SIDR COMMUNICATION SURVEY

Part 1

Did you work in your current position prior to the implementation of SIDR? Yes No

If Yes, continue. If No, please proceed to part 2.

Think back to before SIDR was implemented on your unit and answer the following questions:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
1. Good communication flow exists between members of your function or discipline.						
2. Good communication flow exists between members of the interdisciplinary team or other functions.						
3. Good communication flow exists between the health care team and patients and families.						

SIDR Questions

4. Are you familiar with SIDR? Yes No

If Yes, please complete the remainder of the survey. If No, proceed to Part 2 of the survey.

5. SIDR will work on your unit?

Strongly Disagree Disagree Neutral Agree Strongly Agree Not Applicable

6. What do you perceive are the challenges of implementing SIDR?

7. If SIDR were implemented on you unit, would you use it? Yes No

Part 2

Have you participated in SIDR within the last 30 days? Yes No If Yes, how many times?

Once 2-5 6-9 10 or greater

	Not at all	Slightly	Moderately	Very Much	Significantly
1. Do you believe there is a reduction in the potential of errors in communication now that SIDR has been implemented?					
2. Do feel the SIDR process is useful in facilitating your communication with other team members?					
3. Do you feel communication flow between members of your area or discipline has improved since implementation of SIDR?					
4. Do you feel communication flow between you and your colleagues has improved since the implementation of SIDR?					
5. How satisfied are you that when using SIDR your message is received and understood?					
6. Good communication flow has helped improve the quality of patient care?					
7. Good communication flow has helped improve patient and family satisfaction?					

Demographic questions

1. How many years have you worked in healthcare? _____ years

2. What is your age? _____ years

3. What is your job title? _____

3. What is your highest education level?

High school Associates degree Bachelors degree Masters degree Doctoral

Thank you for completing the survey!

APPENDIX C: SIDR OBSERVATION TOOL

Date _____

Day of the Week_____

SIDR Start Time _____

SIDR End Time_____

Number of Patients covered during the SIDR event_____

Which disciplines present:

Patient	Main Dx	MD	RN	Case Management	Pharmacy	Other	SIDR Tool	Notes
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

Communications-who provides information and how (SIDR tool and who fills it out in preparation for the SIDR event) who leads the discussion, who participates in discussion?

Barriers and facilitators are those things that hinder or help disciplines to conduct / participate in SIDR events:

1. Barriers to attendance/ participation (Note types of barriers that are discussed in the meeting)
2. Facilitators (what things help them participate?) e.g., Incentives-metrics for physician bonus= points for attending.

APPENDIX D: SIDR COMMUNICATION TOOL

NICS Structured Inter-Disciplinary Rounds (SIDR)

Situation

Patient Name _____ DOB _____ Room # _____

Admitted Diagnosis _____

Code Status_____ HCPOA _____

Background

Pertinent History:

_____

_____

_____

Core Measures: CHF ( ) MI ( ) Stroke ( ) Pneumonia ( ) Pneumovax ( ) Influenza ( )

Assessment
(Circle areas requiring recommendations)

Wednesday	Friday	Monday
Pain	Pain	Pain
VTE	VTE	VTE
PT/OT	PT/OT	PT/OT
Palliative/Hospice	Palliative/Hospice	Palliative/Hospice
Wound Care	Wound Care	Wound Care
Flu Vaccine	Flu Vaccine	Flu Vaccine
PNA Vaccine	PNA Vaccine	PNA Vaccine
IV/PICC	IV/PICC	IV/PICC
IV Fluids	IV Fluids	IV Fluids
Eating / Drinking	Eating / Drinking	Eating / Drinking
Restraints	Restraints	Restraints
Foley	Foley	Foley
Telemetry	Telemetry	Telemetry
UOP	UOP	UOP
Sitter	Sitter	Sitter
Patient Satisfaction	Patient Satisfaction	Patient Satisfaction
Labs/Cultures	Labs/Cultures	Labs/Cultures
Pharmacy	Pharmacy	Pharmacy

Recommendation

Wednesday	Friday	Monday

Questions

Anticipated D/C Dates: _____ Co-Rounding Request: _____

Updated 1/26/15

APPENDIX E: INFORMED CONSENT

Dear Participant,

You are being asked to take part in a research study. The purpose of this study is to observe and describe SIDR communication and its perceived effect on communication. The study is being completed by Holly Wahab, NP. You have been asked to be in this study because you are participating in SIDR meetings. Participants in this study will be asked to fill out two surveys to determine their perception of communication before and after SIDR implementation. Your completion of the surveys shows that you are consenting to the research. If you agree to participate your responses will be kept confidential. Please do not write your name or other identifying information on the survey. You may skip any questions you do not wish to answer and may stop the survey at any time without penalty. The results of the survey will be used to determine the opinion of SIDR participants on its effect on communication since implementation.

There are no identified risks involved in completing the surveys.

There are no direct benefits to the participant for completing the surveys.

There is no cost to you for completing the surveys.

There is no compensation for completing the surveys.

Results of the study will be kept for 6 years. Only the investigator will have access to the surveys. Results from the survey will be shared in a formal paper that will be available for view upon your request. By completing the survey, you are agreeing that all of your questions concerning this study have been answered.

If you have questions about this study right now, please ask them. If you have questions later on, please contact Holly Wahab, NP at htwahab@novanthealth.org. If you have questions or complaints about your rights as a research participant, call the Vickie Zimmer with the Presbyterian Healthcare IRB at 704-384-8898 .You may also ask questions, make a suggestion, or file complaints and concerns through the IRB at Novant Health PMC.

Thank you for your time.

Holly Wahab, NP
200 Hawthorne Ln.
Charlotte, NC 28204
htwahab@novanthealth.org