Implementation of a Standardized Shift to Shift Report tool on an Inpatient Medical / Surgical

Unit

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Abstract

Ineffective communication is one of the main causes of medical errors and sentinel events in healthcare settings. Effective communication is pivotal in providing safe patient care and enhancing positive outcome. Nurses who disseminate critical information must concisely communicate patient's pertinent clinical information. The situation, background, assessment, recommendation (SBAR) tool is an evidence-based tool recommended by healthcare regulatory bodies and professional organizations to help nurses organize patient information for change of shift handoff report. The objective of this quality improvement project was to conduct training, implement the SBAR tool and observe nursing staff compliance to the utilization of the SBAR tool. The project discovered that training and implementation of the SBAR tool provided a solution to the lack of standardized evidence-based reporting at the project site. The project tools included educational materials and the adherence observational assessment form. The registered nurse participants' overall adherence rate was 94.5% after the educational training and implementation of the SBAR tool. The project demonstrated the importance of training the registered nurses in SBAR tool and its adherence as a culture change at the project site. It fosters effective communication during change of shift handoffs.

Key words: Nursing, SBAR, Handoff, Communication, Standardized tool, Adherence

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Background

The fast paced world of healthcare demands effective and efficient communication (Eberhardt, 2014). Good communication skills are crucial for nurses who, day in day out, disseminate critical information to each other and other healthcare professionals; therefore patient handoff should be done diligently using a standardized evidence based tool to ensure patient safety and quality of care. Shift handoffs between the outgoing and incoming nurses must include pertinent information about a patient's clinical status and must be well communicated. The Joint Commission (TJC) has advocated for more effective communication in hospital settings to increase patient safety and quality of care (Trossman, 2019). TJC defined standardized handoff communication as a process in which information about patient care is communicated in a consistent manner from one health care provider to another (Trossman, 2019). Handoffs are an integral part of clinical practice. Numerous studies suggest that handoffs are plagued by communication failures that ultimately lead to patient harm (Arora & Farnan, 2019). Hospitalized patients are often passed between nurses an average of 42 times on any given week (Arora & Farnan, 2019). Poor handoffs lead to uncertainty during clinical decision making, which then lead to potential harm, unsafe discharge, and poor health outcomes. Poor handoffs are not cost effective (Ofori-Attah et al., 2015). Medical errors does not necessarily lead to death, but may cause an injury or disability which prolong the length of stay, and is devastating to patient and costly to the institution. According to Ofori-Attah et al. (2015), the use of the evidenced based handoff tool situation, background, assessment and recommendation (SBAR) can streamline report significantly. On one 34 bed medical/surgical unit with 55 nurses, the use of SBAR as their bedside report tool from shift to shift decreased report time from 40 minutes to 10 minutes, and the institution saved $8,000 in 2 months due to reduction in overtime.

The use of standardized language during handoff helps to ensure transmission of consistent information and allows for questioning. Nurses are in the central role of providing care and they must play a critical part in improving communication (Cornell, Gervis, Yates, & Vardaman, 2014). Handoff errors are a leading source of up to 70% of serious errors and sentinel events in hospitals (Starmer et al., 2017). TJC estimates 65% of sentinel events such as falls, medication errors, wrong site wrong patient surgical procedures are the result of communication breakdowns, other sentinel events are due to organizational hierarchy, power, training, and status such as seen between nurses and physicians (Cornell et al., 2014).

Problem Statement

The project site does not have a structured standardized shift to shift process for nursing in place and not providing pertinent information from shift to shift. Traditionally, change of shift report occur in the nurses' station, or in the hallway as the outgoing nurse is leaving and the incoming nurse is coming in. Each of the nurses have a different style of giving report. Utilizing a standardized process such as bedside reporting and huddling with an evidenced based tool (SBAR) will improve communication, prevent sentinel events and ultimately lead to positive patient outcomes. The current reporting process used at the project site is not consistent and potentially predisposes to sentinel events and compromises safety. TJC National Patient Safety Goals issued in 2019 require healthcare institutions to implement a standardized approach to handoff communications (Panesar et al., 2016). The SBAR technique is a standardized, structured, concise and organized method to share pertinent information and communicate (Callaway et al., 2018).

Purpose Statement

The purpose of this DNP project is to implement a standardized process for nurses to conduct patient handoff from shift to shift on an inpatient unit to improve communication, reduce sentinel events, and enhance patient safety and outcome. This project will utilize a quality improvement (QI) approach. A QI project is a systemic approach to improving performance which is essential when attempting to improve safety, efficiency and outcomes (Renz et al., 2015). QI initiatives attempt to improve areas of the system perceived to be less than the optimum standard needed to provide quality care. The theoretical framework will be the Deming's PDSA cycle which is applicable to the current nursing practice supporting safe, timely, effective, efficient, equitable and cost effective delivery of care (Reed & Card, 2016). The model speeds up the proposed change allowing the nurses to realize quality improvement goals more efficiently. Hence the QI project is appropriate. SBAR is an evidenced based communication process used in healthcare organizations because it provides a structured format that helps to organize thoughts and communicate pertinent information concisely among the healthcare team (Panesar et al., 2016).

Project Question

The DNP project question is: Will training on and implementing a standardized process of shift to shift handoff and monitoring staff compliance with the use of SBAR tool improve change of shift communication?

The picot format: population, intervention, comparison, outcomes, and timeframe will be used to lay the groundwork for the project (Bemker & Schreiner, 2016). The question that will be answered by this project is: will a procedural process (I) implementation and compliance with a standardized communication tool help to improve shift to shift handoff on an inpatient medical/surgical unit within the project's postulated timeline?

(C) compared to individually developed shift report forms (O) in an inpatient unit (P) over the 4-6 week implementation and evaluation of the outcomes (T).

Project Objectives

Given the timeframe of the DNP project the objectives are:

1. Implement a standardized shift to shift report tool

2. Educate nurses at the project site inpatient medical surgical unit on the standardized shift to shift report tool

3. To ensure 80% minimum staff compliance with the use of the standardized shift report SBAR tool by conducting observational audits of staff compliance (See Appendix E).

Significance

TJC, the Institute of Medicine (IOM) and many more organizations estimated that about 80% of all hospital adverse events are due to poor communication, involving ineffective patient handoff reports that failed to disseminate pertinent patient information (Callaway et al., 2018). According to the Inspector General's Office, Health and Human Services Department, between 210,000 and 440,000 patients who go to the hospital each year suffer some kind of preventable death due to ineffective, inefficient communication among the health care workers. This makes medical errors the third leading cause of death behind heart disease and cancer (Ofori-Attah et al., 2015). A preventable error can result in death, injury or disability which is devastating to the patient and costly to the institution (Ofori-Attah et al., 2015). The nurse is responsible for the change of shift communication which must be structured, concise and consistent. Nurses need to understand that effective, efficient change of shift report improves quality of care, increases patient safety and increases accountability.

Search Terms

A literature review was initiated to utilize resources for the topic area. The key words used were "shift to shift handoffs in nursing", "communication from shift to shift", "shift to shift report", "handoff protocol" "huddling from shift to shift", and "standardized handoff tools". Inclusion criteria were scholarly journals, peer reviewed, English language, and worldwide articles within the past five years. Exclusion criteria were non-scholarly journals, non-peer reviewed journals, non-English language and articles more than five years old. Databases searched included: CINAHL Plus with Full text, PubMed@TUN, UpTodate Anywhere, Cochrane Library, Ovid, and ProQuest. The search resulted in over 1,000 articles returned. After reviewing the results, there were 16 selected peer reviewed journal articles that were utilized as sources for the DNP project.

Review of Literature

Effective communication is crucial to safe and effective patient care (Reisenberg, Leitzsch & Little, 2019). Bedside handoffs among healthcare providers have been shown to facilitate communication of pertinent information between nurses which optimizes healthcare and outcomes (Callaway et al., 2018). Lack of a standardized shift report can jeopardize the healthcare outcome of patients. TJC Center for Transforming Health Care estimated that 80% of serious medical errors or sentinel events involve ineffective patient handoff reports which do not transmit pertinent information and recommended the use of standardized, structured patient handoffs (Callaway et al., 2018). Adverse patient outcomes have been linked to communication errors occurring due to the use of non-standardized, non-structure handoffs (Mardis et al., 2015). TJC defined handoff communication as a real time process of passing patient specific information from one caregiver to another or from one team of caregivers to another to fortify the continuity and safety of the patient (Reisenberg et al., 2019). The literature reviewed buttressed the fact that handoff interventions improve patient safety and outcomes. Mardis et al.,

(2015) in their shift to shift handoff effects on patient safety systemic review reported that they conducted systemic review of English language research articles published between January 2008 and May 2015 focusing on shift to shift handoff interventions and patient outcomes, their search yielded 10774 unique articles. Twenty one articles were selected for inclusion because they met criteria, seven of the studies measured patient falls, six reportable events, four length of stay, four mortality, four code calls, 4 medication errors, three medical errors, two procedural complications, two pressure ulcers, two weekend discharges, and two nosocomial infections. The seven fall studies implemented standardized handoff tool "Situation, Background, Assessment, Recommendation (SBAR). Nine of the twenty-one articles included nursing shift to shift handoff interventions. Six of the nursing articles and one nursing assistant article measured patient falls; there were reduction in the rate of falls in all the seven nursing articles. Though, only two studies reported statistically significant reductions which makes the overall impact of handoff interventions on falls unclear. There were several studies with multiple interventions such as stimulation training on SBAR protocol, electronic SBAR report tool which linked patient outcomes solely to improved handoff efforts. (Starmer et al., 2017) described nursing hand off intervention to include educational training on best practices for verbal communication, verbal handoff neumonic implementation, and handoff bundle with components from the resident physician previously developed curriculum. Several educational theories were used in the development of the curriculum including social cognitive learning theories which suggest that individuals learn by observing others and reacting to environmental cues. Experimental learning theory was also used in the development of the curriculum which suggests that individuals learn through active experience, reflection and adaptation of future behaviors. Other interventions were joint staff education of physician resident and nurses, SBAR mnemonics, coverage changes

(reliefs during the shift such as when going on break) and staff bundle packages (Mardis et al.,

2015). Training was performed by the nursing designated unit educators, nurses were instructed

on the important elements of handoffs including how to use a standardized, structured, format

(Starmer et al., 2017). Utilizing the SBAR tool improves communication, reduces sentinel events

such as falls, medication errors, wrong site and wrong patient surgical procedures and ultimately

lead to positive patient outcomes. Ofori-Attah et al., (2015), found a 65% decrease in patients'

falls, and 55% medication errors when they switched to this standardized form for shift to shift

report handoff.

Influence of the Problem

Shift report is vital because it includes the passing of accountability and responsibility to

the oncoming nurse (Eberhardt, 2014). Lack of a shift to shift report or inadequate reporting

process may result in medical errors which will compromise quality of care and safety of

patients. (Starmer et al., 2017). The nursing staff need to realize the importance of a consistent

and detailed shift to shift report.

Addressing the Problem with Current Evidence

Nurses must play a critical part in improving communication, given their central role in

providing care (Cornell et al., 2014). Nurses are at the forefront of caregivers and they exchange

patient information at change of shift and when they need to leave their patient assignment.

However, some organizations and their nurses do not have a standardized shift report form. The

process used for patient handoff from shift to shift may be anecdotal accounts rather than

pertinent information on the inpatient unit (Callaway et al., 2018). Furthermore, shift report is

fragmented and does not provide critical information to optimize health (Callaway et al., 2018).

A review of literature showed that a frequently used type of shift to shift handoff report is the

SBAR tool (Panesar et al., 2016). The SBAR tool has the advantage of promoting critical

thinking, and improving situation awareness and collaboration between nurses and physicians

(Mardis et al., 2015). Clinical information shared during handoff provides structure associated

with individualized care plans and reinforces timely monitoring of patient progress preventing

adverse or sentinel events (Givens et al., 2016).

Current Management

The current management approach to shift to shift report used by nurses at the project site

does not include a standardized shift to shift report among nursing staff. Instead a combination of

anecdotal accounts of patient activity and the nurses own perception of what should be reported

is used. This is an opportunity for stakeholders at the practice site to adopt a standardized shift to

shift report to be used by nursing staff.

Current Recommendations

The current recommendations include that the literature supports utilizing a standardized

shift report protocol or form. The evidenced based SBAR tool is recommended (Cornell et al.,

2014).

Issues still Under Investigation

While a standardized shift to shift hand off is required by numerous accrediting agencies

and regulatory bodies in the United States, the best methods and tools to measure handoff are

unclear (Arora & Farnan, 2019). More investigation and formulation of a standardized shift to

shift process needs to be done. In addition, further research may need to be conducted regarding

the handoff exchange of patients on various nursing units and stages of a patient stay.

Consideration of a multidisciplinary approach is suggested (Starmer et al., 2017).

Theoretical Framework

The Edward W. Deming's Plan-DO-Study-Act (PDSA) cycle is a four-stage problem solving model that will be utilized in this quality improvement project for the implementation of a standardized shift to shift report. The PDSA (see Appendix A) model is used for improving a process or carrying out change (Coury et al., 2017). This design is a simple yet effective way to measure the impact of change on a small scale before implementing it in the larger population (King & Myers, 2017). Deming's PDSA model is a tool that has been used by health care organizations to test a change by developing a change process plan (King & Myers, 2017).

Historical Development of the Theory

This change model was originally developed by Walter Shewart in 1939 as a way to initiate change in an organization. In the original version, also referred to as a "Shewart cycle", it was called the PDCA cycle, where the C was referred to as the check step. This change model was modified from its original form by Associates in Process Improvement (API) under the supervision of Deming in 1950's (Moen, 2010). Deming reintroduced this model again in 1986 and modified it further in 1993 and called it the Shewart cycle for learning and improvement or the PDSA Cycle (Moen, 2010). The PDSA cycle is a commonly used improvement process in health care (Coury et al., 2017). Although, Deming is an American statistician and professor, his PDSA cycle model has been widely credited with improvement in manufacturing in the United States and Japan. In addition, the concepts are essential for improvement in any organization including the use in the health care delivery system (King & Myers, 2017).

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Applicability of Theory to Current Practice

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Deming's PDSA cycle is applicable to current nursing practice as it supports safe, timely, effective, efficient, equitable and cost effective care delivery (Reed & Card, 2016). This model assists to speed up the proposed change and allow the users to realize their quality

improvement goals more efficiently. This model is a structured experimental learning approach

to testing changes with the purpose of learning as quickly as possible whether an intervention

works or not in a particular setting and making adjustments that will increase the chances of

delivering and sustaining the desired improvement (Reed & Card, 2016). Identified problems of

the original plan can be reviewed, built upon, and subsequent experiment can be conducted to

see if the problem has been resolved. PDSA also identifies further problems that need to be

addressed in an organization. The flexibility and adaptability of PDSA are important features that

support the adoption of interventions that work in local settings of a healthcare system (Reed &

Card, 2016).

PDSA is a simple model that can be used to organize how to approach quality

improvement (King & Myers, 2017). According to Coury et al. (2017) the benefit of using PDSA

cycles include providing a structure for staff to focus on improving the program and allowing the

staff to test the desired change. Hence the staff will identify the area of improvement, implement

the change and measure the results (Coury et al., 2017). Furthermore, McGowan & Reid (2018)

postulated that nurses must be able to discern where and why change is crucial and be proactive

in finding solutions. The use of the term "change agent" is applied to those who behave as a

catalyst for change and pursue their goals through a reliable method of evidence-based methods

to implement and solidify the change (McGowan & Reid, 2018). The PDSA cycle offers the

approach to quickly discover if a change using a small scale intervention works in a certain

setting. This approach allows for any adjustment accordingly and as a result of which, the

likelihood of delivering and sustaining the intended improvement is enhanced. In addition, this

approach allows learning and acting on emerging new information (McGowan & Reid, 2018).

Major Tenets

The PDSA cycle represents continuous quality improvement. It is a tool commonly used in the healthcare system for quality improvement. Small and large scale changes can be made in health care systems when this four step iterative process is used (King & Myers, 2017). The PDSA uses the scientific method with each variable tested, reviewed, and evaluated individually by the team, improving upon the results and then test it again (Dawson, 2019). Individual evaluation of each step of the PDSA enables the team member to identify improvement early in the project and also identify any negative trends. This process avoids changing the entire improvement process and may avoid a failed project (Dawson, 2019).

The four iterative steps of Deming's PDSA cycle guiding quality improvement are: 1. PLAN: The "PLAN" phase is the first step of the cycle in which objectives are developed in addition to questions and predictions. The plan to carry out the cycle (who, what, where, when?), and the process for data collection are also determined. The team generates broad questions, hypotheses and a data collection plan. It is crucial to describe expectations and allot tasks and accountability to every team member. Significant time is invested here to develop a well framed question and review related research to the project and the local project itself. During this step is the time to define meaningful process and outcome measurements. Answers to questions should be predicted by the team at this stage; this helps to detect underlying assumptions or biases before the testing, which provides baseline comparison and enhances learning during the study phase. The quality of the "PLAN" phase is closely related to the quality of the "DO" phase. A poorly developed improvement plan with unclear accountability and a sound data collection model can adversely affect the implementation or "do" phase (King & Myers, 2017). Every effort must be made to avoid jumping to the implementation or "do" phase to prevent stumbling blocks; therefore a significant amount of time must be spent in the planning phase.

2. DO: This is the active implementation phase where the plan is carried out, problems and unexpected observations are documented, and analysis of the data begins. This phase involves feedback about the new process from the end users as well as fastidious data collection. The goal of this phase is to capture compliance, deviations, defects and barriers in the new process. Quality improvement projects do not always go as planned. Thus, it is important to be flexible and open minded in this phase in order to maximize learning from the improvement project.

3. STUDY: This phase involves the analysis of the data, comparison of data to predictions, and summarization of what was learned. The team members study the results of the data collected during the planning phase, verify and validate data, and compare it with historical data when available (Dawson, 2019). They identify problems encountered in any of the process elements and consider needs for the follow up PDSA cycle. The failures in a PDSA cycle provides unanticipated and improved directions (King & Myers, 2017).

4. ACT: This is the final step of the PDSA cycle. The team learns from the small test and adjusts processes that did not work well. If the processes work well, the team may expand the processes and ways to sustain the improvement. The frontline staff in the system should be included for buy in and honest input. A team approach rather than "top-down" approach facilitates an open review of successes and failures (King & Myers, 2017).

Theory Application to the DNP Project

This theory can be applied to the DNP project as it is a quality improvement project that is aimed at changing information exchanged in a shift to shift report. Inconsistences were noted at the practice site in how shift to shift report was given by staff. The data at the practice site showed there were fifteen falls in the second quarter of the year 2019 and this could be a result of inconsistent information exchange during shift report. Change in an organization may be

guided by Deming's PDSA cycle. The PDSA cycle is one of the most common reliable quality improvement methods of implementing and solidifying change in the healthcare systems (McGowan & Reid, 2018).

The application of the PDSA to the DNP project can be further applied as follows: Plan: During the planning phase, a team of early adopters and supporters will be appraised of the objectives and assembled to work on the questions, predictions of what the team may encounter, and data collection. Education will be provided on the inconsistencies found at the project site unit and regulatory body recommendations regarding shift to shift report. The team will discuss questions about goals, intended accomplishments and outcomes that can demonstrate improvement. Data will be collected using tools such as an observational compliance tool, that will provide an answer on how the team will know that a change is an improvement. The team will need to understand what will be achieved, and analyze the data to determine if any changes are needed. Approximately two weeks will be dedicated to this step. In addition, team members will be assigned tasks and held accountable for reviewing the project at the practice site. DO: In this phase the team will carry out the plan and document any problems and unexpected observations encountered. The team will analyze and understand the data collected. Shift to shift tools will be developed and teaching about how to use the tool, and what to capture will be discussed with the team. For example, information that may be important for use in a shift to shift report may include: addressing if a patient was identified for fall, or fall history, and include the Morse scale score. In addition, other items to be considered for inclusion on the shift to shift report are; medication the patient received, time of dose prior to fall, hourly rounds completed. Teaching will be provided on the use of the shift to shift report tool which will be utilized during the implementation phase of the project.

Study: During this step, the team will further determine if the implementation was successful. The discussion will further outline what the successes and failures are and how to offer improvement of the interventions.

Act: Following the implementation phase, the data that has been collected will be analyzed to establish if further changes need to be applied to the project. The team will also learn from findings and look at emerging issues. The first cycle will last about 4 weeks.

Setting

The setting for this DNP project will be on a medical / surgical unit of an urban hospital in New York City. The hospital was established in 19th century by Jewish philanthropists as a care facility for patients with chronic illnesses to its status today. This urban New York hospital is one of the largest healthcare systems in the United States with over 2,000 inpatient beds within its system. The hospital serves its community providing various outpatient and inpatient services such as medical/surgical, intensive care, maternity and child care, and health maintenance clinics. The project site has 36 beds and is located on the eighth floor of one of the three towers in this hospital. The registered nurses staffing ration is 1:6, and all the registered nurses on this unit work 12-hour shifts starting and ending at 0700/1930 on day shift and starting and ending at1900/0730 on night shift with an average of 30 minutes overlap to allow for change of shift report. The patients at the project site are from ages 18 and over. The documentation system that will be used in this project will be the facility Electronic Health Record (EHR) electronic privacy information center (EPIC) system. Access to use the EPIC system has been granted by the practice site information technology (IT) staff based on the same permission obtained from the clinical director to conduct the QI project (see Appendix B).

Population of Interest

The population of interest for this DNP project is the registered nurses on an inpatient medical/surgical unit at the project site. There are 44 registered nurses and one nurse manager under the leadership of a clinical director of nursing. The leadership buy-in and support was sought and provided by the nurse manager and the clinical director of nursing as well as the project mentor who has been working at the project site for approximately seven years. The group of nurses are 15 males and 29 females who have been employed at the project site for about 11 years according to the project mentor who shared this information with the project lead (U. Imegi, personal communication, July 9, 2020). The population of interest has nursing experience that ranges from novice to expert. The inclusion criteria will be all registered nurses currently employed at the practice site and engaged in direct patient care. Any staff not employed at the practice site or do not provide direct patient care such as the administrative assistants will be excluded from participation in the project. The registered nurses employed at the project site will directly participate during the implementation of this quality improvement project. There is no patient population participation but patient will be indirectly, positively impacted with the outcome of this project. The outcome of this DNP project may potentially improve the shift to shift handoff report when pertinent information about the patient is shared with an evidence-based tool to enhance safety and quality of care (Mardis et al., 2015). The utilization of the SBAR tool after implementation is expected to enhance patient positive outcomes. The SBAR tool fosters organized dissemination of patients' pertinent information that assists nurses and other disciplines in developing an accurate plan of care, prevent sentinel events, and enhance safety (Callaway et al., 2018).

Stakeholders

The stakeholders of this DNP quality improvement project include the nurse manager, clinical director of nursing, nurse educator, information technology (IT), and other interdisciplinary team members such as the social workers, nursing assistants, and physicians. The stakeholders are crucial to this DNP project since their buy in will support the quality initiative and assist in the success of the project. The buy in of the stakeholders such as the nursing administrators, nurse manager, and clinical director will foster goal alignment at the project site. The IT staff as a stakeholder will add the SBAR tool to the EHR and will assist in providing access to the EHR for the project lead to retrieve, review and save documents as necessary. The patient population will be the indirect stakeholders who will potentially benefit from this project. A plan will be established to assure rapport with the stakeholders, by meeting with them on average of twice a week; collaborating and engaging the stakeholders in project development will promote successful implementation of the project. Identifying stakeholders is a critical element for any change project such as this quality improvement project (Bemker & Schreiner, 2016).

Interventions

Planning is essential in research to identify when to start a project, when to complete each phase of the project, and what to complete during each phase (Gelling, Engward, 2015). A brief project overview will be presented to the nursing staff during scheduled unit staff meetings which the nurse manager facilitates at the practice site. Education will be conducted during staff meetings and change of shifts three times a week for the first week of implementation. The project lead will offer a total of eight sessions including weekends in order to capture all the registered nurses employed at the project site. Staff discussion and comments will be encouraged. The second to the end of week 5 will focus on SBAR tool implementation and

observational audits for compliance. The final data collection will be in week five and all data

collected will be compiled and analyzed in week six.

Table 1

Project Timeline

Date	Activity
Week 1 November 4 – November 10, 2020	• E-mail participants a reminder of training session's dates, times and locations. • Provide informational sessions to participants, educational training including defining timeline for the DNP project.
Week 2 November 11 – November 17, 2020	• Complete educational training • Initiation of the SBAR tool • Conduct compliance observational audits
Week 3 November 18 – November 24	• Continue compliance observational audits.
Week 4 November 25 – December 1, 2020	• Continue compliance observational audits
Week 5	• Perform final data collection from the SBAR implementation observational audits for compliance and share with project mentor.

December 2 – December 8, 2020	
Week 6 December 9 – December 15	• Compile all data collected and begin project analysis

Tools and Instruments

The SBAR tool will be utilized to guide shift to shift handoff report, help staff organize

pertinent patient information, focus on what is relevant and guide clinical decision making and

plan of care of patients at the project site. All registered nurses at the project site are required to

participate since this is a quality improvement initiative. The nursing staff will begin to utilize

the standardized shift report tool during the implementation phase of the project. The tools that

will be utilized during project implementation are the validated, standardized shift report SBAR

tool retrieved from the Institute for Healthcare Improvement (Institute for Healthcare

Improvement, 2017) (see Appendix C), an educational PowerPoint presentation for staff training

(see Appendix D), and a compliance assessment checklist (see Appendix E) that was designed by

the project lead under the guidance of the project mentor to observe staff utilization of the tool.

Standardized Shift Report Tool

The SBAR is a validated and reliable tool in improving shift to shift handoff report based

on previous studies in different disciplines including healthcare. There were several studies

conducted which linked patient outcomes to improved handoff efforts utilizing the SBAR tool

guidelines. These authors substantiate that clinical information shared during handoff while

using the SBAR form provided structure associated with individualized care plans and reinforced

timely monitoring of patient progress preventing adverse or sentinel events (Givens, Skully, &

Bromley, 2016; Starmer, et al., 2017). The SBAR tool is an established tool that has been proven

to improve communication, when communication is improved, sentinel event is prevented, safety

is enhanced, and patient outcome is improved (Mardis et al., 2015). The SBAR has been used by

many organizations including the healthcare organizations for its validity and reliability in

providing a framework for communication between members of the health care team as a tool to

foster a culture of safety (Institute for Healthcare Improvement, 2017). For example, Mardis et

al., (2015) utilized the SBAR tool in their systematic review of interventions for shift to shift

handoff report on patient safety and outcomes with the findings of improved communication and

reduction of sentinel events. A copyright-free SBAR tool (Institute of Healthcare Improvement,

2017) with no required permission from the author before use was obtained (see Appendix C). In

addition, The Joint Commission and the Institute of Healthcare Improvement also established the

reliability and validity of the SBAR tool, support and promote the use of SBAR (The Joint

Commission, 2017; Institute of Healthcare Improvement, 2017).

Educational Presentation and Material

The project lead will develop an educational training PowerPoint (see Appendix D) under

the guidance of the project mentor for staff training. The handout content will be the discussed,

which includes each of the elements of the evidence based SBAR tool Situation-Background-

Assessment-Recommendations. The staff training will be conducted during regularly scheduled

staff meetings by the project lead. Attendance will be taken in order to ensure that all participants

have been captured. Staff will have the opportunity to ask questions at the end of the educational

session. No patient, staff names or personal information or identifier will be used during data

collection or at any other time in this project to maintain confidentiality. The PowerPoint will be

handed out to the staff as a point of reference. A template of the SBAR tool will be saved on the

desk top computers at the project site for future procurement so that copies are available to be

printed when needed.

Computer access has been granted to the project lead by the information technology (IT)

staff based on the director of nursing's (DON) project approval to enable print out from the

saved copy in the computer and any work saved in the computer will be discarded after five

years. A copy of the SBAR template will also be laminated and kept at the nurse's station as a

visual reminder and utilization reinforcement of the SBAR tool for the registered nurses. The

duration of the education session will be approximately 60 minutes.

Discussion will include that the tool allows for an easy and focused way to set

expectations for what will be communicated and how it will be communicated between the

registered nurses, which is essential for developing teamwork and fostering a culture of patient

safety (Institute for Healthcare Improvement, 2017). In addition, a copy of the SBAR tool will be

used to demonstrate and practice usage with the registered nurses during presentation.

Compliance Assessment Checklist

The compliance assessment checklist (see Appendix E) has been developed by project

lead and project mentor. The compliance checklist will be used for monitoring the staff

compliance with the use of the SBAR tool during the shift to shift handoff at the project site.

Among the factors that affect quality of service is non-adherence to laid out procedures by the

healthcare professionals (Bussell et al., 2017). Therefore, the project lead is interested in

knowing how much the nurses will adhere to the SBAR procedure. Approximately twelve to

fourteen observations will be conducted during implementation phase of the project over a

period of four weeks in other to capture all the registered nurses on all the shifts. Project lead

observational visits will be spread out in order to observe different nurses on the day and night

shifts. Each of the 44 registered nurses at the project site will be given a code to ensure

participation and anonymity. No personal information or identifier will be used. The

observational audit tool will be used to monitor the compliance of registered nurses with each

element of SBAR as they exchange report during handoff at the project site. Compliance with

each element of SBAR will be checked off on the audit tool and coaching provided to staff if it is

done incorrectly.

Study of Interventions/Data Collection

Data will be collected during the implementation phase where the project lead will

examine how the registered nurses at the project site are adhering to the standardized shift to

shift procedure. This will be measured through observation comparing RN actions to the

compliance checklist. Using this checklist, the project lead will monitor the compliance of the

registered nurses with the use of the standardized shift tool at the project site. The project lead

will observe each registered nurse during change of shift at least once for compliance with the

SBAR tool and will appropriately mark a yes or no answers to whether the registered nurses have

performed each of the elements of the SBAR tool. As such, the compliance observational tool for

SBAR will be completed by the project lead and will be used to determine how the nurses are

complying with the implementation of the intervention. The use of compliance assessment tool

will ensure that the data is collected on the day and the night shifts as the project lead will be

present during change of shift reports, observing and recording the actual observation on the

compliance assessment tool in real time. Privacy and confidentiality will be maintained as the

nursing staff will not be required to self-identify during this process. Data will be electronically

secured and discarded after five years.

Ethics/Human Subjects Protection

This DNP project will be a quality improvement initiative in which there will be no

direct patient contact. The registered nurses will not be identified by name or any personal

information, assigned codes will be used to maintain anonymity. This measure will be pursued in

the spirit of upholding the confidentiality of the registered nurses data as anchored in the nursing

code of conduct (Poorchangizi et al., 2019). The DNP project should be exempted from IRB

review because it is considered a quality improvement project, which has no harm to the

participants or other stakeholders (Jamrozik & Selgelid, 2020). Nonetheless, as a requirement by

the university that all pieces of project that relate to healthcare be reviewed, the Touro University

Nevada institutional review board (IRB) approval form has been submitted for review in

accordance with TUN policy to determine if full IRB is required. The host site does not require

IRB since this is a quality initiative project according to the project mentor (assistant director of

nursing) and the director of nursing at the project site.

Importantly, the project will be seeking to understand the rate of compliance with SBAR

among the nursing staff. Participation from the staff will be required but they will not be

subjected to any form of deception or coercion in an effort to attain their participation. This is not

a condition for employment at the facility but registered nurses are required to attend as this is

considered a unit practice change for improved communication to enhance safe and quality care.

There will not be any compensation to the nursing staff for recruitment or participation in the

project. No potential harm to participants is anticipated in this quality improvement project.

Registered nurses at the project site will be directly recruited through e-mail (see Appendix F),

in-person during huddles, and staff meetings for one week concurrently with week one of the

project timeline activity (see Table 1).

Measures / Plan for Analysis

The data collected will be reviewed and analyzed by the project lead in collaboration with

the project mentor and TUN statistician to ensure that measures and plan for analysis are

proceeding correctly. The raw data will be imported into the IBM statistical package for social

sciences (SPSS) version 25 computer application from the excel file. Evaluation of the data will

be conducted, and inferential statistics of the mean, standard deviation, ranges, and proportions

will be calculated. The results will be displayed with tables and pie charts, evaluations, and

conclusions drawn from the analysis. Every nurse will be observed the same number of times to

promote equity. The proportion of compliance will be summed up, computed and calculated to

obtain the 95% confidence interval using the Vassar statistics calculator (Wilson, 1927). The

project lead will begin the analysis by running descriptive statistics on the project participants.

The mean, standard deviation and ranges of the number of participants in each shift and number

of SBAR elements adhered to on each shift will be analyzed in order to have an accurate

representation of the participants in the project. The next step of analysis will be to measure the

rate of adherence to the use of the SBAR tool. The project lead will calculate the proportion of

participants who would have utilized the SBAR tool. This will be calculated based on the yes or

no documented by the project lead while observing the participants on the staff compliance

assessment tool. Compliance to each element of the SBAR tool will be measured individually.

Each element of the SBAR procedure will be evaluated on a binary basis. Each nurse is graded

on the binary scale for the four elements of SBAR to determine the number that did and did not

perform each elements to derive both the descriptives and proportions.

In addition to examining the adherence to individual elements of the SBAR, the project lead will also be able to note the general adherence to SBAR. This will be obtained by obtaining the sum of scores from the individual elements. A 'No' response will be coded zero (0) while a 'Yes' response will be coded one (1) for the individual elements such as background. The overall adherence rate will be obtained by summing these coded scores. The smallest expected SBAR compliance score is zero while the largest expected score is 4. The data analysis will be calculated with SPSS to cover the testings. The data will be tested at a 95% confidence interval utilizing the Vassar statistics calculator (Wilson, 1927). This unit will calculate the lower and upper limits of the 95% confidence interval for the proportion. The first method will be the Wilson procedure without a correction for continuity; the second will be the Wilson procedure with a correction for continuity. For the notations to be used here, n equals the total number of observations and k equals the number of those n observations that are of particular interest (Newcombe, 1998).

Analysis of Results

Forty-four registered nurse participants were observed in this quality improvement project, 15 (34.1%) were males and 29 (65.9%) were females with nursing experience ranging from novice to expert. The project analysis measures the participants' adherence to each of the four elements of the SBAR tool. The analysis of this quality improvement project was performed utilizing both SPSS version 25 and VassarStats. SPSS version 25 was used to determine how the nurses adhered to each element of the SBAR separately during each observed shift handoff, and the descriptive statistics for the overall rate of adherence to SBAR. The output results for the descriptive statistics was presented in tables while the proportions were presented using pie chart. On the other hand, VassarStats was used to calculate the lower and upper limits of the 95%

confidence interval for the proportion. The first method of analysis used was the Wilson

procedure without a correction for continuity while the second method used was the Wilson

procedure with a correction for continuity. Notations used in this quality improvement project

are n equals total number of observations and k equals the number of those observations that are

of particular interest.

Descriptive Statistics

Participants

Forty-four registered nurses at the project site met the participation selection criteria. Out

of the 44 participants, 15 were males 34.1% (N=15) while 65.9% (N= 29) were females (see

Table 1).

Table 1

Gender Distribution of Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
	male	15	34.1	34.1	34.1
Valid	female	29	65.9	65.9	100.0
	Total	44	100.0	100.0	

Note. Table generated from SPSS version 25 based on the data collected.

The average age for the participants in the morning shift was 42.58 (SD=8.086), with the

youngest being 29 years and the eldest being 58 years. On the other hand the average age of

participants on the night shift was 43.62 years (SD= 9.79). The youngest participant in the night

shift group was 28 years and the oldest was 60 years (see Table 2).

Table 2

Age Distribution by Shift Group

	Time	Statistic	SD

Age	morning	Mean		42.58	1.651
		95% Confidence Interval for Mean	Lower Bound	39.17	
			Upper Bound	46.00	
		5% Trimmed Mean		42.47	
		Median		42.00	
		Variance		65.384	
		Std. Deviation		8.086	
		Minimum		29	
		Maximum		58	
		Range		29	
		Interquartile Range		14	
		Skewness		.244	.472
		Kurtosis		-.755	.918
	night	Mean		43.20	2.189
		95% Confidence Interval for Mean	Lower Bound	38.62	
			Upper Bound	47.78	
		5% Trimmed Mean		43.11	
		Median		44.50	
		Variance		95.853	
		Std. Deviation		9.790	
		Minimum		28	
		Maximum		60	
		Range		32	
		Interquartile Range		18	
		Skewness		.010	.512
		Kurtosis		-1.112	.992

Note. Table showing descriptive statistics for the participants' age. The analysis was performed for separate shift groups.

Adherence to Situation Element of the SBAR

The results show the average rate of adherence to the situation element of the SBAR tool among the morning shift participants is 0.97 (SD=0.204) (see Table 3). This is translated to mean that on average, 97% of the registered nurses on the morning shift adhered to the situation element of the SBAR tool. On the other hand, the average rate of compliance among the night shift registered nurses is 1 (SD =0.0). This is interpreted as all registered nurses on the night shift adhered to the situation element of the SBAR. Forty-three participants out of the total 44 participants adhered.

Table 3

Descriptive for Situation

	Time			Statistic	SD
Situation (Yes/No)	morning	Mean		.97	.204
		95% Confidence Interval for Mean	Lower Bound	.87	
			Upper Bound	1.04	
		Median		1.00	
		Variance		.042	
		Std. Deviation		.204	
		Minimum		0	
		Maximum		1	
		Range		1	
		Skewness		-4.899	.472
		Kurtosis		24.000	.918

 Situation (Yes/No) is constant when time = night shift. It has been omitted.

Note. Table 3 discusses that 97% average of the morning shift participant adhered to situation element of the SBAR tool after educational training. All of the night shift participants adhered to situation element after educational training of the SBAR tool hence, it is constant and has been

omitted (Meaning SPSS omitted the output because all the night shift participants scored 1, they

all adhered to situation element of the SBAR and were recorded as Yes =1). Therefore, score of

1 is constant for the night shift group, no deviation from the night group. Standard deviation

(SD) and standard error (SE) are short forms for standard error of the mean which is a measure

used to indicate how far the sample mean is likely to be from the population mean (Caldwell,

2012). For example, it could tell how far the average adherence score obtained from the sample

of 44 participants is from the average adherence score for the larger nursing population. On the

other hand, SD stands for standard deviation and is used to measure how far individual score is

from the sample average (Caldwell, 2012).

Adherence to Background Element of the SBAR

The results show the average rate of adherence to the background element of the SBAR

tool among the morning shift participants is 0.97 (SD= 0.204) (see Table 4). This means that on

average, the rate of adherence to background element of the SBAR is 97%. On the other hand,

the average rate of adherence to background element of SBAR for the night shift nurses is 1

(SD= 0.0).

Table 4

Descriptive for Background

	time			Statistic	SD
		Mean		.97	.204
Background (Yes/No)	morning	95% Confidence Interval for Mean	Lower Bound	.87	
			Upper Bound	1.04	
		5% Trimmed Mean		1.00	
		Median		1.00	
		Variance		.042	

Std. Deviation	.204	
Minimum	0	
Maximum	1	
Range	1	
Interquartile Range	0	
Skewness	-4.899	.472
Kurtosis	24.000	.918

Note. Background (Yes/No) is constant (same explanation as above) when time = Night

shift. It has been Omitted SPSS omitted background element of SBAR output

because all of the night shift group adhered and scored Yes=1).

Table 4 illustrates that 97% average of the morning shift participants adhered to

background element of the SBAR tool after the educational training. All night shift participants

adhered to background element after the educational training of the SBAR tool hence, it is

constant and has been omitted. Data were binomial (yes=1/no=0). In the case where all the

respondents had a score of 1 the mean was 1 and the SD was 0. In such cases, SPSS considers it

a constant thereby omitting the output. Instead SPSS returns the statement "Background

(Yes/No) is constant (explanation as above in note for situation) when time = night shift. It has

been omitted"

Adherence to Assessment Element of the SBAR

Looking at the third element of SBAR; assessment, the results show the average rate of

adherence to the assessment element of the SBAR among all the participants is 1 (SD=0.0) for

nurses in both the morning and night shift groups. All the nurses adhered to the assessment

element hence the mean was a unitary constant (see Table 5) yielding a constant value of 1.

Table 5

Descriptive for Assessment

a. Assessment (Yes/No) is constant when time =morning shift. It has been omitted.
b. Assessment (Yes/No) is constant when time = night shift. It has been omitted.

Adherence to Recommendation Element of the SBAR

The results show the average rate of adherence to the recommendation element of the SBAR tool among the morning shift participants is 0.88 (SD=0.338). The average rate of adherence among the night shift participants is 0.80 (SD=0.41) (see Table 6). This means that on average, the morning shift participants have higher adherence to recommendation than the night shift participants.

Table 6

Descriptive for Recommendation

	Time			Statistic	SD
Recommendation (Yes/No)	Morning shift	Mean		.88	.069
		95% CI for Mean	Lower limit	.73	
			Upper limit	1.02	
		5% Trimmed Mean		.92	
		Median		1.00	
		SD		.338	
		Min		0	
		Max		1	
		Range		1	
	Night shift	Mean		.80	.092
		95% CI for Mean	Lower limit	.61	

Upper limit	.99	
5% Trimmed Mean	.83	
Median	1.00	
SD	.410	
Min	0	
Max	1	
Range	1	

Note. Table generated in SPSS version 25, and contains descriptive statistics for

recommendation adherence rate by shifts.

Overall SBAR Adherence

The scores for overall adherence to the SBAR tool were rated out of four since the overall

adherence rate was measured as a summation of the four elements. This analysis assumed that

the data followed a normal distribution. This assumption was made based on the fact that the

number of participants was large enough (n>44) to allow for assumption of normality. This

assumption was met as the output results indicated that the skewness was within the ±2 while

kurtosis was within the ±7 limit (see Table 7). Data is considered to be from a normal

distribution if its skewness lies between -2 and 2, and its kurtosis lies between -7 and 7 (Kim,

2013). Therefore the data used in the analysis met the assumption. The results indicated the

morning nurses had a mean score of 3.79 (SD=0.414) while the average score for the night shift

nurses was 3.8 (SD=0.41) (see Table 7). Based on the results, the average score for adherence

among the night shift nurses was 3.8 which was slightly higher than that for the morning shift

nurses (M= 3.79). It could be said that the objective of the implementation was achieved in terms

of the effect of the educational training on the implementation of a standardized evidence based

(SBAR) tool for change of shift handoff report and monitoring its compliance among the

participants' at the project site.

Table 7

Descriptive for Overall Adherence to SBAR

	Time			Statistic	SD
Overall Adherence to SBAR	Morning Shift	Mean		3.7917	.08468
		95% Confidence Interval for Mean	Lower Bound	3.6165	
			Upper Bound	3.9668	
		5% Trimmed Mean		3.8241	
		Median		4.0000	
		Variance		.172	
		Std. Deviation		.41485	
		Minimum		3.00	
		Maximum		4.00	
		Range		1.00	
		Interquartile Range		.00	
		Skewness		-1.534	.472
		Kurtosis		.377	.918
	Night Shift	Mean		3.8000	.09177
		95% Confidence Interval for Mean	Lower Bound	3.6079	
			Upper Bound	3.9921	
		5% Trimmed Mean		3.8333	
		Median		4.0000	
		Variance		.168	
		Std. Deviation		.41039	
		Minimum		3.00	
		Maximum		4.00	
		Range		1.00	
		Interquartile Range		.00	
		Skewness		-1.624	.512
		Kurtosis		.699	.992

Note. Table generated in SPSS version 25, and contains descriptive statistics for overall

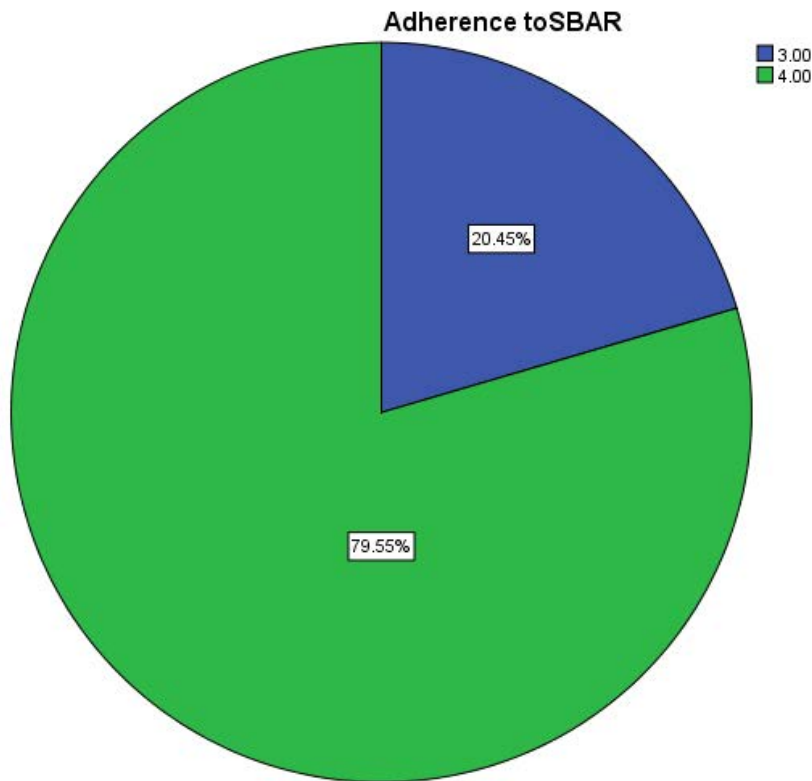participants' adherence rate by shifts.

Proportions

After examining the overall adherence rate, the project lead sought to examine the proportions of the registered nurses at the project site that are adhering to the SBAR procedures. This was achieved by determining the percentage of the participants who indicated that they adhered to the various elements of SBAR tool. The project lead determined the overall rate of adherence to SBAR tool requirements by determining the proportion of nurses with various rates of adherence. The analysis for proportions was performed with the assumption that the number of participants were more than ten and the outcomes were categorical variables. The assumptions for test of proportion were met in all analyses as there were more than ten participants and the outcome were categorical data given the responses were binary.

Participant Percentage of Overall SBAR Adherence

Concerning the overall level of adherence, it was established that 20.45% (*N=9*) of the nurses had an SBAR compliance score of 3. 79.55% (*N=35*) had a compliance score of 4. (see Figure 1). This is translated to mean that approximately 80% of the registered nurses at the project site fully complied with the SBAR standards. A compliance score of 3 is also considered high as it means that the participant failed to comply with only one element of the SBAR. As such, it can be concluded the training and procedural implementation of the standardized shift to shift handoff (SBAR) led to a high compliance rate among the registered nurses at the project site as hypothesized by the project lead.

Figure 1

Chart Showing Overall Adherence to SBAR

Note. Chart generated in SPSS version 25, and contains the distribution participants with their

overall rate of adherence to SBAR.

Confidence Interval

The project lead sought to predict the proportion of participant that is adhering to the

SBAR tool and its elements. To achieve this goal an analysis was completed in VassarStats using

a sample size (n) of 44 and with varying proportion of interest based on the proportion that is

compliant with each SBAR element. The analysis assumed the sample was drawn from a

population with a normal distribution. This assumption allows the project lead to determine the

confidence interval, which is normally done on continuous data. This violation was handled by

finding two answers; one with continuity correction and another without continuity correction.

Confidence Interval for Overall Adherence Score

When analyzing the overall adherence of the 44 registered nurse participants at the

project site, 9 had an adherence score of 3. The proportion of participants who had an adherence

score of 3 was 0.2045. The confidence interval for the participants who had an adherence score

of 3 was (0.1115, 0.345) when no continuity correction is included and (0.1032, 0.3575) when

continuity correction is included. As such, the proportion of the participants who have an

adherence score of three lies between 0.1032 and 0.3575. The confidence limits do not include

zero and this is translated to mean that the project lead is 95% confident that the proportion of

participants whose compliance rate is 3 lies between 0.1032 and 0.3575. Tables 8 and 9 below

illustrate the confidence interval of the participants with the overall scores of 3 and 4.

Table 8

Confidence Interval for Overall Score of 3

k = 9 n = 44	Proportion = 0.2045
95% CI: no continuity correction	
Lower bound = 0.1115	Upper bound = 0.345
95% CI: including continuity correction	
Lower bound = 0.1032	Upper bound = 0.3575

Note. Confidence interval for overall adherence score of 3 generated in VassarStats, with and

without continuity correction.

Thirty-five participants had an overall SBAR tool adherence score of 4. This was 79.55% of the sample size. Thus, the proportion of nurses whose adherence score was 4 was 0.7955. The analysis further revealed that the confidence interval for this proportion was from 0.655 to 0.8885 when no continuity correction was included and between 0.6425 and 0.8968 when continuity correction was included (see Table 9). This indicates, the proportion of the nurse population whose adherence score is 4 lies between 0.6425 and 0.8968. Since the sample proportion lies within these limits, the null hypothesis of the population proportion is not different from the sample proportion is accepted. The project lead is, therefore, 95% confident that the proportion of the participants who adhere fully to the SBAR requirements falls between 0.6425 and 0.8968.

Table 9

Confidence Interval for an Overall Score of 4

k = 35	Proportion = 0.7955
n = 44	
95% CI: no continuity correction	
Lower bound = 0.655	Upper bound = 0.8885
95% CI: including continuity correction	
Lower bound = 0.6425	Upper bound = 0.8968

Note. Confidence interval for overall adherence score of 4 generated in VassarStats, with and without continuity correction.

Discussion of the Findings

The DNP project intervention of implementing a standardized evidence based communication tool (SBAR) and monitoring the compliance among the registered nurses at the project site was successful. The findings showed the registered nurses at the project site embraced the project intervention and participated actively. They were compliant with utilization of the SBAR tool after the educational training and the implementation. They did not have any standardized way of endorsing shift to shift handoff report prior to the implementation. The findings showed a mean score of 3.79 adherence utilization of the SBAR tool among the morning nurses while it showed a mean score of 3.80 among the night nurses after the educational training. Overall percentage of adherence to the SBAR tool was calculated based on the percentage of each element. Situation was 97. 7%, background 97.7%, assessment 100% while recommendation was 84%. Hence overall registered nurse participants adherence with SBAR tool was 94.5% at the project site. These results were achieved due to the educational training and the implementation of the SBAR tool at the project site as hypothesized by the project lead. The intervention yielded well above 80% adherence rate projected by the project lead. One participant each did not comply with situation and background, all the participants complied with assessment while seven participants did not comply with recommendation. Those who did not comply with recommendation reported recommendation as being difficult. The project lead's objective to have a minimum of 80% nursing compliance with the SBAR handoff process was met.

The goal of the quality improvement project was to determine if training and implementation of the SBAR tool for shift to shift handoff and monitoring the nurses' adherence would improve change of shift communication. The purpose of monitoring the adherence with

the SBAR tool during handoff at the project site was because the factors that affect the quality of

service is ineffective communication of patients' condition by the health practitioners (Bussell et

al., 2017). The general prediction, questions and the objectives of this quality improvement

project were met. The training and implementation of the SBAR tool supported compliance with

the utilization of the SBAR tool elements and overall adherence.

The project lead considered a minimum compliance rate of 80% as significant, the results

yielded 94.5%. The project lead hypothesis was confirmed as the analysis revealed that the least

overall adherence score was 3 out of 4 and the majority had a maximum score of 4. The findings

indicated that the educational training and the implementation of the SBAR tool had a significant

effect on the compliance rate of the registered nurses at the project site.

The results of the project align with the literature by Randmaa et al. (2014) and Shahid

and Thomas (2018) both of which established that training and implementation of SBAR tool for

shift to shift handoff support compliance with the utilization of the SBAR tool. Overall, the three

project objectives were met. The training and implementation of the SBAR was successful,

94.5% of the participants were fully compliant and met the objectives.

The objective of this quality improvement project was to determine if training and

implementation of SBAR tool for shift-to-shift handoff would improve change of shift

communication. Ofori-Attah et al. (2015) postulated in their study that the use of an evidence-

based standardized communication tool such as SBAR can streamline communication by

ensuring the transfer of consistent information. This can help reduce sentinel events that often

result from a lack of effective communication. Achrekar et al. (2016) reported in their study that

training and evaluating SBAR tool compliance has helped nurses to have a focused and effective

communication during change of shift handoff. They reported 79% to 100% SBAR elements

compliance rate among their registered nurse participants. Recommendation was reported as difficult by the nurses. This means that the utilization of the SBAR tool and its adherence at the project site aligned with evidence based literature and will foster effective communication during shift to shift handoff, huddling and even transfer of patients to other units. Effective communication is central to safe and effective patient care (Starmer et al., 2017). Therefore, the project lead believes that adhering to the standardized SBAR shift to shift handoff procedure will reduce the errors and sentinel events that were associated with a lack of effective communication.

Significance of the Findings to the Nursing Profession

The results of this project are significant to the nursing profession in that if the level of compliance with the SBAR tool is enhanced, the number of medical errors and sentinel events that result from poor handoff communication will reduce and this will lead to an improvement in the safety and quality of patient care. Compliance with the SBAR tool allows for the short, organized and predictable flow of information between nurses during shift to shift handoffs. This will improve the effectiveness of communication through standardization of communication process which is pivotal to the nursing profession. In addition, the training, implementation of SBAR tool and evaluating compliance to enhance effective communication is significant to nursing practice. The benefits outweigh the risks, cost of implementation, as well as implications of medical errors and sentinel events on nursing profession practice settings.

Project Limitations

A limitation to a project can be described as those characteristics of design or methodology that impacted or influenced the interpretation of the findings from a project (Price& Murman, 2004). There are two limitations to this project, which are: 1) the data

collection was completed on a single unit at one project site and 2) the data collection time frame.

Single Unit Data Collection

The sample size in this project was 44 registered nurses working on a single unit at the project site. This project was conducted on a single unit. Conducting the project on a single unit limited its significance in statistical sense to represent the adherence and communication levels of other nurses, when compared to project conducted on many units with large number of nurses. Implementing the project on one unit limits the chance of large data collection which may affect the validity of the project results (Dove et al., 2016). This limitation leads to reduction in the power of the project and limits the generalizability (Faber & Fonseca, 2014). The compliance rate on one unit and in one facility may be different from another unit in a different location. The use of a larger sample size would support the generalizability of the project and would have provided room for a conclusive outcome. Hence, the project may have benefited if there was an opportunity to implement the SBAR tool training and monitor compliance in more than one facility.

Data Collection Time Frame

The COVID-19 pandemic did not impact this project because shift to shift report must happen regardless of COVID-19. The project site strictly followed the Centers for Disease Control and Prevention (CDC) directives as well as the hospital infection control department initiatives. However, the six weeks time frame of this DNP project was inadequate to truly measure sustainable change. A minimum of six months would allow for greater application of knowledge into practice, a true measure of compliance and permanent change.

Furthermore, this project did not evaluate the effectiveness of the SBAR tool where patient outcomes in terms of reduction of medical errors, sentinel events and length of stay were concerned. These patient outcomes were not the objectives of the project, future projects could address this so the effect of the utilization of the SBAR tool on these patient outcomes could be evaluated.

Further Dissemination

The project result will be disseminated to the stakeholders at the project site by the project lead through written and oral communication. As part of the dissemination, summary of the SBAR tool intervention will be provided to the stakeholders. The stakeholders played a primary role in the success of the project and should receive the feedback of the project outcomes (Gelling & Engward, 2015). The DNP project results will also be disseminated as a DNP presentation to Touro University Nevada (TUN) nursing faculty and peers of the DNP program followed by submission of the DNP project to the DNP Project Repository.

The project will be disseminated to potential target population of the professional nursing organizations and medical practice. The professional organizations can benefit from the information of this project through meetings or online contact with the project lead to discuss the project results. A poster or podium presentation could be provided to the American Nurses Association (ANA) by the project lead to further disseminate the project results during conferences. Furthermore, dissemination will be extended to other nursing organizations such as the American Journal of Nursing and Journal of Nursing Education so the project can benefit more health care providers and similar practice sites. The project lead will submit an abstract and any other requirement to the American Journal of Nursing, Journal of Nursing Education and other evidence-based nursing journals for possible publication. Institute of Medicine (IOM) and

American Association of Colleges of Nursing (AACN) will be considered for dissemination through a poster or podium presentation during conferences.

Project Sustainability

Compliance with the SBAR tool will enhance effective communication during change of shift and prevent the pitfalls of ineffective communication such as medical errors and sentinel events (Sahid & Thomas, 2018). The stakeholders such as the director of nursing, the unit manager, and the IT staff at the project site bought into this quality improvement project. They followed the project implementation results and they are willing to adopt and reinforce compliance. Copies of the SBAR tool and the educational training handouts are made available on the unit computer intranet at the project site. Laminated copies of the SBAR tool are attached to the unit workstation on wheels (WOW) for the nurses to view at any time. The facility plans to implement the SBAR tool educational training and monitor its compliance on the other in-patient nursing units and also to include it in the nursing orientation curriculum for newly hired registered nurses. Ultimately, monitoring and reinforcing adherence to strengthen effective communication requires engaging senior staff members to ensure utilization of this standardized, evidence based SBAR tool at the project site.

Conclusion

The SBAR tool was implemented at the project site to establish a standardized, evidence based communication tool and to monitor staff utilization compliance in order to enhance change of shifts communication. Communication errors are the most common cause of medical errors and sentinel events in hospital settings. The project demonstrated the importance of training the registered nurses in the SBAR communication tool and its adherence as a culture change which fosters effective communication during change of shift handoffs. The project offered a solution to the lack of standardized evidence-based reporting tool at the project site. This was achieved

with the training and implementation of the SBAR tool. Further dissemination of the project in

publications, presentations, and educational platforms will provide a basis for promoting the

impact of the project on practicing nurses.

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Appendix A

The four iterative steps of Deming's PDSA cycle guiding quality improvement
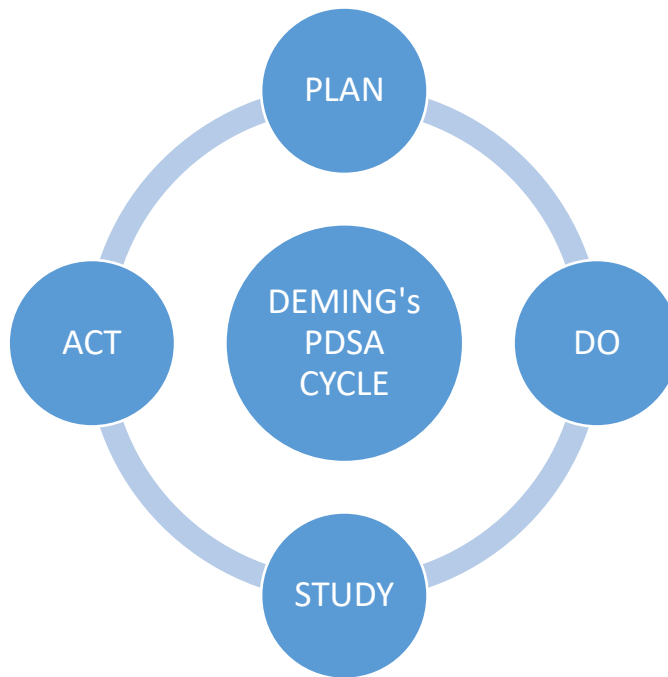
Adapted from the foundation and history of the PDSA cycle (Moen, 2010).

Appendix B

Project Site Permission Letter

Montefiore
THE UNIVERSITY HOSPITAL FOR
ALBERT EINSTEIN COLLEGE OF MEDICINE

December 24, 2019

Dr. Judith Carrion
DNP Project Chair
874 American Pacific Drive
Henderson, Nevada 89014

Dear Dr. Judith Carrion,

Ms. Latifat Okeke is allowed to complete her DNP project on K8 inpatient unit at
Montefiore Medical Center. Ms. Okeke will be focusing on use of the Professional
Exchange Report at change of shift which should reduce the number of falls.

Warm regards,

Lisa La Falce / AF

Lisa LaFalce, MHA, BSN, RN-BC, NEA-BC

Clinical Director of Nursing
Nursing Administration
Office: 718-920-4765

Montefiore Medical Center
The University Hospital for Albert Einstein College of Medicine
111 East 210th Street, Bronx, New York 10467

Appendix C

SBAR Form – Copyright-free Retrieved from http://www.ihi.org/resources/Pages/Tools/SampleSBARCommunicationTool.aspx

S	**SITUATION**
	I am calling about_____
	The patient's Code status is:_____
	The problem I am calling about is:_____
	(e.g. I AM CONCERNED THE PATIENT IS GOING TO ARREST)
	
	I have just assessed the patient personally:
	Vital signs are: Blood Pressure_____/_____, Pulse_____,
	                 Respiration_____, and temperature_____
	
	I am concerned about the:
	    Blood pressure because it is over 200 or less than 100 or 30 mmHg below usual
	    Pulse because it is over 130 or less than 40 and symptomatic
	    Respiration because it is less than 8 or over 30
	    Temperature because it is less than 96 or over 104
	    Urine output because it is less than 25ml/hr or 200ml/8hrs
	    O_2 saturation because it is less than 88% on 6/liters nasal cannula
	    Other:_____

B	**BACKGROUND**
	The patient's mental status is:
	    Alert and oriented to person, place, and time
	    Confused and cooperative or non-cooperative
	    Agitated or combative
	    Lethargic but conversant and able to swallow
	    Stuporous and not talking clearly and possibly not able to swallow
	    Comatose Eyes closed Not responding to stimulation.
	The skin is:
	    Warm and dry
	    Pale
	    Mottled
	    Diaphoretic
	    Extremities are cold
	    Extremities are warm
	The patient is not or is on oxygen.
	    The patient has been on_____ (l/min) or (%) oxygen for _____ minutes (hours)
	    The oximeter is reading _____ %
	    The oximeter does not detect a good pulse and is giving erratic readings.

A	**ASSESSMENT**
	    This is what I think the problem is:_____
	    "SAY WHAT YOU THINK IS THE PROBLEM"
	    The problem seems to be cardiac infection neurologic respiratory
	    I am not sure what the problem is but the patient is deteriorating.
	    The patient seems to be unstable and may get worse, we need to do something.

R	**RECOMMENDATION**
	From Physician _____
	
	    Transfer the patient to Critical Care
	    Come to see the patient at this time
	    Talk to the patient or family about Code status
	    Ask a consultant to see the patient now.
	Are any tests needed:
	    Do you need any tests like CXR ABG EKG CBC BMP
	    Others:_____
	If a change in treatment is ordered, then ask:
	    How often do you want vital signs?
	    How long do you expect this problem will last?
	    If the patient does not get better when would you want us to call again?

Appendix D

Education material- PowerPoint Presentation and Handout for Staff Training, adapted

from NHS Improving quality, 2014.

Implementation of Standardized Shift to Shift Handoff Utilizing the Situation,
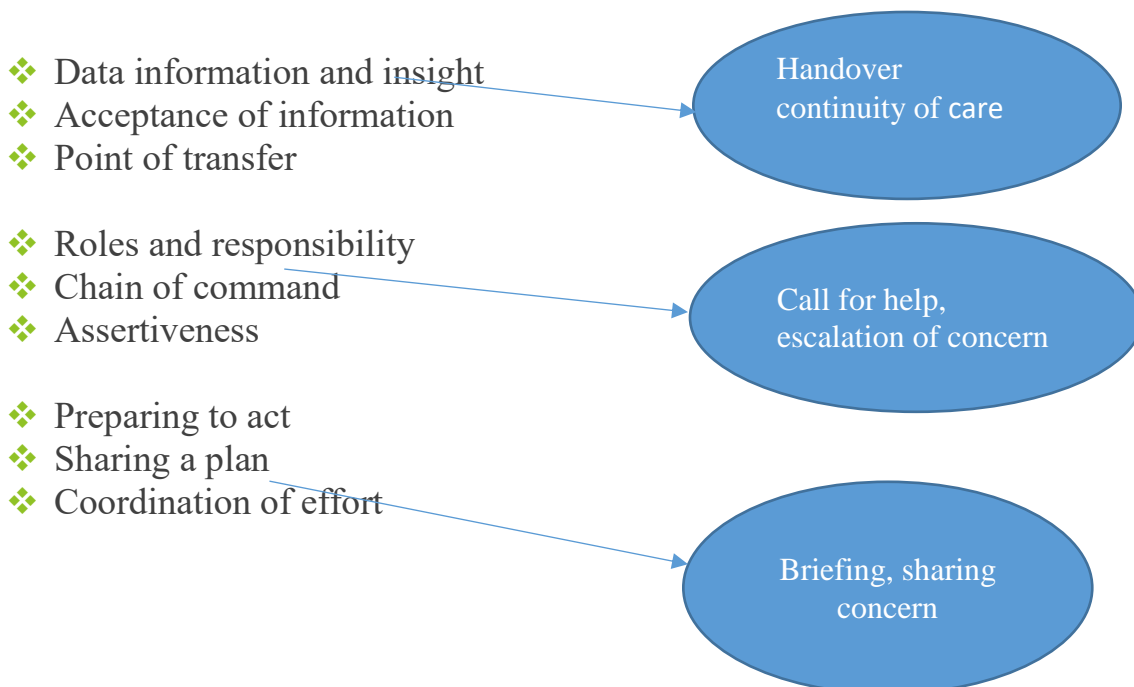Background, Assessment, Reassessment (SBAR) Tool

COMMUNICATION

❖ Communication is a two-way process of reaching mutual understanding
❖ Participants exchange information, create and share meaning
  (NHS Improving quality, 2014)

Objectives

Staff will be able to recognize that -
❖ Communication failures often contribute to patient safety incidents and harm
❖ Communication is about shared understanding of an issue
❖ The SBAR tool is easy to use and remember
❖ The SBAR tool can be used for all forms of communication

Communication in Healthcare

❖ Data information and insight
❖ Acceptance of information
❖ Point of transfer

Handover continuity of care

❖ Roles and responsibility
❖ Chain of command
❖ Assertiveness

Call for help, escalation of concern

❖ Preparing to act
❖ Sharing a plan
❖ Coordination of effort

Briefing, sharing concern

Communication and Patient Safety

❖ Significant proportion of patient safety incidents are the result of communication failures

        -between healthcare professionals, clinical and non-clinical

         -between healthcare staff and patient

❖ Communication failure results from

      -Poor structure of message

      -Lack of planning

      -Lack of key information

      -Poor prioritization

      -Desired result not achieved

The Joint Commission. (2004). Communication is the leading cause of inadvertent patient harm.

Organizing Your Thought

❖ Prepare

    -Why are you having the conversation?

    -What is the message?

    -How will you know if SBAR worked?

❖ Process

    -Select the key issue

    -Produce sufficient additional information to

     provide content but remove extraneous detail

    -Be succinct and concise (avoid jargon)

❖ Prioritize

    -Put the key points first

   -Clarify anything which might be ambiguous

What is SBAR?

SBAR is a structured method for communicating critical information that requires immediate attention and action

❖ SBAR improve communication

❖ SBAR has 4 steps

    -Situation –What is happening now?

    -Background – what has happened in the past that is relevant / Risk for fall?

    -Assessment – What is the problem / issue in your view

  -Recommendation – What do you think needs to happen now? (NHS, 2014).

Why use SBAR?

❖ To reduce the barrier to effective communication during handoff
❖ It can be used across discipline and levels of staff
❖ SBAR creates a shared mental model around all patient handoffs
❖ Situations requiring escalation
❖ Critical exchange of information (Handover)
❖ SBAR is a memory prompt – easy to remember
❖ Encourages prior preparation for communication
❖ Reduces missed communication

Uses and Settings for SBAR

❖ Inpatient or outpatient
❖ Urgent or non-urgent communication
❖ Conversation during shift change / break relief
❖ Conversation with peers or other health personnel
❖ Escalating a concern

Situation

❖ Identify yourself / unit
❖ Identify the patient by name and the reason for your report
❖ Describe your concern
❖ Describe the specific situation about which you are calling or reporting
❖ Patient location / pertinent information. For example, vital signs fall risk or not.

Background

❖ Provide patient's reason for admission
❖ Explain significant medical history including fall
❖ Date of admission
❖ Admitting diagnosis
❖ Any prior procedure and why
❖ Allergies, pertinent laboratory results and any other
    relevant diagnostic result

Assessment

- ❖ Vital signs
- ❖ Clinical impressions and concerns
- ❖ Critical thinking – showing that you have thought of what may be the underlying issue
- ❖ If you do not have an assessment say I am not sure but I am worried / concerned.

Recommendation

- ❖ Explain what you need, be specific about your request and timeframe
- ❖ Make suggestions
- ❖ Clarify expectations / answer questions
- ❖ What is your recommendations / what would you like to happen by the end of the conversation

Summary / Question time

- ❖ Incorporating SBAR needs considerable training
- ❖ Uniformity is important
- ❖ Observation and monitoring of staff
- ❖ Sustainability by leadership
- ❖ Questions / Comments

Appendix E

Staff Compliance Assessment Tool for Implementation of a Standardized Shit to shift Report

Utilizing the SBAR Tool. (Time denotes shift- MS = Morning Shift / NS = Night Shift)

Assigned Number	Date	Time	Situation Yes/No Y=1/N=0	Background Yes/No Y=1/N=0	Assessment Yes/No Y=1/N=0	Recommendation Yes/No Y=1/N=0
1	11/17/20	MS	Y =1	Y =1	Y =1	Y=1
2	11/17	MS	Y =1	Y = 1	Y=1	N=0
3	11/17	MS	Y=1	N=0	Y=1	Y=1
4	11/17	MS	Y=1	Y=1	Y=1	Y=1
5	11/17	MS	N =0	Y =1	Y=1	Y=1
6	11/18	MS	Y =1	Y=1	Y=1	Y=1
7	11/18	MS	Y=1	Y=1	Y=1	Y=1
8	11/18	NS	Y=1	Y=1	Y=1	Y=1
9	11/18	NS	Y=1	Y=1	Y=1	Y=1
10	11/19	NS	Y=1	Y=1	Y=1	N=0
11	11/19	NS	Y=1	Y=1	Y=1	Y=1
12	11/19	NS	Y=1	Y=1	Y=1	Y=1
13	11/19	NS	Y=1	Y=1	Y=1	Y=1
14	11/19	NS	Y=1	Y=1	Y=1	N=0
15	11/19	NS	Y=1	Y=1	Y=1	Y=1
16	11/19	NS	Y=1	Y=1	Y=1	Y=1
17	11/21	MS	Y=1	Y=1	Y=1	Y=1
18	11/21	MS	Y =1	Y=1	Y=1	Y=1
19	11/21	MS	Y=1	Y=1	Y=1	Y=1
20	11/21	MS	Y=1	Y=1	Y=1	Y=1
21	11/21	MS	Y=1	Y=1	Y=1	N=0
22	11/21	MS	Y=1	Y=1	Y=1	Y=1
23	11/22	MS	Y=1	Y=1	Y=1	N=0
24	11/22	MS	Y=1	Y=1	Y=1	Y=1
25	11/22	NS	Y=1	Y=1	Y=1	Y=1
26	11/22	NS	Y=1	Y=1	Y=1	Y=1
27	11/22	NS	Y=1	Y=1	Y=1	N=0
28	11/24	NS	Y=1	Y=1	Y=1	N=0
29	11/24	NS	Y=1	Y=1	Y=1	Y=1
30	11/24	NS	Y=1	Y=1	Y=1	Y=1
31	11/24	NS	Y=1	Y=1	Y=1	Y=1
32	11/24	MS	Y=1	Y=1	Y=1	Y=1

33	11/24	MS	Y=1	Y=1	Y=1	Y=1
34	11/24	MS	Y=1	Y=1	Y=1	Y=1
35	11/24	MS	Y=1	Y=1	Y=1	Y=1
36	11/27	NS	Y=1	Y=1	Y=1	Y=1
37	11/27	NS	Y=1	Y=1	Y=1	Y=1
38	11/27	NS	Y=1	Y=1	Y=1	Y=1
39	11/29	NS	Y=1	Y=1	Y=1	Y=1
40	11/29	NS	Y=1	Y=1	Y=1	Y=1
41	11/30	MS	Y=1	Y=1	Y=1	Y=1
42	11/30	MS	Y=1	Y=1	Y=1	Y=1
43	12/01	MS	Y=1	Y=1	Y=1	Y=1
44	12/01	MS	Y=1	Y=1	Y=1	Y=1

Appendix F

Copy of the E-mail message sent to notify the registered nurses at the project site

From: "Latifat Okeke" <lokeke@montefiore.org>
Subject: Implementation of a standardized shift to shift report tool
Date: 07 September 2020 00:43
To: "k8 Registerednurses@montefiore.orgk8" <Registerednurses@montefiore.org>, "Latifat Okeke" <lokeke@montefiore.org>

Hello all,
You are hereby invited to attend one of the training sessions for the above subject.
Implementation of a standardized shift to shift report tool. Training will last between 45 minutes to 60 minutes occurring three times a week in the charting room on the unit.
Please this is considered a practice change requiring all registered nurses to attend.
Thank you for your attendance and participation.

Sincerely,
Latifat Okeke
TUN Student