

IMPROVING COMMUNICATION AND PATIENT OUTCOMES  
WITH SBAR AT A SKILLED NURSING FACILITY:  
A QUALITY IMPROVEMENT PROJECT

by

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## ABSTRACT

**Background:** Improving patient outcomes depends on high-quality communication among healthcare providers. The aim of this project is to improve communication between geriatric providers and a skilled nursing facility during after-hour phone calls.

**Local Problem:** Geriatric providers expressed concerns about inadequate communication during after-hours phone calls from a Medicare-Medicaid-certified skilled nursing facility.

**Methods:** This quality improvement project utilized the Plan-Do-Study-Act method to create sustainable change. Communication was quantified by establishing 11 key elements of SBAR created based on the Agency for Healthcare Quality and Research TeamSTEPPS curriculum and provider preferences. A needs assessment was conducted to determine baseline data and identify gaps in communication. Phone audits and surveys were used to collect data.

**Interventions:** The Agency for Healthcare Quality and Research's TeamSTEPPS curriculum provided the foundation to create a facility specific SBAR training for staff. The in-person training included a presentation, sample SBAR reports, and resources to reference.

**Results:** The SBAR training at the skilled nursing facility resulted in 10% increase in average SBAR components reported to providers. There was an increase in SBAR elements reported in the Situation, Assessment, and Recommendation categories. There was not a significant change in provider satisfaction, staff satisfaction, or staff confidence. Several residents were unnecessarily transferred to the hospital and received interventions that could have been performed at the facility.

**Conclusions:** SBAR can improve communication between geriatric providers and nursing staff during after-hour calls. Improving communication in skilled nursing facilities is vital to quality patient outcomes and reducing preventable hospitalizations.

## CHAPTER ONE

## INTRODUCTION

As of 2022, 1.4 million people reside in skilled nursing facilities, and over 800,000 people in assisted living facilities in the United States (Office of Inspector General, 2022; American Healthcare Association and National Centers for Assisted Living [AHCA and NCAL], 2022). Long-term care facilities include skilled nursing homes and assisted living facilities (ALFs). These facilities are often staffed with registered nurses (RNs), licensed professional nurses (LPNs), certified nursing assistants (CNAs), and unlicensed assistive personnel (UAPs) but consistently struggle to maintain staff, decrease staff turnover, and secure adequate funding.

Background and Significance

Before the COVID-19 pandemic, the United States nursing home's all-staff turnover rate was estimated to be about 94% per year (Spanko, 2021). Those estimates continue to climb, even eclipsing 135% per year (Spanko, 2021). Further, the COVID-19 pandemic has added additional financial strain to long-term care facilities, resulting in 1,600 nursing homes closing and thousands of residents being displaced in 2021 (AHCA and NCAL, 2021).

The residents of long-term care facilities are a vulnerable population with high rates of both physical and cognitive ailments. The most recent national survey of residential care facilities reports that almost 40% of long-term care residents required assistance with three or more activities of daily living and over 40% have a form of dementia (Caffrey et al., 2012). Further, 89% of long-term care residents are aged 65 years and older and have more chronic medical conditions than the general population (Caffrey et al., 2012). High turnover rates and a

lack of funding, combined with ailing residents, place long-term care facilities at risk for adverse events and poor patient outcomes.

Improving communication in long-term care is imperative to improving patient outcomes and resident health. Inadequate or ineffective communication in long-term care is one of the top contributors to adverse events, including medication errors, falls, and inappropriate interventions including preventative hospitalizations (Andersson et al., 2017). As of 2015, Medicare and Medicaid beneficiaries living in long-term care accounted for roughly 270,000 hospitalizations per year, with one-third of these hospitalizations being preventable (Brennan & Englehardt, 2017). Sending a vulnerable patient unnecessarily into the hospital can be disruptive, and disorienting, and exposes them to hospital-acquired infections. Preventable hospitalizations are also very costly and can place an unnecessary strain on hospital systems and emergency rooms. Preventable hospitalizations among American adults accounted for 33.7 billion dollars in 2017 (McDermott & Jiang, 2020). Communication among a healthcare team is vital to improving patient outcomes, reducing harm, and minimizing unnecessary spending.

### SBAR Communication Tool

One tool adopted by many healthcare organizations to improve communication is the Situation, Background, Assessment, and Recommendation (SBAR) framework. The Navy first invented SBAR during shift changes on submarines (Shahid & Thomas, 2018). In 2004, Dr. Michael Leonard and colleagues at Kaiser Permanente of Colorado adapted the SBAR tool for use in healthcare (Institute for Healthcare Improvement [IHI], 2022). The SBAR is made up of four components designed to structure communication regarding patient status. The situation component includes a concise statement of the problem, often including patient identification

and a brief summary of current concerns. The background includes the medical conditions, recent history, and any pertinent information such as labs or vital signs. The assessment section includes the findings of a physical exam and what the reporting person suspects is wrong with the patient. Lastly, the recommendation includes a request or suggestion on how to proceed. The standard SBAR tool can be visualized in Appendix B.

There has been extensive research supporting SBAR as an effective tool to improve the efficacy, efficiency, and accuracy of communication between healthcare professionals (Stewart & Hand, 2017). Research has also shown that SBAR increases the confidence of the sender and receiver during reports, improves the perception of communication, and is well-accepted among healthcare personnel (Stewart & Hand, 2017). However, there is limited research on how SBAR influences patient outcomes. This systematic review seeks to summarize existing literature on SBAR and patient outcomes and consider its implications for long-term care.

### Objective

There is extensive research on SBAR improving communication in healthcare, but less research directly measuring patient outcomes as a result. It is important to understand if SBAR communication leads to an improvement in patient outcomes. This literature review aims to synthesize research on the use of interdisciplinary SBAR in improving patient outcomes. A secondary objective is to consider the implication of SBAR on patient outcomes in long-term care facilities.

## Methods

### Search Strategies

The author performed this systematic review using the Preferred Reporting Items for Systematic Review and Meta-analysis Guidelines (PRISMA) checklist (Page et al., 2020). The author conducted a comprehensive search in CINAHL Complete, Cochrane, Medline, and PubMed. Keywords were searched using Boolean operators and included SBAR OR SBAR communication OR SBAR tool and patient outcomes OR quality care. There were no additional filters.

### Study Eligibility

The inclusion criteria for the review focused on (a) SBAR being evaluated as a tool, (b) SBAR being used in a clinical setting, (c) SBAR communication including more than one profession or discipline, and (d) at least one patient outcome being measured. Exclusion criteria included studies only between members of one profession, like nurse-to-nurse reports; studies that were conducted in a simulation and not in a clinical setting; and studies published in a non-English language.

Study Selection. The initial search yielded 176 studies. One reviewer screened the titles and abstracts for duplicates and inclusion criteria. After the screening, six studies met the inclusion criteria. The focus is on healthcare as a team; therefore, single-profession communication was excluded. Further, simulations were excluded as they may not reflect actual clinical practice. There were no constraints on the setting, sample, or time-frame criteria. Given

the limited research on the subject, no studies were excluded from the review based on the strength of the evidence.

Quality Assessment. The Quality Assessment Tool for Quantitative Studies (QATQS) by the Effective Public Health Practice Project (EPHPP) was used to analyze the quality of each study (Armijo-Olivo et al., 2012). The QATQS is an established, valid, and reliable tool for evaluating qualitative evidence in systematic reviews (Armijo-Olivo et al., 2012). The studies include one randomized control trial and five quasi-experimental, pre-post-intervention studies. One of the quasi-experimental studies is an interrupted time series study. The randomized control trial is rated as strong. Three quasi-experimental studies are rated moderate, and two quasi-experimental studies are rated weak. Some studies evaluated customized SBARs, while others used standardized SBARs. See Appendix A for the complete evidence table.

## Results

### Overview of Studies

The strongest study by Field et al. (2011) is a randomized control trial comparing patient outcomes with a customized Warfarin-specific SBAR. The study was conducted across 26 nursing homes, including 435 residents on Warfarin, over the course of one year (Field et al., 2017). Researchers concluded the implementation of SBAR in nursing homes led to a 4.5% improvement in the therapeutic international normalizing ratio and a decreased rate of warfarin-related adverse outcomes, although the latter was not statistically significant (Field et al., 2011). The primary means of SBAR reporting in this study was conducted via telephone to on-call providers, indicating telecommunication is an effective means to utilize SBAR (Field et al.,

2011). The study was strengthened by the design of a randomized control trial, data from several nursing homes, and a large sample size (Field et al., 2011). However, the study did not conclude a statistical difference between other patient outcomes related to warfarin management, perhaps weakening the overall findings (Field et al., 2011).

Another study utilizing a customized SBAR is Leonard & Zomorodi's (2019) quality improvement project with a quasi-experimental pre-post design. This project included education on heart failure and a heart failure-customized SBAR for 105 registered nurses working at a home health agency (Leonard & Zomorodi, 2019). The results concluded no difference in emergency room transfers but a 100% decrease in patient hospitalizations (Leonard & Zomorodi, 2019). However, the sample only included 31 heart failure patients over two 60-day periods. The sample size was smaller because the home health agency did not have a tracking system in place to alert or flag when a patient was sent to the hospital or emergency room, meaning all data collection occurred via personal chart review (Leonard & Zomorodi, 2019). Despite this small sample size and short time frame, the project did result in a significant improvement in patient outcomes.

There is limited data on customizable SBARs when compared to standardized SBARs regarding the quality of communication and patient outcomes. A quasi-experimental study by Ashcraft and Owen (2017) compared the use of a customized SBAR tool to the controlled, standardized SBAR tool in two nursing homes. Ashcraft & Owen (2017) found no difference in resident transfer rates to the hospital in either group. However, the authors did conclude that the standardized SBAR was used more frequently, possibly indicating staff favored it over the customized version (Ashcraft & Owen, 2017). Limitations of the study included poor nurse

participation in completing SBARs, and researchers did not account for confounding variables like nurse level of education or resident risk of hospitalization (Ashcraft & Owen, 2017).

A pilot study by Devereaux (2016) with a quasi-experimental design studied the use of condition-specific SBARs with 27 RNs in a 139-bed skilled nursing facility. The condition-specific SBARs included SBARs customized for heart failure, pneumonia, urinary tract infections, etc. to be utilized when notifying providers about a patient with that specific condition (Devereaux, 2016). Devereaux concluded a 15.2% decrease in hospital transfers and an 8.4% decrease in hospital readmissions after implementing the condition-specific SBARs (2017). Limitations included a high rate of staff turnover, a limited number of nurses, a single site, and the inability to control confounding variables (Devereaux, 2016).

The next study is a quasi-experimental, interrupted time series study that occurred in an acute care hospital from 2010 to 2012 (Townsend-Gervis et al., 2014). The study followed 111 nurses who worked in three, 48-bed medical-surgical wards in a hospital (Townsend-Gervis et al., 2014). In 2010, interdisciplinary rounds were introduced to the units, leading to subsequent improvements in foley catheter removal times (Townsend-Gervis et al., 2014). Then, classroom and simulation-based education on SBAR were introduced in 2011, resulting in even further improved foley catheter removal times and a significant decrease in hospital readmissions (Townsend-Gervis et al., 2014). Limitations to Townsend-Gervis et al.'s quasi-experimental study included the study being performed at a single site without a control group and the inability to control confounding variables like nursing turnover or patient demographics. Strengths included the ability to train new staff quickly on SBAR and the longitudinal design for capturing data over several years (Townsend-Gervis et al., 2014).

Another quasi-experimental study by Meester et al. (2013) compared a bundled intervention including SBAR training, a rapid response system, a medical early warning system, and education in a pre-post intervention in 16 hospital wards. The interventions resulted in a decrease in unexpected deaths and an increase in ICU transfers, presumably indicating an earlier rescue time in the wards (Meester et al., 2013). Limitations of this study included being performed at a single medical center; no analysis was performed to confirm if SBAR was utilized in communication; and providers were not being educated on SBAR (Meester et al., 2013). The large sample size and data collection periods of almost two years lend strength to the study (Meester et al., 2013). Although this study shows a significant decrease in unexpected deaths from .99 per 1,000 admissions to .34 per 1,000 admissions, it is a bundled intervention, so outcomes are not based on SBAR alone (Meester et al., 2013).

### Strengths and Limitations

This literature review has several strengths and limitations that are important to consider. A strength of this literature review is utilizing a valid and reliable tool, the QATQS, for study analysis. It also includes evidence from randomized control trials and quasi-experimental designs. Further, despite variations in settings and populations, the studies concluded an improvement in patient outcomes with SBAR communication. Lastly, several studies demonstrated SBAR as a favorable tool that improved communication among staff (Leonard & Zomorodi, 2019; Meester et al., 2013; Stewart & Hand, 2017).

A limitation of this literature review is that only six studies were included for final evaluation, and only one study was rated as strong per the QATQS guidelines. Another major limitation is that some studies included bundled interventions or additional education; therefore,

it is impossible to say if SBAR alone contributed to improved patient outcomes (Meester et al., 2013; Leonard & Zomorodi, 2019). This emphasizes the need for further research on how SBAR impacts patient outcomes.

### Discussion

Poor communication in healthcare leads to adverse events and increasing costs. The Joint Commission International (2018) reports that inadequate communication resulted in 80% of adverse events, over 1,700 deaths, and a cost of over 1.7 billion dollars over five years. Although SBAR is a widely accepted tool to improve communication in healthcare, there remains little research on how it impacts patient outcomes. This review is limited but concludes with favorable evidence for SBAR communication improving patient outcomes. Notably, no study found a significant risk to implementing SBAR in any setting. Therefore, SBAR is a reasonable and feasible intervention for healthcare settings.

Further research, specifically on SBAR and patient outcomes, is needed to confirm these results. This absence of knowledge provides an opportunity to address the communication gap in healthcare and improve patient outcomes. Strong research that focuses on SBAR as an individual intervention is needed to confirm its effectiveness. Further research among various healthcare settings and disciplines is needed to enable dissemination across the healthcare system.

### Implications for Practice in Long-Term Care

Residents of long-term care remain a very vulnerable population with high rates of preventable adverse events and hospitalizations. The emotional and physical toll hospitalization places on residents, as well as the cost and burden it places on the healthcare system, begs the

need for further research into solutions. Ineffective communication continues to be a driving factor in adverse events in long-term care (Andersson et al., 2017; Joint Commission International, 2018). Implementing SBAR in a long-term care facility was shown to improve patient outcomes in a randomized control trial and quasi-experimental interventions (Field et al., 2011; Devereaux, 2016). Implementation of SBAR-based communication in long-term care appears feasible and effective.

SBAR will need to be modified to accommodate the limitations of UAPs employed in long-term care. Notably, Medicare- and Medicaid-funded nursing homes require a registered nurse to be present for eight hours each day (Karikari-Martin, 2022). This means a long-term care facility may only have CNAs or UAPs present for up to 16 hours each day. This review did not find any research that evaluated SBAR use with CNAs or UAPs. Some modifications would need to be made to the SBAR for unlicensed personnel, specifically regarding the assessment and recommendation sections. Physical exams, noted in the assessment section, are not within the scope of practice of CNAs or UAPs. A way to modify this section of the SBAR may be to use "appearance" instead of assessment. For instance, a CNA or UAP could describe vital signs and other observable symptoms, like how a caregiver may describe the symptoms of a loved one. The recommendations section could be changed to "request." For instance, the UAP or CNA could request a provider or nurse visit. It is reasonable to suggest a modified or simplified SBAR means of communication for unlicensed personnel, although further research is needed.

### Conclusion

The SBAR can serve as an effective tool to improve the quality and content of communication in healthcare settings (Stewart & Hand, 2017). This systematic review provides

evidence supporting the claim that SBAR communication among various healthcare settings improves patient outcomes. It also demonstrates that customizable and standardized SBARs are similarly effective (Ashcraft & Owen, 2017). The implementation of SBAR in a long-term care facility is feasible and without significant risk. Considering the staffing shortage in long-term care, further research should include the use of SBAR among CNAs or UAPs. Further research is also needed concerning SBAR communication and patient outcomes. One key advantage of this literature review is that it synthesizes evidence on a relatively unknown topic and provides a basis to guide future research.

## CHAPTER TWO

## PROJECT PROPOSAL

Introduction and Problem

Residents of assisted living facilities are considered a vulnerable healthcare population as they are often elderly and have multiple medical conditions affecting their physical and cognitive independence. In Montana, 63% of assisted living residents are over age 85 and 45% have a form of dementia (National Center for Assisted Living, n.d.). Further, over 50% of residents need help with activities of daily living including bathing and walking (NCAL, n.d.). Montana's assisted living and other long-term care facilities have been struggling with short staffing, high staff turnover, and poor financial situations for several years. These problems have been recently exacerbated by the Covid pandemic. In fact, Montana has lost seven long-term care facilities, which equates to 10% of the state's long-term care beds in recent years (Hall, 2022). The combination of a vulnerable population, high staff turnover, short staffing, and financial strain places assisted living facilities at risk for poor patient outcomes.

One way to combat these negative aspects is to improve communication. Inadequate or ineffective communication in long-term care is a top contributor to adverse patient events and preventable hospitalizations (Andersson et al., 2017). The Situation-Background-Assessment-Recommendation (SBAR) tool is an evidence-based tool that has been shown to improve the efficiency and accuracy of communication in healthcare settings (Stewart & Hand, 2017). Implementing the SBAR communication in assisted living facilities (ALF) in Montana could

improve communication, improve patient outcomes, and prevent unnecessary hospitalizations for this vulnerable population.

### Problem Statement

A geriatric provider group in southwestern Montana has expressed dissatisfaction and concern regarding poor communication between facility staff and their on-call providers. The facilities require a registered nurse to be present for at least eight hours per day. The rest of the day is covered by unlicensed assistive personnel (UAP). The SBAR has been widely successful among licensed healthcare personnel in different settings, however, there is no data on the success of SBAR with UAPs. The purpose of this quality improvement project is to determine if SBAR utilization in a Montana long-term care facility can effectively improve communication with providers and subsequently prevent adverse patient outcomes.

### Organizational Microsystem Assessment

Interviews with the group of geriatric providers revealed concerns about poor communication and a lack of reporting pertinent information by facility staff. Specifically, a provider noted that poor communication has led to the inability to make safe medical decisions which sometimes results in residents being unnecessarily sent to the emergency room. The providers specifically noted poor communication when phoned for after-hour needs.

A needs assessment will be conducted in the form of an electronic survey that geriatric providers will fill out when receiving a phone call from the facility staff. One of the providers has already developed a paper form that was utilized to develop the electronic survey. This information will help clarify where the gaps in communication are occurring, which facilities may benefit from implementing SBAR, and if the quality of information varies based on who is

calling. The electronic form will be available to providers through an application they have easy access to and use regularly for other work duties. The electronic needs assessment/SBAR phone audit survey can be viewed in Appendix A.

### Rationale

Healthcare staff perceives SBAR as an easy to use and favorable tool to improve communication (Leonard & Zomorodi, 2019; Meester et al., 2013; Stewart & Hand, 2017). SBAR education and implementation in long-term care facilities has been shown to improve communication and patient outcomes (Field et al., 2011; Ashcraft & Owen, 2017; Devereaux, 2016). This project uses the previous success of SBAR in healthcare settings as the basis to expand its use to long-term care.

This project will be implemented using the International Health Institute's (IHI, 2022) Model for Improvement: Plan Do Study Act (PDSA) Cycles. This method is beneficial as it includes the use of multiple cycles throughout the project. This will allow for improvements and adjustments as needed to overcome barriers and design a sustainable quality improvement project. There will be several PDSA cycles throughout the project, but a general outline is described. The planning phase will include developing a needs assessment, data collection tool, and developing the educational SBAR training. The Do phase will include SBAR training in the facilities. The Study phase will include analysis of data through a data collection tool that will help determine if communication and patient outcomes are improved. The Act phase will allow for adjustments or modifications to be made to help improve the projects moving forward.

### Specific Aims

The ultimate goal of this quality improvement project is to have zero residents transferred unnecessarily to the emergency room due to poor communication. Other goals include an increase in unprompted SBAR elements reported to providers after SBAR training is complete. Twelve SBAR components will be measured, and the short-term goal would be for at least nine elements to be reported on every phone call. Another goal is to have an increase in provider satisfaction with communication. A final goal is dissemination of the project outcomes and implementation of SBAR trainings at all facilities the provider group serves. A logic model outline is depicted below.

### Context

The group of geriatric providers, mostly nurse practitioners, is employed through a non-profit healthcare system that serves several long-term care facilities. The probable target facility is an ALF in southwestern Montana that is owned by the same hospital that employs the providers. The ALF offers studio or one-bedroom dwellings in an apartment-style building. The ALF employs nurses and UAPs. Nurses are available at least eight hours per day and UAPs are available 24 hours per day. The facility assists with medication management, mobility, bathing, dressing, meals, laundry, housekeeping, and other needs. The ALF also offers on-site occupational therapy, physical therapy, and blood draws. The cost for residents to stay at the facility is unknown, but the average cost of assisted living in Montana is \$3,820 per month (Paying for Senior Care, 2020). Further site analysis will be conducted once the facility is

agreeable to participating in the quality improvement project. An alternate site is a skilled nursing facility.

### Interventions and Implementation

Implementing SBAR training in a Montana long-term care facility is feasible, bears minimal risk, and has the potential to provide great improvement in communication and quality of care. The quality improvement project will be implemented in several steps. First, a needs assessment will be conducted to analyze current communication and provider satisfaction. This data may help influence which facility will be targeted for the initial project. Next, outreach to the project facility will occur in hopes of gaining their support and participation in the project. Once the providers and facility are onboard, the project can move forward.

The Agency for Healthcare Research and Quality has developed a curriculum and materials to implement SBAR in healthcare settings (2022). This will be used as a guide to develop the SBAR educational sessions. The training will include collaboration with the provider team, the education department, and the ALF management. The project lead will travel to the facility site and perform in-person SBAR training for facility staff. The goal is to have all UAPs and nurses complete the SBAR education.

There will need to be a modified SBAR for UAPs, specifically, the assessment and recommendation sections. The UAPs are allowed to take vital signs but are not trained to perform physical assessments. The UAPs are also less likely to know which recommendation to make as they are less familiar with common medications or interventions compared to licensed staff. These sections could be changed to ‘appearance’ and ‘request’ as outlined in the sample

template below. This template was based on the previously developed provider's needs assessment.

Once staff have been trained on SBAR the expectation will be that they use SBAR when communicating with providers. Data collection will be performed via phone calls to providers. Providers will fill out a data collection form similar to the needs assessment. As noted previously, a paper form of this survey was already developed by one of the providers. The twelve SBAR components, provider satisfaction, and transfers to the emergency room will be included. This form is still being developed. The data collection phase will occur for three weeks. Data will then be analyzed to determine the elements of SBAR reported, provider satisfaction with communication, and patient outcomes including unnecessary hospitalizations.

### Funding

The budget for the project is unclear, pending contact with the target facility. The primary need for funding would be the facility staff's base wage for one to two hours of SBAR education. At this time, it is unclear how many people would undergo the training. The source of funding could be the ALF itself, if they integrate this training into mandatory education. However, with the recent financial strain on long-term care facilities, this may be unrealistic. An alternative idea would be to create an online SBAR education module that staff could complete independently during down time on their shift. This may also be met with resistance, as many facilities are short-staffed. An additional incentive to encourage participation could include staff being entered into a drawing for gift card once they complete the education. Ultimately, the financial constraints of the project will need to be discussed with the participating facility. Financial

constraints is not the only barrier this project may face. Other potential barriers and strategies to mitigate those barriers is outlined in the following table.

Potential Project Barriers

Table 1. Potential Project Barriers.

<b>Potential Barriers</b>	<b>Strategies to Overcome Barriers</b>
High Staff Turnover	<ul style="list-style-type: none"> <li>• SBAR education will be focused and easily reproducible for oncoming staff</li> <li>• An electronic version or online training may make teaching easier for new staff</li> </ul>
Short Staffing/Staff Participation	<ul style="list-style-type: none"> <li>• Emphasize will be placed on the efficiency of SBAR in communication during the education sessions</li> <li>• A pocket card or badge card outlining the SBAR components may be helpful for staff to reference</li> </ul>
Organizational Culture	<ul style="list-style-type: none"> <li>• Importance of effective communication could be conveyed using examples from their facility</li> <li>• Disseminating results with staff could encourage change</li> <li>• Encourage team building through quality communication with providers and facility staff</li> <li>• Allow facility staff to be active participants in the education by encourage suggestions and feedback</li> </ul>
Recent Changes in Provider Software: Transitioning to New Electronic Health Record	<ul style="list-style-type: none"> <li>• All data collection will be performed on a familiar application that remains unchanged with the new EHR software</li> <li>• Data collection time periods are adjustable. Discussion with providers on what times would work best for them will occur. For example, it may be helpful to delay the project a couple weeks to allow for adjustment to the new HER.</li> </ul>

Evaluation

Although some of this project’s goals extend beyond the scope of this project, there are several goals that will be evaluated in this quality improvement project. These include: (1) 100% of facility staff will complete SBAR education by January 31<sup>st</sup>, 2023. (2) At least 75% of SBAR

components will be reported to on-call providers for each phone call in the 3 weeks of data collection following the SBAR training. (3) Providers will report an increase in satisfaction with communication by an average of at least 1 point on a 5-point Likert scale in the 3 weeks following SBAR education compared to the needs assessment. (4) There will be zero residents transferred unnecessarily to the emergency room in the 3 weeks following SBAR education. The providers are the main source of data collection as they are filling out the needs assessment and the post-intervention data collection tool.

Several steps will be taken to ensure the accuracy and completeness of data collection by the providers. First, providers will meet with the research team to go through both data collection tools to ensure an understanding of language, SBAR components, and clarify any questions. This will promote accuracy and consistency in data collection. Second, both the needs assessment and data collection form will require the providers to fill out each field resulting in complete data collection. They will not be able to skip a question on either electronic form. The lead researcher will be responsible for data analysis, synthesis of results, and dissemination. No patient information will be collected throughout the project. The facility staff names will also be confidential, just their titles (UAP, RN, LPN) will be recorded. The providers collecting the data will also remain blind to the researchers analyzing the data. A detailed description of data collection and analysis for each goal can be viewed in the SMART goal tables below.

Project Goals

Table 2. SMART Goal #1.

<b>SMART Goal #1: 100% of facility staff will complete SBAR education by January 31<sup>st</sup>, 2023</b>		
<b>Description of strategies and resources:</b>		
<ul style="list-style-type: none"> <li>• Facility management, education department, and provider group will approve SBAR education.</li> <li>• The facility will pay for staff to attend education in-person or an online module will be completed at the staff’s convenience. Additional discussion on finances and incentives will need to be addressed further once a target facility is agreeable to participate.</li> <li>• Employees will need to be engaged and participate in SBAR education</li> <li>• Lead researcher will need to present education on-site. An online module education module may be helpful for teaching new staff or for persons who cannot make in-person meeting times</li> <li>• TeamSTEPPs SBAR educational materials will be used as a basis for the education sessions</li> <li>• A modified SBAR for unlicensed personnel will be included in the education, which will include ‘appearance’ and ‘request’ instead of ‘assessment’ and ‘recommendation’.</li> </ul>		
<b>Data to be collected</b>	<b>Method of collection and who is responsible</b>	<b>Planned data analysis</b>
Count of how many facility nurses and UAPs complete the SBAR education.	Facility staff will sign a participation sheet when coming to the training. This will be compared against management record of total employees. If people complete the online education, they will fill out a quiz with their name. Or if the facility already has a means to track education, that may be used instead.	Count of staff who participated in the education as a proportion to total staff.

Table 3. SMART Goal #2.

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**SMART Goal #2:** At least 75% of SBAR components will be reported to on-call providers for each phone call in the 3 weeks of data collection following the SBAR training.

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**Description of strategies and resources:**

- Geriatric providers will fill out SBAR data collection tool before and after the intervention
  - This tool will directly measure which components of SBAR were reported to the providers without prompting
  - There are 12 components of SBAR that will be directly measured including:
    - Situation:
      - Name of resident
      - DOB or age of resident
      - Chief complaint or reason for call
      - Information about onset, duration, or timing
    - Background:
      - Primary diagnosis or reason the resident is in long-term care
      - Code status
      - Current vital signs
      - Pertinent medical history
      - Allergies
    - Assessment/Appearance
      - Pertinent assessment information (RN, LPN)
      - Pertinent appearance information (Non-nursing)
    - Recommendation/Request
      - State a specific recommendation or request
      -

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Data to be collected	Method of collection and who is responsible	Planned data analysis
Number of SBAR elements reported to the provider without prompting	On-call providers will fill out the SBAR data collection tool that analyzes the reporting of the SBAR components through a Smartsheets survey. Data will automatically upload into Smartsheets for the project lead to review and analyze.	Needs assessment and post-SBAR education data will be collected in an excel sheet. Each element of SBAR will be assigned 1 point, with a total score given for each phone call. An independent t-test will then be conducted to determine if there is a statistically significant difference between the SBAR components reported in the needs assessment and the post-SBAR education calls.

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Table 4. SMART Goal #3.

**SMART Goal #3:** Providers will report an increase in satisfaction with communication by an average of at least 1 point on a 5-point Likert scale in the 3 weeks following SBAR trainings compared to the needs assessment.

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**Description of strategies and resources**

- A Likert scale on the data collection tool completed by the provider for each phone call will be used to collect the data. The question, with assigned points per answer, is below:  
 How satisfied were you with the unprompted information provided to you during this call?  
 Very Satisfied – 5  
 Satisfied – 4  
 Neutral – 3  
 Dissatisfied – 2  
 Very Dissatisfied - 1

Data to be collected	Method of collection and who is responsible	Planned data analysis
Data will be collected in the needs assessment and then post-intervention survey via Smartsheets and compared. The data will be in the form of the Likert question listed above.	The providers will be responsible for completing the questionnaire with each phone call during data collection periods. The lead researcher will be responsible for aggregating and analyzing the data.	Independent t-test will be used to analyze the data.

Table 5. SMART Goal #4.

**SMART Goal #4:** There will be zero residents transferred unnecessarily to the emergency room in the 3 weeks following SBAR trainings.

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**Description of strategies and resources:**

- Geriatric providers will fill out SBAR data collection tool for each phone call they receive.
  - This form has a question asking, “What orders, if any, did you give?” with one answer being that they recommended the resident was transferred to the emergency room.
- At least 2 independent providers will agree on if the resident could have been safely treated at their home facility. If so, the transfer will be labeled as ‘unnecessary’.

Data to be collected	Method of collection and who is responsible	Planned data analysis
Number of residents sent to the emergency room.	The project lead will evaluate the surveys to determine how many patients the providers reported sending to the emergency room. Two providers will use their clinical judgement to determine if the emergency room visit was necessary or if the condition could have been treated at the facility.	Frequency count of residents sent to emergency room unnecessarily the needs assessment and post-SBAR education survey. Including proportion of residents sent to emergency room verses number of phone calls placed.

## CHAPTER THREE

## QUALITY IMPROVEMENT PROJECT

The purpose of this quality improvement project is to implement SBAR to improve communication between skilled nursing facility staff and geriatric providers. Communication is key to delivering effective, safe, and quality healthcare. The Situation, Background, Assessment, Recommendation (SBAR) tool is a widely accepted, evidence-based tool to improve communication. This project also aims to improve provider satisfaction, staff satisfaction, and staff confidence with communication. A final goal will be to explore how preventable hospitalizations may be related to communication.

Problem Description

Interviews conducted with a Montana geriatric provider group revealed concerns with inadequate communication, especially during after-hour calls. Inadequate, or ineffective communication in long-term care is one of the top contributors to adverse events, including medication errors, falls, and inappropriate interventions (Andersson et al., 2017). The providers noted communication regarding changes in a resident's condition was lacking in both quality and content. As a result, providers sometimes felt the safest option was to send residents to the hospital, often unnecessarily. As of 2015, Medicare and Medicaid beneficiaries living in long-term care accounted for roughly 81,000 preventable hospitalizations (Brennan & Engelhardt, 2017). These preventable hospitalizations are costly, burdensome, and place vulnerable residents at risk for hospital-acquired infections and delirium. Improving communication with SBAR

could have significant benefits to long-term care residents' health and reduce unnecessary hospitalizations.

### Available Knowledge

The site for this quality improvement project is a skilled nursing facility (SNF) in Montana. There are no studies known to this author that provide analysis of communication for Montana nursing homes. A needs assessment or pre-SBAR survey was performed to identify where communication gaps were occurring and to establish baseline data for the SNF.

To quantify the quality of communication, providers and the lead researcher agreed on 11 key SBAR elements. These elements were based on the Situation-Background-Assessment-Recommendation (SBAR) tool, the Agency for Healthcare Quality and Research (AHQR) TeamSTEPPS SBAR curriculum, and provider preferences. The needs assessment survey is the same as the pre-SBAR audit survey. The pre-SBAR audit survey revealed an average of only 49% of the 11 SBAR elements reported during each call. This data will serve as a basis for understanding the current quality and content of after-hour communication for the SNF.

### Rationale

With a goal to create sustainable change, the Plan-Do-Study-Act (PDSA) model for quality improvement was chosen for this quality improvement project. The PDSA model is supported by the Institute for Healthcare Improvement as an effective tool for testing change (2023). The PDSA cycles allow for revision and improvement throughout the process.

The Situation-Background-Assessment-Recommendation tool was chosen for the primary intervention to improve communication for several reasons. First, this project required an escalation form of communication, meaning the SNF staff were communicating upwards to

providers, not laterally amongst themselves. The SBAR is an escalation tool that is supported by evidence-based research and backed by many respected healthcare organizations including the Joint Commission, AHRQ, Institute for Healthcare Improvement, and World Health Organization (Shahid & Thomas, 2018). Also, several studies confirm SBAR utilization in long-term care facilities has shown an improvement in communication and patient outcomes (Field et al., 2011; Ashcraft & Owen, 2017; Devereaux, 2016). Lastly, healthcare staff have perceived SBAR as an easy-to-use and favorable tool to improve communication (Leonard & Zomorodi, 2019; Meester et al., 2013; Stewart & Hand, 2017). Overall, SBAR was chosen because it is an evidence-based, feasible, easy-to-use escalation tool, that has demonstrated efficacy in long-term care to improve communication and patient outcomes.

The AHRQ's TeamSTEPPS curriculum on SBAR was chosen as the foundation for the SBAR training. The TeamSTEPPS program, designed by AHRQ and the Department of Defense's Patient Safety Program, focuses on improving communication among healthcare workers using evidence-based practices (AHRQ, 2019). The curriculum includes PowerPoint slides, lecture notes, and videos of sample patient scenarios and SBAR reports. This curriculum can be customized to fit different areas in healthcare but does include materials specific to long-term care.

### Specific Aims

This quality improvement project has several aims with an overarching goal of improving communication between SNF staff and the geriatric provider group. The first goal was to have 100% of facility staff attend the SBAR training. Engaging staff in the project ensures understanding and utilization of the SBAR intervention. The second goal was to have at least

75% of SBAR components reported during each phone call to providers after the SBAR training. This goal would be the primary means of assessing an improvement in communication. Along with communication, it is important to consider staff and provider perceptions of communication. A third goal is to have an increase in provider satisfaction by at least one point on a five-point Likert scale compared to the pre-SBAR audit survey data. A fourth goal is to have an increase in nursing staff satisfaction and confidence by one point on their respective Likert scales. Lastly, a fifth goal of this quality improvement project was to have zero preventable hospitalizations or emergency room visits related to communication after the SBAR intervention was implemented.

## Methods

### Context

The geriatric provider group is employed through a non-profit healthcare system that serves several skilled nursing facilities and assisted living facilities in Montana. The group consists of five nurse practitioners, one psychiatric pharmacist, two physicians, and support staff. The geriatric provider group reports their concerns with poor after-hour communication has been occurring with several facilities over several years. The geriatric provider group was very invested in the quality improvement initiative.

The SNF is a nearly 100-bed Medicare and Medicaid-certified facility in Montana. It accommodates residents for short-term rehabilitation, long-term care, and memory care. It is staffed by registered nurses, licensed registered nurses, and support staff. Some staff are permanent, and others are traveling staff. The facility director collaborated on creating the education and regularly reinforced the SBAR training with the staff.

The residents of skilled nursing facilities comprise a vulnerable healthcare population. Almost half of SNF residents are 85 years or older, often having several medical conditions and medications (American Geriatric Society [AGS], 2020). Further, 80% of SNF residents need help with three or more activities of daily with over half experiencing incontinence (AGS, 2020). Dementia is the most common problem in most SNFs and affects an estimated 50-70% of residents (AGS, 2020).

Notably, the SBAR training was postponed by almost two weeks because the SNF experienced an influenza outbreak. Both staff and residents were ill. The training was rescheduled when the outbreak was resolving. However, the increased demands on staff may have contributed to fewer staff attending the SBAR training.

Montana Nursing Homes. There are several factors currently affecting Montana's nursing homes that should be considered in the context of this quality improvement project. First, Montana is a rural state with the sixth highest percentage of residents over age of 65 years old (Poulette, 2021). Montana has also struggled to recruit and maintain enough healthcare workers to care for their population. This labor force deficit is significant enough to have prompted a healthcare workforce recruitment program launched by the governor's office (State of Montana Newsroom, 2022).

Financial strain, especially in the wake of the recent Covid pandemic, is another significant stressor placed on long-term care facilities in Montana. The majority of SNFs provide care to Medicaid residents. The Medicaid reimbursement rates are falling short of the cost to care for residents, leaving many Montana long-term care facilities unable to make up the difference (Klepps, 2022). In 2022, Montana lost 20% of its senior care facilities to closures (Klepps,

2023). As a result, residents are displaced, and facilities are unable to offer competitive wages to hire and maintain staff (Klepps, 2023).

It is reasonable to assume the SNF target facility is experiencing similar financial strain and staffing shortages. These stressors may have impacted the success of this quality improvement project. However, these stressors also emphasize the importance of communication and improving patient outcomes. Importantly, acknowledging these factors lends credibility to the results of the project and demonstrates that an SBAR intervention in similar facilities is feasible and effective.

### Intervention

The SBAR training was developed based off the AHRQ's TeamSTEPPs SBAR curriculum in collaboration with the geriatric provider group and facility management. The training was tailored to long-term care with a focus on nursing staff. The training consisted of an in-person presenter with a PowerPoint presentation. Unfortunately, the PowerPoint was unable to be presented due to technical issues at the site. A verbal presentation was given instead. The presentation included background information on SBAR, evidence supporting SBAR, and explanation of the four SBAR components; Situation, Background, Assessment, and Recommendation. The majority of the training focused on the facility specific SBAR form and the 11 SBAR components.

The lead researcher, geriatric provider group, and facility management collaborated to create a facility specific SBAR form. The form included the 11 SBAR components and some additional information. Staff were to complete these forms prior to phoning the provider. The forms were collected in a folder by the nursing station and staff were encouraged to write

suggestions or comments about using the SBAR form in the additional comments section. The researcher periodically collected these SBAR forms for review. The form can be viewed in Figure 1 or Appendix B.

Figure 1. Facility-Specific SBAR Form.

<b>On-Call SBAR</b>							
<p>Directions: This form is completed by staff to aid in calls to the provider on-call. It should be complete <i>BEFORE</i> any call is made. Provide details and complete by signing your name. Use nursing discretion for hospice patients. Please place it in the collection folder at the nurse's desk when complete.</p> <p>Script: <i>This is (your name) from [redacted] I need advice on... (use below information)</i></p>							
Resident Name:	Date of Birth:	Code Status:		Primary Provider:			
POA/Contact information:							
<b>Situation</b>	Current concern:						
	When did this start?						
<b>Background</b>	What are the current symptoms?						
	<b>Vitals</b>	HR:	BP:	RR:	SpO2:	Temp:	Wt:
<b>Assessment</b>	Primary Diagnosis/reason resident requires care:		Pertinent Medical Hx:		Pertinent Medications:		
	Allergies:						
<b>Recommendation</b>	Details of your assessment:						
<b>Outcome</b>	What do you need?						
Plan/Orders:							
Name of nurse/provider/person who was notified: _____							
Additional Information:							
Signature of RN/LPN:				Date:		Time:	

Please place the completed form in the collection folder at the nurse's station.

Another resource provided to the staff was badge cards with the 11 SBAR elements. As previously noted, the SBAR elements were based on the original SBAR tool, the TeamSTEPPS curriculum, and provider preference with the purpose of quantifying communication and analyzing which SBAR elements were included or excluded in reports. These elements also helped simplify the expectations of staff. Staff were given examples of an SBAR report using these elements. Notably, the Situation elements included a 12<sup>th</sup> SBAR element, “Introduce yourself”. The badge cards can be viewed in figure 2.

Figure 2. SBAR Badge Card.



A single training was held in the afternoon, with snacks and coffee supplied to staff. Management and geriatric providers at the facility then reinforced the training over the following week and educated nurses who did not attend. The facility management staff was left with the

PowerPoint, notes, and resources including badge cards and poster card reminders. The lead researcher was also available to meet with staff on an individual basis if needed.

### Data Collection and Study of Interventions

The pre-SBAR and post-SBAR phone audit surveys are the same and can be viewed in Appendix A. The phone audit survey data was collected via Smartsheets, an app the geriatric provider group used regularly on their work phones or computers. The pre-SBAR data collection, also referred to as the needs assessment, occurred over a four-week period. There was then a four-week gap where no data was collected. SBAR training was completed near the end of that fourth week. The post-SBAR data collection occurred in the four weeks following the SBAR training. The Smartsheet's data uploaded into a table that was easily exported to excel for data analysis.

The phone audit survey was chosen because it is a quick way for providers to enter data during a phone call, using an app they were already comfortable working on. These phone audit surveys collected information regarding the 11 SBAR components, provider satisfaction, and flagged resident transfers to the hospital. The choice to breakdown SBAR into 11 individual elements was made for several reasons. It helped simplify expectations for SNF staff, quantified communication, and allowed for specific elements, like vital signs, to be tracked.

Likert style questions were used to assess provider satisfaction and staff satisfaction and confidence with communication. Likert style questions were chosen because they are easy to understand and can be completed quickly. Providers completed a satisfaction question during each phone call as part of the phone audit survey. Staff completed two likert style questions, one regarding satisfaction and another regarding confidence via Qualtrics surveys. The staff

completed the survey immediately prior to the SBAR training and four weeks after the SBAR training. These surveys were distributed via QR code, link, or paper handouts with help from the nurse manager. The data was uploaded into Qualtrics and exported to excel for data analysis.

Lastly, to collect data on preventable hospitalizations, a geriatric provider reviewed each resident who was sent to the hospital during the post-SBAR data collection period. Residents transferred to the hospital were flagged in the phone audits to allow for easier tracking. The provider completed a shared excel sheet inquiring (1) If the patient was admitted to the hospital (2) The admit/discharge diagnosis as an ICD 10 code (3) If interventions performed in the hospital could have been performed at the SNF and (4) any additional comments. The geriatric providers agreed, if the diagnosis and interventions could have been performed at the SNF, the hospitalization was likely preventable. The hospitalizations were not able to be linked to a specific phone audit due to delay in accessing patient charts.

### Measures

Information on SBAR elements, provider satisfaction, and hospitalizations was collected by providers via the phone audit surveys. In order to enhance inter-rater reliability, the geriatric provider group met with the researcher and reviewed the survey. At conclusion of the meeting, all providers were in agreement with each survey item, how to complete the survey, and definitions of each SBAR element. Similarly, to enhance construct validity, providers were involved in creating the SBAR elements to ensure the questionnaire sufficiently measured SBAR communication. The survey required each element to be answered before being submitted, ensuring completeness of data collection for each phone audit. Additionally, providers were reminded of data collection via email every two weeks during data collection periods. In an

attempt to control external variables, no other communication related trainings or workshops were performed at the facility during this project's duration.

### Analysis

The first goal was to have 100% of SNF staff complete the SBAR training. A headcount at the training revealed six nurses in attendance out of 14 employed nurses. Fortunately, the SNF management helped reinforce training with the staff that was not present. There were also adequate resources, like badge cards, available to all staff.

A second goal was to have at least 75% of SBAR elements reported during each call after the trainings. The pre-SBAR audits (n=11) served as a baseline to compare post-SBAR audits (n=4). In excel, a two sample t-test assuming unequal variances was conducted with an alpha = .05. Further, the sum of SBAR elements in each category; Situation, Background, Assessment, and Recommendation were individually analyzed using a two sample t-test assuming unequal variances (alpha = .05). The average percentage of total SBAR elements was also compared. Similarly, the average of each SBAR element was also reported.

Provider satisfaction was analyzed using data on five-point likert scale ranging from very dissatisfied to very satisfied. The pre-SBAR scores (n=11) and post-SBAR scores (n=4) were compared in excel using a two sample t-test assuming unequal variances (alpha = .05). The p-value was used to determine statistical significance and a change in the mean was used to assess for clinically significant change.

Similarly, the staff satisfaction and staff confidence were assigned points based on their respective likert scales. The satisfaction questions was a five point scale and the confidence was a four point scale. The pre-SBAR (n=6) and post-SBAR (n=7) satisfaction and confidence scores

were individually run through a two sample t-test assuming unequal variances ( $\alpha = .05$ ). The p-value was used to determine statistical significance and a change in the mean was used to assess any clinically significant change.

Lastly, data was collected on the four patients who were transferred to the hospital during the post-intervention data collection period. The limited information with a small sample size ( $n=4$ ) resulted in identification of patterns and discussion of results. The patients sent to the hospital were unable to be linked to a phone audit call therefore further communication analysis was impossible.

### Ethical Considerations

This quality improvement project was performed with formal ethics review from the International Review Board. Ensuring provider, staff, and resident anonymity and confidentiality was of the utmost importance. The staff surveys were anonymous and voluntary, and each were preceded by an approved written consent statement. The provider phone audits were also anonymous and voluntary. Chart reviews of the patients were performed by a geriatric provider and thus blinded to the researcher. No patient identifying-information was obtained or utilized in data collection or analysis. Of note, the SBAR training may have added additional stress to the staff, although this was not expressed. There is no known harm to residents. The author has no competing interests.

## Results

### SBAR Elements

The SBAR training at a skilled nursing facility resulted in 43% of the staff receiving formal training and the remaining staff receiving one-on-one education with facility management. The project resulted in a 10% increase in average SBAR elements reported after the SBAR training. There was also an increase in the Situation, Assessment, and Recommendation sections with a mild decrease in Background elements. Overall, reporting increased with seven of the 11 SBAR elements and remained the same with two other elements. The two remaining elements, vital signs and primary diagnosis, both elements of the Background section, decreased. A graphic breakdown can be viewed in Figure 3 and Figure 4.

Figure 3. Average SBAR Elements Reported by Category.

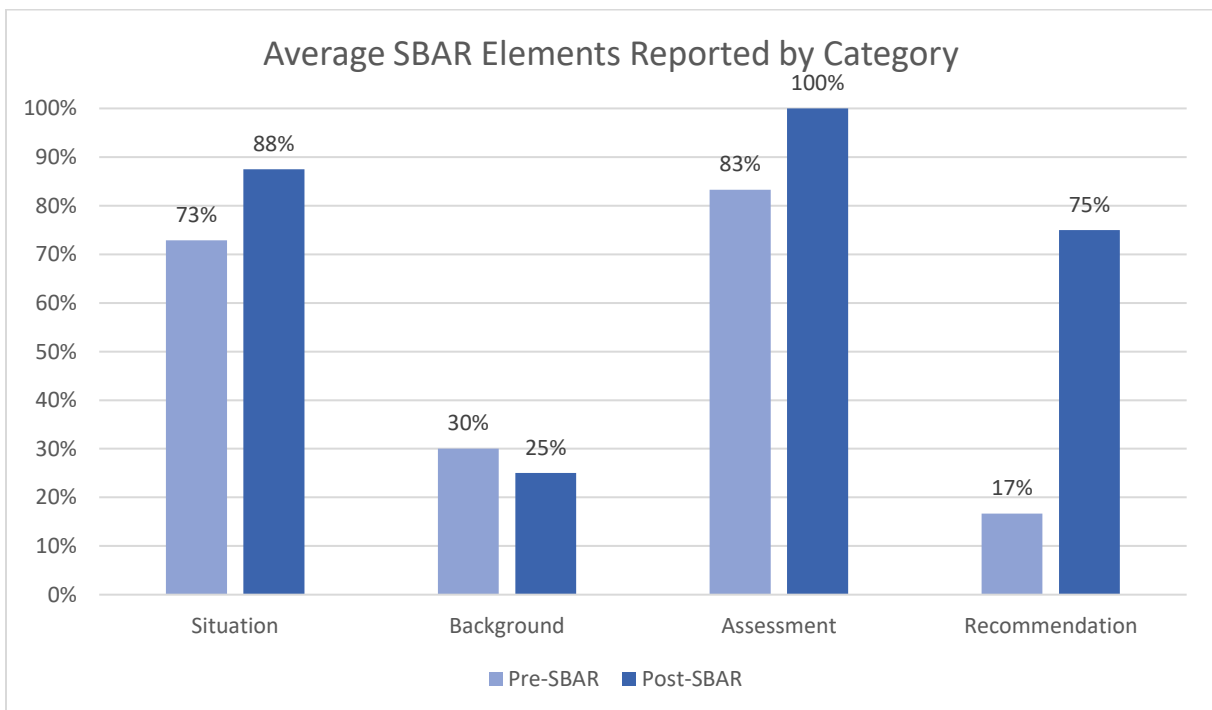
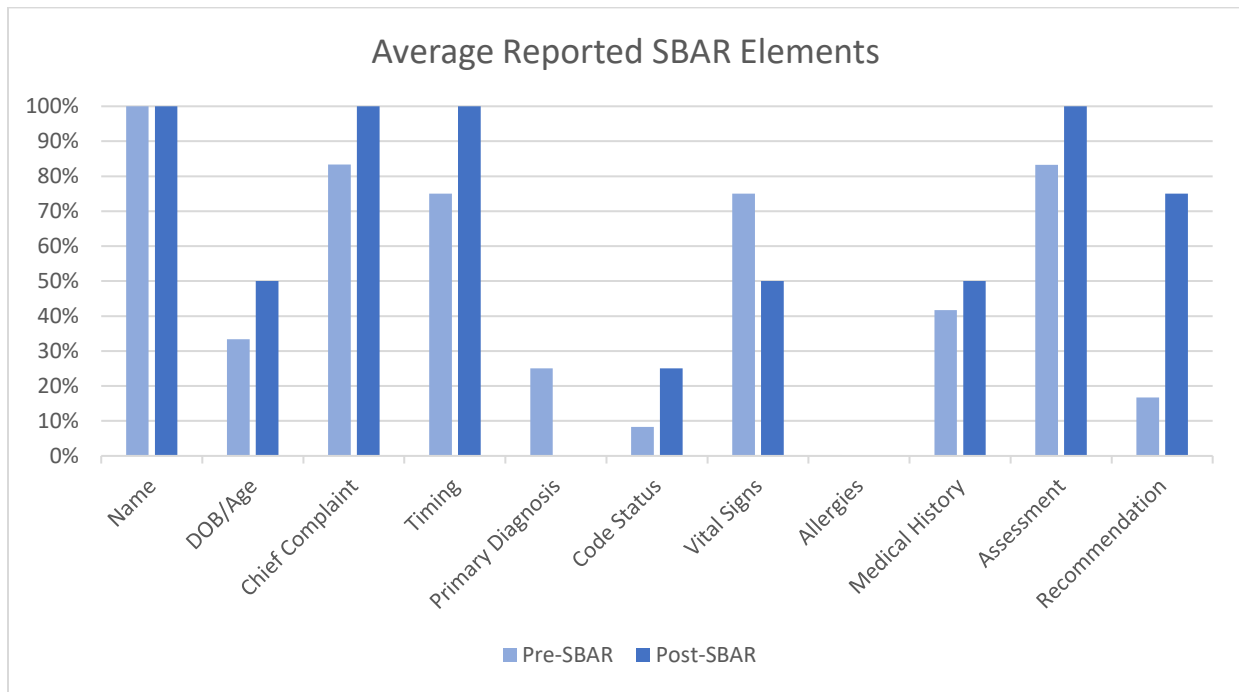


Figure 4. Average Reported SBAR Elements.



The overall increase in SBAR components indicates the staff was receptive to the SBAR training and was incorporating the SBAR format into practice. Although there is clinical significance to support improved communication, there was not a statistically significant difference in total SBAR elements or in Situation, Background, Assessment, or Recommendation elements as viewed in Table 6.

Table 6. SBAR Elements Before and After Intervention.

	<i>Needs Assessment/ Pre-intervention</i>		<i>Post-SBAR Intervention</i>		T stat	df	P Value
	M	SD	M	SD			
Total SBAR Elements (11)	5.42	1.73	6.5	1.29	-1.33	7	0.11
Situation Elements (4)	2.91	.79	3.5	.58	-1.58	7	1.89
Background Elements (5)	1.5	1.09	1.25	.96	0.44	6	.34
Assessment (1)	.83	.39	1	0	-1.48	11	.08
Recommendation (1)	0.17	.39	0.75	0.50	-2.13	4	0.05

### Provider Satisfaction

There was no statistically significant difference in provider satisfaction before (M = 4.42, SD = .79) compared to after (M = 4.25, SD = .5) the SBAR training ( $t(9) = .49$ ,  $p = .32$ ). Notably, no providers reported 'dissatisfied' or 'very dissatisfied' in any of the phone audits.

### Staff Satisfaction and Confidence

There was not a statistical improvement in staff satisfaction when comparing the pre-intervention survey (n=6) and post-intervention survey (n=7), on a five point likert scale ( $t(9) = -1.18$ ,  $p$  value = .13). However, the staff satisfaction mean increased from 3.5 (SD = 1.38) to 4.3 (SD = .95) suggesting some improvement over the course of the project.

Staff confidence communicating with the geriatric provider group, measured on a four point likert scale, did not reveal a statistically significant improvement,  $t(10) = -.17$ ,  $p = .43$ , from pre-intervention survey (n=7) to post-intervention survey (n=9). The means remained fairly equal in the pre-intervention (M = 3.67, SD = .52) and post-intervention (M = 3.71, SD = .49) groups.

### Preventable Hospitalizations

Of the four patients transferred to the hospital, the geriatric provider performing the chart reviews felt all hospitalizations were preventable because all four conditions could have had a diagnostic work-up at the skilled nursing facility. The hospital diagnosis of these patients included right finger cellulitis, heart failure with lower leg laceration, right ankle effusion, and head contusion. Only one patient, the one with right finger cellulitis was admitted to the hospital. It was unclear at the time of data collection if the patient with a head contusion was admitted.

## Discussion

### Summary and Interpretation

Implementing the SBAR training at a SNF resulted in an increase in SBAR elements reported to providers. These findings align with several other studies that concluded SBAR improved communication and patient outcomes in long-term care facilities (Field et al., 2011; Ashcraft & Owen, 2017; Devereaux, 2016). The SBAR training did not impact provider satisfaction, staff satisfaction, or staff confidence with communication. Preventable hospitalizations continued to occur after the SBAR training was implemented. Further research on preventable hospitalizations and communication would be beneficial.

The lack of statistically significant findings may be due to the relatively short data collection period and limited post-intervention surveys (n=4). Similarly, the satisfaction of providers would likely increase with more information reported. The fact that staff satisfaction and confidence did not decrease with the intervention may indicate the SBAR tool was well accepted. It is unclear why there was a decrease in vital signs and primary diagnosis reporting.

Implementing SBAR training in long-term care facilities is feasible, beneficial, and bears minimal risk. The simplicity of the 11 SBAR components and utilizing the evidence based TeamSTEPPS curriculum will help to ensure the reproducibility of this project in other long-term care facilities.

Funding. The cost of this project, including coffee and snacks for the training and badge cards, was covered by start-up funds from a Montana State University faculty member and totaled less than \$100.

### Strengths and Limitations

Strengths of this project include stakeholder participation, strategies to enhance inter-rater reliability and construct validity, input from geriatric professionals, and ensuring this was the only communication intervention occurring over this time period. Further, to the authors knowledge, this is the first study conducted in Montana that analyzes SBAR elements reported to geriatric providers in long-term care.

Limitations to this project include a short time frame, limited number of staff attending the training, and inability to control for extraneous variables like staff turnover, completion of SBAR training, or other factors. This was also a quality improvement project at a single site, limits generalizability of findings.

### Conclusions

This project's aim was to implement SBAR training to improve communication between SNF staff and a geriatric provider group. Despite none of the project goals being met, there was a clinically significant 10% increase in SBAR elements reported to providers. Although there was not a statistically significant difference, these findings lend credibility to SBAR trainings in long-term care settings. Provider satisfaction, staff satisfaction, and staff confidence remained high throughout the study. This project also identified several preventable hospitalizations among SNF residents. Future studies with larger cohorts may benefit from systemic qualitative analysis to better understand preventable hospitalizations and communication. Future research, over a longer period of time and with other facilities, is also needed to generalize these findings. Ultimately, the benefits of implementing SBAR training outweighed the risks and improved communication between SNF staff and the geriatric provider group.

## CHAPTER FOUR

## DOCTOR OF NURSING PRACTICE ESSENTIALS REFLECTION

DNP Reflection

As I reflect on my Doctor of Nursing Practice education from Montana State University, I recognize several professors, courses, and assignments that have prepared me to graduate and start practicing. My education has strengthened my skills and knowledge, through coursework, projects, and clinical experiences. My quality improvement project has empowered me to lead initiatives to improve patient outcomes and healthcare processes. I have built a strong foundation that has prepared me to start practicing as a healthcare provider. I recognize that, as a nurse practitioner, I have entered a career of continuous learning and education.

DNP Essentials

The Doctor of Nursing Practice (DNP) essentials are foundational competencies established by the American Association of Colleges of Nursing to be completed prior to conferral of the doctoral level degree (2006). As a doctoral prepared nurse practitioner, I have met the eight DNP essentials through my education and clinical experiences. I will discuss some specific examples below.

Essential I: Scientific Underpinnings for Practice

Essential I denotes the importance of having a strong understanding of nursing sciences and the ability to translate that knowledge into ethical, evidence-based, quality patient care (American Association of Colleges of Nursing, 2006). The practice of understanding and

analyzing evidence and then translating the efficacy to clinical practice is continuously performed in the NP role. For this reason, I feel Essential I was met in every course of this program. The best example of fulfilling Essential I is during my clinical hours. In clinicals I would draw knowledge from nursing science, ethics, biophysical sciences, psychosocial sciences, and evidence-based literature to provide quality patient care.

#### Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

Essential 2 includes the ability to create and evaluate healthcare processes that ensure patient safety, quality patient outcomes, and manage ethical dilemmas (American Association of Colleges of Nursing, 2006). An example of how I accomplished Essential II is the work I did in the Program Planning and Evaluation, Outcomes, and Quality Improvement course. In this course, I evaluated healthcare systems and processes and used strategies like root cause analysis, spaghetti diagrams, value stream mapping etc., to improve outcomes and system flow. In the Ethics, Law, and Policy course, I participated in collaborative discussions with peers about strategies to decrease complex ethical issues in healthcare.

#### Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

Essential III emphasizes analyzing data, critically appraising research, designing quality improvement initiatives, collaborating in research, and disseminating findings (American Association of Colleges of Nursing, 2006). I met this essential through several courses including Evidence Based Practice I, Evidenced Based Practice II, and Scholarly Projects. Examples of assignments that influenced my evidence-based practice include literature reviews, creation of evidence tables, appraising quality of evidence, and writing summaries of findings. My quality

improvement project demonstrated my ability to design, implement, analyze, and disseminate quality improvement initiatives that improve patient outcomes.

#### Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

Essential IV focuses on the use of technology and technical skills to improve patient outcomes and healthcare processes (American Association of Colleges of Nursing, 2006). Two courses that helped me meet the requirements of this essential are Healthcare Informatics and Design of Healthcare Delivery System. In Healthcare Informatics I learned how to analyze informatics systems and understand their importance in relation to electronic healthcare information and patient outcomes. The Design of Healthcare Delivery Systems course taught me how to understand how technology in healthcare impacts patient safety, prevention of errors, and quality of care. I also utilized several different electronic health record platforms during my clinical rotations.

#### Essential V: Health Care Policy for Advocacy in Health Care

Essential V focuses on healthcare policy, healthcare legislation, education, and advocacy for social justice and equality in healthcare (American Association of Colleges of Nursing, 2006). Courses helping me meet this essential include Ethics, Law, and Policy and Vulnerability in Healthcare Diverse Communities. Both of these courses helped me understand barriers certain populations are facing in terms of accessing, affording, and obtaining quality healthcare. They also taught me about current legislation, comparing the US healthcare system to other countries,

and understanding my role in advocacy as a future NP. These courses emphasized these aspects as they relate to Montana, where I will be practicing as a provider.

#### Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

This essential focuses on communication, leadership, and interprofessional collaboration to improve patient outcomes (American Association of Colleges of Nursing, 2006). There are two large projects that demonstrate how I met this essential. First, in the Vulnerability and Healthcare Diverse Community's course, I worked with a group of peers to perform a needs assessment and analysis of a vulnerable reservation population in Montana. We collaborated with each other and members of the population to perform this project. A second project is my quality improvement project. I have worked with many different healthcare disciplines, learned how to step into a leadership role, and improve my communication skills. It is very evident to me how important collaboration and teamwork are to success in healthcare.

#### Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

Essential VII discusses the understanding of health promotion, risk reduction, illness prevention, and evaluates the epidemiology, environmental, and population health that affects the nation (American Association of Colleges of Nursing, 2006). Advanced Pathophysiology and Advanced Pharmacology taught me how to assess, diagnose, and manage many of the medical conditions affecting the national population. These included simulations and case scenarios. My clinical experiences have also taught me national preventative guidelines, illness prevention, risk reduction, and managing common medical conditions to improve patient health. Several courses also incorporated this essential into COVID-19 training which affected persons worldwide.

### Essential VIII: Advanced Nursing Practice

DNP essential VIII emphasizes the importance of increasing knowledge, gaining experience, performing refined assessments, and basing practice on evidence and established research (American Association of Colleges of Nursing, 2006). This essential can best be met with my clinical experience. I have rotated in primary care, urgent care, women's health, geriatrics, and pediatric settings. I feel comfortable assessing, diagnosing, planning, implementing, and evaluating plans of care for a variety of patient populations.

### Quality Improvement Project

There are several ways my quality improvement project, titled "Improving Communication and Patient Outcomes with SBAR at a Skilled Nursing Facility" helped me grow, learn, and develop into a nurse practitioner. I have greatly expanded my knowledge, skills, and confidence by completing this project. First, I learned how to identify problems in healthcare, brainstorm solutions, and create meaningful interventions. Notably, I am much more familiar with the Plan-Do-Study-Act to create sustainable change. Secondly, I improved my communication skills as I gained investment from stakeholders and worked with multiple entities at one time. Along with my communication skills, my confidence has also increased. I feel more comfortable being a leader, delegating tasks, and teaching others. I also have a better understanding of data collection, data analysis, research, and concluding statistical and clinical significance. Lastly, I can describe how findings translates to real life practice and am more comfortable disseminating results. Overall, this project has given me the opportunity to create meaningful change in a healthcare process to improve patient outcomes. It has shown me that I

am capable and qualified to lead projects and continue contributing to my profession and the health of my patients in a meaningful way.

### Future NP Career

The Doctor of Nursing Practice Program through Montana State University has prepared me to be a healthcare provider and serve my patients with integrity. My coursework, prior to clinicals, prepared me with a strong foundation of knowledge and skills. My clinical experiences provided a platform to improve my practice, skills, communication, leadership, and efficiency. My quality improvement project has improved my communication, confidence, empowered me as a leader, and gave me a better understanding of the research and quality improvement processes. As a provider, I will continue pursuing quality improvement and look for ways I can change healthcare for the better. My program at Montana State University has also helped me establish relationships with my professors, peers, and healthcare personnel in my community that I know will support me in my future professional development. Overall, I know I have entered a profession that will require continuous learning and improvement, but I feel I am prepared with the resources, abilities, and knowledge, to start my journey as a healthcare provider.

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APPENDICES

APPENDIX A

SBAR PHONE AUDIT SURVEY

Table 7. SBAR Phone Audit Survey.

What is the date and time?
Which facility is contacting you?
<input type="radio"/> Facility A <input type="radio"/> Facility B <input type="radio"/> Facility C
Who is contacting you?
<input type="radio"/> Registered Nurse <input type="radio"/> Licensed Professional Nurse <input type="radio"/> Certified Nurses Aid <input type="radio"/> Unlicensed Assistive Personnel <input type="radio"/> Other (social worker, physical therapy, etc.)
Situation: What information was provided to you without prompting? Select all that apply.
<input type="radio"/> Name of resident <input type="radio"/> DOB or age of resident <input type="radio"/> Chief complaint or reason for call <input type="radio"/> Information about onset, duration, or timing of current concern
Background: What information was provided to you without prompting? Select all that apply.
<input type="radio"/> Primary diagnosis or reason the resident is in long-term care <input type="radio"/> Code status <input type="radio"/> Current vital signs <input type="radio"/> Pertinent medical history <input type="radio"/> Allergies <input type="radio"/> No information provided without prompting
Assessment: What information was provided to you without prompting?
<input type="radio"/> Pertinent assessment information (RN, LPN) <input type="radio"/> Description of appearance (Non-nursing) <input type="radio"/> No information provided without prompting
Did they state a specific recommendation or request?
<input type="radio"/> Yes <input type="radio"/> No
What orders, if any, did you give? Select all that apply.
<input type="radio"/> No orders <input type="radio"/> Medication management <input type="radio"/> Nursing Intervention <input type="radio"/> Transfer to the hospital or emergency room <input type="radio"/> Other orders
How satisfied were you with the unprompted information provided to you during this call?
<input type="radio"/> Very satisfied <input type="radio"/> Satisfied <input type="radio"/> Neutral <input type="radio"/> Unsatisfied <input type="radio"/> Very Unsatisfied

APPENDIX B

FACILITY-SPECIFIC SBAR FORM

Figure 5 Facility-Specific SBAR Form.

**On-Call SBAR**

Directions: This form is completed by staff to aid in calls to the provider on-call. It should be complete **BEFORE** any call is made. Provide details and complete by signing your name. Use nursing discretion for hospice patients. Please place it in the collection folder at the nurse's desk when complete.

Script: *This is (your name) from [redacted] I need advice on... (use below information)*

Resident Name:	Date of Birth:	Code Status:	Primary Provider:
POA/Contact information:			
<b>Situation</b>	Current concern:		
	When did this start? What are the current symptoms?		
<b>Background</b>	<b>Vitals</b>	HR:	BP:
		RR:	SpO2:
<b>Assessment</b>	Primary Diagnosis/reason resident requires care:	Pertinent Medical Hx:	Pertinent Medications:
	Allergies:		
<b>Recommendation</b>	Details of your assessment:		
<b>Outcome</b>	What do you need?		
	Plan/Orders:		
	Name of nurse/provider/person who was notified: _____		
Additional Information:			
Signature of RN/LPN:		Date:	Time:

Please place the completed form in the collection folder at the nurse's station.