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Impact of Leader Rounds on Perceptions of the Culture of Safety

Heather D. Ray
hdr19a@acu.edu

This doctoral project, directed and approved by the candidate's committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

Nannette W. Glenn, Ph.D.

Dr. Nannette Glen, Dean of the College of Graduate and Professional Studies

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Doctoral Project Committee:

Catherine Garner

Dr. Catherine Garner, Chair

Dr. Tonja Hartjes

Dr. Gibson

Dr. Linda Gibson

Abilene Christian University

School of Nursing

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by

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Abstract

A culture of safety in healthcare settings supports a caring environment and practices that produce quality patient outcomes. Leadership is instrumental in creating a culture of safety. The purpose of this quantitative pretest-posttest design project was to determine if the implementation of leader rounds in an acute care hospital had an impact on staff nurses' perceptions of safety culture as measured by the Safety Attitudes Questionnaire. The setting was a midsize acute care hospital with a target population of dayshift nurses working in the telemetry service line. Leader rounds were conducted over a six-week timeline by the department director. Data analysis was conducted using a paired-samples *t* test. The major finding of this study was a reduction in the post safety score after the implementation of leader rounds; however, it was not statistically significant. There are significant factors that may explain the findings in this study. The leaders conducting rounds were middle management rather than executive-level leaders. The staff exposure to leader rounds showed that only a small minority of staff had participated in leader rounds over the six-week time frame. Lastly, during the study period, the hospital units experienced a heavy influx of COVID-19 patients, resulting in higher acuity patients and a higher than normal volume of acutely ill patients on these units. Despite the drop in perception of a culture of safety, a majority of the participants wanted leader rounds to continue. Hospital leaders should continue to evaluate the role of rounding absent a population crisis and with modifications to ensure staff participation.

Keywords: Safety culture, leader rounds, executive walk rounds, safety attitudes questionnaire

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Chapter 1: Introduction

Healthcare is a diverse and dynamic system of health-related services that puts patients in the hands of skilled clinicians who work tirelessly to heal, comfort, and care for the ill. Patients seeking healthcare services place demands on healthcare organizations to deliver safe, reliable, and effective care (Frankel et al., 2017). However, as the scheme of delivery changes, healthcare delivery systems have become more complex with advancements in technology, widespread adoption of electronic health records, and polarizing legislative changes that have made healthcare payment and reimbursement for care a factor of quality and safety.

Moreover, in the midst of an increasingly dynamic healthcare system, there are economic estimates that the need for services is expected to increase over the next decade. According to a 2017 survey provided by the American Hospital Association, approximately 36,510,207 acute care hospital admissions occurred at one of 6,210 hospitals across the United States (American Hospital Association [AHA], 2019). Interestingly, it is estimated that much of the increasing demand over the next decade will result from the healthcare needs of an aging population, a higher prevalence of chronic illness, and an increase in obesity rates. Pearl (2017) wrote that factors such as the aging population, chronic illness, and obesity are factors, which will account for approximately 75% of U.S. healthcare costs. As the demand for services grows, the complexity of the healthcare environment increases, and quality and safety become drivers of not only payment but also elements of the culture of a healthcare environment, perceptions of patients and nurses of the healthcare system are at stake.

The focus and perception of quality healthcare may look different for nurses and patients. Patient perceptions of quality are derived from judgments about the level of quality compared to expectations of the actual healthcare services provided (Kwateng et al., 2017). It is important to

note that patient perceptions of quality may be individually subjective and guided by expectations based on culture, social, psychological, or economic factors. In general, Americans lean more favorably when rating their own healthcare quality experiences to that of the general public. A 2018 Gallup poll reflects that 80% of Americans rate their personal healthcare quality experience as excellent or good; however, only 55% rate the quality of the U.S. healthcare system as excellent or good (McCarthy, 2018). A patient's perspective of quality can be based on access, communication, courtesy, efficiency of care, technical quality, and facilities (Sofaer & Firminger, 2005).

Nurses play an integral role in the quality of healthcare delivered. Nurses provide around-the-clock care to hospitalized patients; however, their ability to deliver safe care is increasingly difficult with the complexities of today's work environment. With the advancement and widespread adoption of automated technology in healthcare settings, nurses are increasingly frustrated and perceive the quality of care they provide to patients diminished when technology does not fit into their work systems (Karsh et al., 2009). Nurses tend to perceive barriers to providing quality based on issues related to processes, environment, and behaviors. Ryan et al. (2017) wrote that nurses view ineffective communication and collaboration as the greatest challenge to providing quality care. This includes ineffective communication and collaboration with leadership. Leaders play an integral role in providing a culture of safety and quality by working closely with frontline staff to improve services, establish accountability, and recognize positive behaviors.

Problem Statement

Patients receiving care at hospitals expect to receive care that improves their quality of life and is error-free. Nurses play a vital role in the delivery of safe, highly reliable, and

compassionate care. Nurses are the largest healthcare profession in most U.S. healthcare organizations and provide 24-hour round-the-clock care to acutely hospitalized patients. In addition, the public has ranked nurses as the highest trusted profession in the United States for the past 18 years in a row (Gaines, 2021). A culture of safety supports a care environment and practices that produce quality patient outcomes. Leadership is instrumental in creating a culture of safety across the organization. Leaders support a culture of safety by listening to the feedback of frontline employees, removing barriers, supporting a just culture, and by recognizing and rewarding staff behaviors that lead to positive outcomes. Leader rounds (LRs) are a practice that connects leaders with frontline staff to improve processes and enhance safety.

To deliver high-quality healthcare, acute care hospitals must achieve high degrees of safety culture at the individual nursing unit level. Unfortunately, the intrinsically complex, ever-changing, and competing demands of the healthcare environment place frontline nurses in positions to make medical errors. This is true in the organization the project will take place. While the organization has many accomplishments, such as high levels of employee engagement, positive patient outcomes, and regulatory accreditations, the organization has struggled to gain much traction in terms of safety culture per the previous hospital safety surveys and staff feedback. This is likely to continue unless the hospital demonstrates a commitment to a culture of safety through focused leadership rounds with frontline nurses.

This Doctor of Nursing Practice (DNP) project focused on a culture of safety within an acute care hospital in Texas and examined the impact, if any, that LRs may have on nurse perceptions of safety. The project followed a pretest-posttest design using a quantitative methodology to measure frontline nurse perceptions of safety as assessed by the Safety Attitudes Questionnaire (SAQ) before and after the intervention of LRs. The project took place over a

four-month timeline and occured in the hospital's telemetry department. This department consists of five nursing units, three progressive care units, a neuro-tele unit, and a surgical-tele unit. Only frontline dayshift nurses were surveyed for this project.

Background

Hospitals across the nation, especially standalone community hospitals, face tremendous challenges in today's healthcare climate to remain viable, prevalent, profitable, and independent. The U.S. healthcare system is currently facing rapid changes with the advancement of technology, political healthcare turmoil, and compressing operating margins. New trends and competitors are emerging that will continue to disrupt and change the environment. Organizational giants like Apple, Amazon, and Walmart are investing in healthcare technology, services, and market share that have the potential to shift how and where healthcare will be delivered in the future (Panicola, 2019). For hospitals to remain viable, they are required to adapt quickly and implement change on a larger and faster scale than ever before.

Financial challenges facing hospital systems include flat Medicare payments inhibiting revenue growth, compression of operating margins, and payer mix shifts. With the aging population, hospitals are treating more Medicare patients as compared to commercial insurance patients with higher reimbursement for services provided. Other financial burdens include increasing employee salaries and sign-on bonuses to stay competitive with staff recruitment and retention, higher drug costs, and fewer negotiating options with private health insurance companies as 83% of the national market is controlled by the four largest insurance companies (Pearl, 2017).

Additionally, hospitals are facing shifts of traditional inpatient services to the outpatient setting. This shift includes outpatient surgical procedures, observation services instead of

inpatient admissions, and the growth of telemedicine. The hospital where this project took place has also experienced these shifts and has increased its focus on the outpatient arena to ensure appropriate access points for the local community and to increase outpatient revenue. These strategies have included the addition of a hospital observation unit, the opening of a freestanding emergency department in a new market, increases in outpatient physician office hours, the opening of an outpatient dialysis center, the opening of an outpatient surgery center in a surrounding city, and future plans to open an urgent care clinic.

A national trend impacting the healthcare industry is increasing regulations and financial penalties related to safe, quality, and efficient care. Centers for Medicare and Medicaid Services (CMS) ties a portion of a hospital's Medicare reimbursement payment based upon the quality of inpatient care provided compared to peers from other hospitals nationwide. This program was instituted approximately seven years ago and is known as Hospital Value-Based Purchasing (VBP). Value-Based Purchasing adjusts a portion of the Medicare reimbursement funds a hospital can receive under the Inpatient Prospective Payment Scale (IPPS) based on the quality of inpatient care (Centers for Medicare and Medicaid Services [CMS], 2019). The hospital being utilized for this project participates in the VBP program and has areas of opportunity to increase quality scores and recapture some lost VBP Medicare reimbursement funds.

Another important challenge for hospitals is adapting to the type of care that will be needed for the future. While Medicare estimates hospital beneficiary spending will continue to grow over the next decade, the types of services delivered within the hospital setting will shift toward a higher level of care and intensity of services. Growth of an aging population, higher rates of chronic illness, advancement of medical technology, and overall demand for an intensive level of care are expected to continue to climb over the coming years. The inpatient setting will

become increasingly complex as hospital technology and equipment advances, acuity of patients rise, and nurse staffing shortages occur. This challenging trend has been identified at the project site. Patients being placed on these telemetry units have multiple comorbidities, increasing acuity, and complex medications requiring frequent observation, adjustment, and increased staff skillset. Based on the clinical needs of the hospitalized patients and hospital patient flow constraints, the units are expanding their scope of service to include more advanced medication infusions, creating additional complexity and nursing care requirements. This reality has increased telemetry frontline staff feedback and concerns related to patient safety and appropriate assignments. In the past year, these challenges have negatively impacted the turnover rate for these five units. These challenges combined, the total turnover rate was 30.28%. The proposed DNP project will attempt to evaluate if greater leadership involvement through the implementation of LRs will help to increase staff perceptions of safety culture.

In 1999, the Institute of Medicine (IOM) released a report entitled *To Err is Human*. This report was a bombshell to the American healthcare industry as it highlighted some of the darkest stories of medical errors, avoidable events, and patient deaths. An estimated 44,000 to 98,000 deaths occurred in U.S. hospitals as a result of preventable medical errors (Institute of Medicine [IOM], 1999). In 2013, researchers at John Hopkins University reaffirmed the IOM's findings with a study they conducted evaluating the rate of "never events." Their study revealed that approximately 4,000 "never" surgical events occur in the United States. This includes, on average per week, 39 retained foreign objects after surgery and 20 wrong surgery or wrong-site procedures (Knudson, 2013).

While the IOM's 1999 report was staggering, a decade later, deaths as a result of medical errors have grown worse. Estimates in a 2013 report reflect that 210,000 lethal preventable

adverse events occur in hospital settings every year (James, 2013). Similarly, a 2016 study found preventable patient harm as the third leading cause of death in the United States, with an estimated 250,000 deaths occurring each year (Makary & Daniel, 2016). The complexity of healthcare occurs at three levels: provider, system, and national. Provider complexity occurs as clinicians are often unable to keep up with new research and evidence-based guidelines. The provider's care may not fully align with the latest guidelines. Examples of complexity at the system level include staffing shortages, inability to obtain new technology due to financial constraints, or ineffective handoffs during patient transitions of care such as change of shift. National-level healthcare complexities include political chaos regarding the structure of America's healthcare system, medication costs, and a patchwork of nonintegrated care delivery systems. The complexity, rapidly changing environment, and poorly integrated industry can all impact patient safety.

Patient safety is defined as reducing the risk of unnecessary harm associated with healthcare to an acceptable minimum and is achieved by integrating the values and behaviors of the individual and organization within a healthcare environment (Tavares et al., 2018). Quality care cannot exist without a culture of safety. Leadership relations with frontline staff are an important factor in a culture of safety. When leaders are detached or unaware of frontline provider actions or challenges, the quality of work goes down and mistakes go up (Knudson, 2013). One method to alleviate this safety gap includes LRs. The organization involved in this project has the opportunity to increase leadership presence on the units through a formal rounding method. It also provided the organization an opportunity to focus more directly on frontline staff regarding a safety culture. Currently, no formal safety rounds are being conducted by nurse leaders.

Purpose

The purpose of this quantitative quasi-experimental designed project was to determine if the implementation of LRs in an acute care hospital had an impact on nurse perceptions of safety culture. Safety culture is an important concept to explore as it supports the foundation of healthcare delivery. Safety culture comprises the individual and group beliefs, values, attitudes, perceptions, competencies, and patterns of behavior that determine an organization's commitment to quality outcomes and patient safety (Charalambous & Kelly, 2018). A hospital's safety culture forms the backbone of how it views and provides care through the behavior of employees, the priority of safety versus completion of tasks, and leadership's commitment to quality versus profit. Establishing and fostering a culture of safety requires the work of all hospital personnel, including leadership.

Leadership has an integral role in creating and sustaining a strong safety culture that transcends all hospital departments and working environments. Effective leadership within the healthcare environment is vitally important to promoting quality, safety, and integration of care across the healthcare system. Leadership has an impact on employees and patients with a patient-centered focus and establishment of a safety culture. Effective leaders have been shown to increase collaboration, inspiration, and retention among staff. Care environments with strong leaders in place experience reduced patient mortality rates, decreased adverse events, and higher levels of patient satisfaction (Sfantou et al., 2017).

This project was focused on a single service line, telemetry, and attempted to evaluate the impact, if any, LRs may have on frontline nurse perceptions of safety culture. Specifically, LRs were completed by the telemetry director once a week over a span of six weeks on five telemetry units. The director utilized the Institute for Healthcare Improvement's (IHI) Patient Safety

Leadership WalkRounds™ tool as the guideline for conducting rounds. Leader rounds occurred on the nursing unit and are expected to last no longer than 15 minutes per unit. Leader rounds were conducted solely with frontline licensed nursing staff and only Monday thru Friday, 8:00 a.m. to 5:00 p.m. Nurse perceptions of safety culture were measured via the Safety Attitudes Questionnaire (SAQ). A pre- and postdesign was utilized measuring perceptions of safety at baseline (pre-LRs) and then again postintervention. The pre- and postmean SAQ scores were analyzed to determine if a statistically significant result is evident in the safety score. If a statistically significant increase in post SAQ scores is found, LRs may be a useful tool to consider incorporating on a larger scale throughout the hospital. This study is important as it may provide a useful tool for leaders to positively impact safety culture in a cost-effective manner.

Significance

Since the IOM's *To Err is Human* report in 1999, the concept of safety culture within healthcare organizations has gained greater healthcare attention. Several studies have correlated a culture of safety with outcome indicators such as patient experience, infection rates, adverse events, and readmission rates (Smith et al., 2017). Healthcare organizations with well-established safety cultures are described as safe and highly reliable, meaning quality outcomes can be produced time and time again. In 2017, the Institute for Healthcare Improvement (IHI; Frankel et al., 2017) published a white paper outlining a proposed framework for safe, reliable, and effective healthcare organizations. This framework is broken into two different domains: culture and the learning system.

Culture is the result of an organization's individual and collective values, attitudes, competencies, and behaviors (Frankel et al., 2017). Leadership is an essential element within the culture domain because leaders can influence others in developing habits, processes, and

technologies that center on safety and reliability. A culture of safety is promoted by leaders who can articulate shared values, model appropriate behaviors, identify goals, establish expectations, develop plans, and allocate resources toward safe care (Stevens et al., 2006). The concept of leader rounds (LRs) is important in the healthcare environment because it can impact the culture of safety. Leader rounds focus on the involvement and connection of leaders with frontline staff through the process of rounding at the point of care. Rounding enables leaders to meet with frontline staff on the unit in their day-to-day environment to discuss safety, processes, initiatives, and concerns. Items discovered during rounds can then be addressed or escalated when appropriate by leaders.

Nature of the Project

Leadership engagement and commitment are important elements in creating a safety culture focused on highly reliable and effective patient care. Leaders that are in sync with frontline employees and their work help guide organizational processes that focus on safety and are able to produce reliable results time after time. Rounding is one method to engage leadership in a culture of safety. Leader rounds are a process where leaders visit frontline employees in their departments to discuss areas of excellence and opportunity for improvement (Owings et al., 2018). Leader rounds are often conducted at the bedside, in a hallway, or where the care is delivered. Leader rounds promote a safety culture by reinforcing the organization's commitment to safety, identifying barriers or challenges to be corrected, and by allowing leaders to hear ideas of frontline staff that can develop into solutions needed to solve organizational problems.

This project was completed across the telemetry service line consisting of five inpatient units at a midsize acute care hospital in Texas. The project specifically focused on the telemetry service line, consisting of three progressive care units (PCU), one neuro-telemetry unit, and one

medical-telemetry unit. Unit size ranges from 22 to 33 beds. Staff mix included registered nurses (RNs), licensed vocational nurses (LVNs), certified nurse aides (CNAs), monitor technicians, and nurse managers who report to the department director. The majority of staff work 12-hour shifts from 7 a.m. to 7 p.m. or 7 p.m. to 7 a.m. Staffing numbers across these units reflect approximately 138 RNs, two LVNs, and 100 unlicensed assistive personnel. Nurse to patient ratios are primarily 1:4 on days and 1:5 on nights.

The telemetry director conducted LRs once a week on all five units. The telemetry director is a member of the organization's management council team, reports directly to the chief nursing officer, and is responsible for the oversight of the telemetry department, which consists of approximately 230 employees. The director oversees departmental operations and works closely with each nursing unit's nurse manager, who is responsible for the day-to-day functions of a particular nursing unit. Leader rounds followed a standardized process outlined in IHI's WalkRounds™ tool. Questions are designed for the leader to illicit frontline staff feedback regarding safety concerns (real or perceived), near misses, environmental concerns, needs from leadership, and a blame-free culture focused on processes, not people (Frankel, 2004). Safety culture scores were measured preintervention and then again approximately two to four weeks postintervention. Data was measured with a quantitative approach.

A validated safety assessment tool, the Safety Assessment Questionnaire (SAQ), was utilized to survey staff responses. The SAQ was developed by researchers at the University of Texas and is designed to elicit a snapshot of the safety culture through surveys of frontline employees (Sexton et al., 2006). The short form 30-question version gauges frontline staff responses focused on six safety climate themes: teamwork climate, safety climate, job satisfaction, perceptions of management, working conditions, and stress recognition (Sexton et

al., 2006). The questionnaire follows a five-point Likert scale for each question and is estimated to take employees approximately 10 minutes to complete. The five-point Likert scale response options include a response option of 1= *disagree strongly*, 2 = *disagree slightly*, 3 = *neutral*, 4 = *agree slightly*, and 5 = *agree strongly* (Sexton et al., 2006).

Announcement and overview of the project were outlined on flyers posted in the breakroom on all five telemetry units. Prior to the intervention kickoff, the DNP student provided an educational session to inform unit leadership about the project. Due to COVID-19 restrictions, an educational session with a large group of frontline nurses was not feasible. The hospital's electronic learning management system was used to distribute the pre- and postSAQ surveys.

Data analysis focused primarily on dayshift nurse perceptions of safety as measured pre- and postimplementation of LRs utilizing the SAQ. Demographic information for the sample was summarized using frequencies and percentages for categorical variables and means and standard deviation for quantitative variables. The primary analysis compared the mean SAQ scores pre- and postintervention using the parametric paired-samples *t* test. The null hypothesis was that no difference existed in the pre- and postSAQ mean scores. Once the results were tabulated, the outcome was shared with hospital nursing leadership through a formal presentation.

Question Guiding the Inquiry

PICOT. For nurses in an acute hospital setting, does the implementation of formal leader rounds, compared to unstructured leader rounds, impact nurse safety attitude scores over four months?

P – nurses working in an acute hospital setting

I – formal leader rounds

C – unstructured leader rounds

O – nurse safety attitude scores (measurement of this)

T – four months

Population. The population for this project was licensed nurses working in an acute care hospital setting. The telemetry service line comprises five nursing units and has approximately 130–140 licensed nurses, consisting of RNs and a smaller number of LVNs. Other nursing personnel on these units include certified nurse aides, unit clerks, patient care technicians, nurse managers, and other ancillary personnel. However, for the purposes of this study, the population consisted only of dayshift licensed nursing staff.

Intervention. Leader rounds are the identified project intervention. The telemetry director conducted the formal LRs. Leader rounds occurred once a week on all five units for a total of six weeks. Leader rounds only occurred during dayshift hours (7 a.m. to 7 p.m.) Monday through Friday due to participant availability. Leader rounds were conducted on the nursing units and occurred at the main station, bedside, or other unit locations staff selected during the actual rounds.

Comparison. The project was set up using a pre- and posttest design method. A comparison occurred between the preintervention SAQ scores and the post-LR SAQ scores. This allowed a direct evaluation of the impact (if any) the targeted intervention had on nurse perceptions of safety. Currently, no formal safety rounds were conducted by nurse leaders.

Outcome. The measurement of safety culture, as rated by licensed nursing staff, was the outcome measurement. Safety culture scores were measured via the SAQ. The SAQ is a validated safety culture assessment tool that is well published and supported by the Agency for Healthcare Research and Quality (AHRQ) and The Joint Commission (TJC).

Time. A total of 124 days was outlined for this DNP project.

Definition of Key Terms

Culture. The result of an organization's individual and collective values, attitudes, competencies, and behaviors (Frankel et al., 2017).

Donabedian triad. Donabedian theory is based on the three areas for which the quality of healthcare is viewed. These three components are structure, how care is offered; process, what is done to the patient; and outcome, what ultimately happens to the patient (American Health Research Quality [AHRQ], 2019).

Leader rounds. Rounding conducted by the telemetry director focused on safety events and staff feedback of safety concerns.

Licensed nursing personnel. Registered nurses (RN) and licensed vocational nurses (LVN) holding active licenses with the board of nursing. For this project, licensed nurses from the telemetry service line were the population utilized and who completed the SAQ survey.

Safety attitudes questionnaire. Measurement of nurse perceptions of safety. The SAQ was developed by researchers at the University of Texas and is designed to elicit a snapshot of the safety culture through surveys of frontline employees (Sexton et al., 2006).

Safety culture. Individual and group beliefs, values, attitudes, perceptions, competencies, and patterns of behavior that determine an organization's commitment to quality outcomes and patient safety.

Scope

This project's scope focused specifically on the safety culture of five individual nursing units comprising the telemetry service line at an acute care hospital. Project inclusion criteria include only these five units during the four-month timeframe. All five units are within the telemetry service line and average in bed size from 22 to 33 beds. The accessible population and

project focus were limited to safety culture scores as measured by dayshift licensed nurse staff via the SAQ. Unlicensed assistive personnel and licensed nurses hired or who left after the project initiation date were excluded. Census sampling methodology, more specifically nonprobability convenience sampling, was used.

Safety culture was assessed using the SAQ provided to the sample through a paper questionnaire administered by an administrative assistant with no authority over the nursing staff. Utilizing the GPower sample size analysis tool for a two-tailed *t* test, the sample size needed to reach a statistically acceptable sample size is approximately 42 participants. The primary analysis was a comparison of the preimplementation mean and postimplementation mean SAQ score. Additional analysis included a breakdown of the mean SAQ scores for each specific domain. Demographic information for the sample was summarized using frequencies and percentages for categorical variables and means and standard deviation for quantitative variables.

The project was viewed as feasible due to organizational support, project design, and minimal costs involved to complete. Hospital administration provided a letter of organizational support (see Appendix A) and allowed for frontline nursing staff to complete the paper questionnaires during regularly scheduled work time. This was instrumental in increasing participation and improving questionnaire response rates. Costs for this project were minimal. The main cost was related to the telemetry director's nonproductive work time to conduct the LRs. It was anticipated that approximately one to two hours per week were required of the director to conduct the LRs.

Limitations

One major limitation of the project was that the intervention of LRs only occurred during normal business hours on dayshift. These hours included Monday through Friday, 8:00 a.m. to 5:00 p.m. This was a limitation due to time constraints and resource availability. This limitation impacted night shift employee's exposure to the intervention. An equally important limitation was that the project utilized staff's own perceptions of safety climate. Perceptions can change over time, and a self-report of an individual's own feelings of the safety climate is not as reliable as an objective test. Another limitation was the sampling process. Nonprobability convenience sampling was utilized for the project due to the availability of participants. This strategy was one of the most common forms of sampling as it allows participants to be selected based on convenience and the availability of research participants. However, convenience sampling can also be considered a limitation due to a smaller, more conformed sample as compared to randomization. Another limitation may be low response rates, with an average of 20–30% rates typical for the questionnaire method.

Chapter 2: Literature Review

This chapter intends to provide a review of the literature that guided the scholarly project. Patients have an absolute right from healthcare organizations to deliver safe, reliable, and effective care (Frankel et al., 2017). The challenge to consistently meet this responsibility is a daunting task for healthcare organizations due to the ever-increasing complexity of services, technology, and political influence. The project's focus was to evaluate what impact, if any, leader rounds (LRs) had on nurse perceptions of safety climate within an acute care hospital setting. The literature review highlights the search methodology and relevant literature on the topic, including leader rounds , safety climate, patient outcomes, and the Donabedian triad theoretical framework.

Methodology

A literature review was completed to identify current and historical research related to leader rounds and safety culture. The databases used for this search included PubMed, CINAHL, MEDLINE, and Health Source: Nursing/Academic Edition. A great deal of literature was available when searching these databases for concepts such as leader rounds, patient safety initiatives, and hospital culture of safety. For example, a simple search of the term *leader or leadership rounds* in the CINAHL Complete database, with no filters, returned over 16,000 hits. Because of these broad results, the scope of the literature review was narrowed to include priority research dates between 2014 and 2019 from peer-reviewed journals, which decreased the number of articles to 2,730.

The search terms used during the literature review process included *leader rounds*, *executive walk rounds*, *safety attitudes questionnaire*, *leadership and patient safety*, *leadership and culture of safety*, and *hospital safety culture*. The search term *leadership round* was initially

used for the review. However, due to a large number of articles, the search was further narrowed, and new words such as *safety*, *climate*, and *patient* were included. One other combination of terms found to be beneficial in the search was replacing leadership with executive. This simple change of words allowed additional research articles to be found. The information discovered from this search is organized into major themes and synthesized below.

Findings

Leadership or Executive Rounds and Safety Climate

The concept of Executive WalkRounds (EWRs) became popular in the healthcare industry in the mid-2000s based on research conducted by Allen Frankel. In 2005, Frankel and his team completed a large randomized research study in Houston, Texas, involving over 23 acute care clinical units and approximately 1,000 clinical providers. The study aimed to identify if EWRs would improve the clinicians' perceptions of safety climate. They also sought to discover if EWRs created a spillover effect on safety climate scores of clinicians who did not directly participate in the EWRs (Thomas et al., 2005). The results of this study were interesting because they revealed that EWRs could have an impact on safety climate scores; however, it depended on the clinical role.

When evaluating the effect of EWRs on the 1,000 postintervention surveys, the researchers did not find a statistically significant result. However, when they isolated just the nursing results (sample size of 598), they found a statistically significant impact on nurses who participated in the intervention group. The intervention group nurses scored 72.9% positive compared to a lower 52.5% positive in the control group (Thomas et al., 2005). These results provide insight into the different implications EWRs may have on safety climate depending on a clinician's role. Another interesting finding from Frankel's study is that there was no spillover

effect of EWRs. Nurses that did not participate directly in EWRs did not have an increase in safety climate perceptions. This component of the study is a noteworthy finding because it starts to outline the need for further research to help explore the structure of EWRs.

A follow-up study by Frankel et al., published in 2008, evaluating the impact of EWRs on employee perceptions of safety climate, was performed at multiple Boston hospitals. It encompassed a total of 21 patient-care areas. Weekly EWRs were completed over 18 months. Nurses completed a pre- and postsafety attitudes questionnaire (SAQ) to evaluate the impact of EWRs (see Appendix B). This study supports earlier findings that EWRs can increase nurse perceptions of safety climate. Results of the study reflect a positive increase in staff safety climate scores after the intervention of leader rounds. Hospital A had an increase in the safety climate score from a baseline of 62% to 77% (Frankel et al., 2008). Hospital B had a similar increase moving from a baseline safety climate score of 46% to 56% (Frankel et al., 2008). A challenge highlighted by this study involved the structure and level of commitment required to complete the EWRs. Seven hospitals were included in this study, and only two were able to comply with the full extent of the EWRs intervention (Frankel et al., 2008). This study's contribution to the literature is that it provides insight into the time and level of organizational engagement and commitment needed to complete EWRs.

More recent studies have also shown a connection between leadership walkrounds (LWRs) and safety climate scores. A large-scale study involving over 19,000 study participants and 706 clinical and nonclinical units found a correlation between exposure of LWRs and employee perceptions of safety. Units with ≥ 60% of caregivers reporting at least one LWR exposure had a significantly higher safety climate score and higher patient safety risk reduction compared with units in the control group (Schwendimann et al., 2013). The major strength of this

study was its immense sample size. However, one limitation is that the patient risk reduction evaluation was based on study participants' self-reports on a survey. No specific patient outcome measures were collected or analyzed.

A similar study published by Chua and Luna in 2014 revealed related findings. Chua and Luna (2014) researched the impact of EWRs on safety climate scores in the operating room (OR) setting. Their results showed a statistically significant increase in the mean safety climate scores for the group experiencing EWR's on the sections related to teamwork (p = .005), safety climate (p = .008), and perception of management (p = .010). The control group did not show a change in their safety climate scores. The study found no significant difference in the safety culture scores for those who participated in EWRs and those who did not participate but worked in the OR where the EWRs were conducted. This finding contrasted Frankel's 2005 study (as cited in Thomas et al., 2005) in which he found no spillover effect.

Leader Rounds and Patient Experience

In addition to enhancing safety climate, leader rounds have also been utilized as a method to impact patient experience scores, commonly referred to as HCAHPS (hospital consumer assessment of healthcare providers and systems). A California hospital implemented daily senior rounds on approximately 250 patients five days a week for a total of three years. The study by Winter and Tjiong (2015) evaluated what impact, if any, daily senior rounds had on HCAHPS scores. This article provided limited detail for the statistical analysis and research methods used in the study. The results concluded that a statistical increase in HCAHPS overall rating score in the one, three, and 10-year post rounds evaluation. The overall rating score increased at one year by 7.1% (p = .167), three years by 6.6% (p = .007), and 10 years by 9.7% (p = .007; Manss,

2017). The author proposed that daily senior leader rounds improved patient satisfaction and was a way to use transformational leadership to sustain change (Manss, 2017).

To further explore the impact LWRs may have on patient satisfaction scores, additional literature was searched. A 2017 study in an acute care setting evaluated the effect of daily nurse leader rounding on patients (Hudson-Covola et al., 2017). This study hypothesized that daily nurse leader rounding would improve patient experience and increase HCAHPS scores. Results from this study found a global rating increase with scores improving from 66.9% to 76.7%. Specific domain items that saw increases included communication with nurses, communication about medicines, and care transitions (Hudson-Covola et al., 2017). While all these patient experience areas saw increases in scores, the results were not statistically significant.

A similar study also found nonstatistical results when evaluating LWRs and HCAHPS scores. Winter and Tjiong (2015) researched the impact of twice a week leader rounding on hospital HCAHPS scores. A strength of their study was the large volume of leader rounds completed (over 500 rounds) and the analysis method using Spearman's correlation. No correlation was found between how patients scored on the HCAHPS question and how patients responded to the questions posed by the leaders during rounds. Also, there were no statistically different pre- and postintervention HCAHPS scores (Winter & Tjiong, 2015).

Leader Rounds and Patient Outcomes

Leaders of healthcare organizations have an integral role in helping to establish and maintain an organizational culture of safety. Leaders can engage frontline staff in quality improvement projects by listening to concerns, removing barriers, and recognizing and rewarding excellent performance. The literature suggests that leader rounds have taken a shift and is beginning to focus on how leaders can impact patient outcomes, particularly those related

to infections or hospital-acquired conditions. Two studies in 2018 (Knobloch et al.; Owings et al.) researched how LRs affected hospital-acquired infections (HAI) and central-line associated bloodstream infections (CLABSI).

The first study, conducted by Knobloch et al. (2018), outlined contextual factors to be used as guidelines during hospital-acquired infection leader rounds (HAILRs). Researchers set this study up as a qualitative case study design with unit-level observation of LRs and key informant interviews. It was completed on five different clinical units, with a total of 22 LRs observed and 20 interviews recorded. The findings of this study revealed that frontline staff cited leadership visibility on the units as very important. Observational data from the LRs revealed two common staff-related themes, staff disclosure and staff problem-solving, along with leader-related themes, leaders showing fallibility, modeling curiosity, supportive language, learning climate, culture, and leaders engaging in reflection and evaluation (Knobloch et al., 2018). While this study was focused on LRs to help with hospital-acquired infections, one weakness was that no specific infection outcome data were analyzed.

The second study conducted by Owings et al. in 2018 focused more specifically on infection outcomes. Researchers in this study set out to study if leadership line care rounds (LLCRs) using the engage, educate, execute, and evaluate framework impacted CLABSI rates and staff compliance with care bundles. The study was implemented in four acute care inpatient units over three years. Rounds were completed every week, lasted approximately one hour, and involved nearly 500 patients. The researchers reported quarterly compliance of healthcare providers' hand hygiene and hub scrub ranged from 92%–100% (Owings et al., 2018). They also reported a reduction in CLABSI rates with a bar graph depicting a downward trend. One weakness of this study was that the actual CLABSI rates were difficult to decipher since the

study only published results as an illustrated bar graph and not actual data. The insight gained from this study includes that LRs have the ability to positively impact infection rates by increasing everyone's accountability to organizational goals, recognizing priorities, and providing on the spot recognition and educational opportunities.

Positive outcomes were also noted in Purvis et al.'s (2017) research study focused on leadership rounds and catheter-associated urinary tract infections (CAUTI). This study was performed at a 592 academic level 1 trauma tertiary care center and hypothesized that the incorporation of LRs would decrease both CAUTI rates and indwelling urinary catheter days. Results confirmed the hypothesis with CAUTIs declining by 65%, CAUTI rates per 1,000 patient days reducing from 3.1 to 1.4, and urinary catheter utilization rates decreasing from 0.18 to 0.13 (Purvis et al., 2017). One other interesting finding from this study was the impact LRs had on CAUTI and catheter rates, specifically in the intensive care setting (ICU), which is notorious for being a challenge. The authors note this was the first time this hospital's ICU and MedSurg CAUTI rates were comparable. It is important to note a fundamental limitation of this study was the national definition of CAUTI changed midpoint. The authors of the study estimated that nearly half of the reduction in CAUTIs was attributed to the definition change alone.

Infection control issues may be on the minds of organizational leaders, but this issue also weighs heavily on the minds of frontline caregivers. Savely et al. (2019) studied patient safety rounds in the clinic setting and outlined the patient safety issues that were identified by staff during patient safety rounds (PSRs). This study took place at three outpatient clinics and consisted of 41 study participants. A total of 37 patient safety issues were identified. Forty-six of the frontline clinicians' concerns were categorized as preventing infections (Savely et al., 2019).

While this pilot study had its limitations, such as a small sample size and a short intervention period (nine rounds), it began to highlight new information and future research areas. Understanding the concerns of frontline staff can help leaders prioritize problems and address patient safety issues that will result in positive outcomes for patients and the healthcare industry. This study also highlighted that much of the literature involving LRs have focused on the acute care setting. More formal studies should be conducted to evaluate if the positive impact of LRs can be incorporated in the outpatient setting.

Leadership Attributes and Safety

A fascinating area of patient safety and building cultures of safety involves leadership attributes. Several studies have evaluated the characteristics of leaders that promote safety. One such aspect is transformational leadership. Fischer et al.'s (2018) study sought to provide a framework for which factors most influence the relationship between transformational leadership and safety climate. They arranged a study that sought expert opinion, judgment, and consensus findings from 20 expert witnesses across the world. Throughout three rounds of scoring, the experts were able to achieve full consensus and confirmed the leadership factors to be included in the framework. The findings of this study provide insight into nursing leadership at all levels. Leaders should utilize methods of explaining and teaching staff about patient safety and assuring communication with staff is proactive, trustworthy, inclusive, and bidirectional. Fischer et al. (2018) also noted that the commitment to safety could be further cemented in daily leadership safety rounds and ensuring that items from rounds are followed up. Other factors in the framework include leaders investing in just culture, nonpunitive responses to errors, and bidirectional communication to increase psychological safety (Fischer et al., 2018).

Other literature that highlights leadership qualities for promoting a safety culture included Parand et al.'s (2013) qualitative study that sought to identify the critical dimensions of hospital chief executive officers (CEOs) involved in quality and safety initiatives. This study included 17 self-assessment interviews with CEOs and 36 interviews of other staff for supplementary analysis to verify or challenge CEO self-reported data (Parand et al., 2013). The top five CEO dimensions that help promote a safety program were identified as providing resource provisions, staff motivation and engagement, commitment and support, monitoring progress, and embedding program elements. While this study was limited in its scope and sample size, it reinforces the critical role senior leaders play in quality improvement and safety initiatives. Leadership walkrounds provide leaders and frontline staff the opportunity for shared dialogue and engagement toward a common goal.

Lastly, Agnew and Flin (2014) outlined leadership qualities and safety climate in their study completed in 2014 and focused on leadership behaviors of senior charge nurses concerning patient safety. Their research was a two-part study that used qualitative methods to gather behaviors as reported by senior charge nurses and frontline nurses in phase one. During phase two, quantitative methods were utilized to evaluate charge nurse behaviors and outcome measures such as infection rates, staff incidents, and patient injuries. Results revealed that senior charge nurses more frequently engaged in tasks and relations-oriented behavior as compared to change behavior. Researchers found "envisioning change" behavior was to more strongly predict safety performance data, such as lower infection rates, as compared to the other leader behaviors (Agnew & Flin, 2014, p. 777). A surprising component of this study was that the safety performance metrics were better predicted by the senior charge nurses' self-ratings than by staff nurses' upward ratings of the charge nurses.

Theoretical Framework: Donabedian Model

Avedis Donabedian, former professor of medical care organization at the University of Michigan, is credited as the pioneer establishing healthcare industry standards for quality assurance and practice in the 1960s. The Public Health Service department commissioned him to evaluate quality assurance research. In 1966, his work was published in an article titled *"*Evaluating the Quality of Medical Care." This work became the foundation for theory and practice on quality assurance and health services research (Ayanian & Markel, 2016).

Later, in 1990, Donabedian published another article entitled "The Seven Pillars of Quality" that further developed his theoretical framework for quality assurance. The seven pillars outlined were efficacy: the ability of care, at its best, to improve health; effectiveness: the degree to which attainable health improvements are realized; efficiency: the ability to obtain the most significant health improvement at the lowest cost; optimality: the most advantageous balancing of costs and benefits; acceptability: conformity to patient preferences regarding accessibility, the patient-practitioner relation, the amenities, the effects of care, and the cost of care; legitimacy: conformity to social preferences concerning all of the above; and equity: fairness in the distribution of care and its effects on health (Donabedian, 1990).

The Donabedian triad defines three areas in which the quality of healthcare is viewed. The three components of the triad are structure, how care is offered; process, what is done to the patient; and outcome, what ultimately happens to the patient (AHRQ, 2019). Donabedian's triad of structure, process, and outcome was chosen as the theoretical framework because of its historical importance and ongoing relevance within the complex healthcare industry. His triad model has been widely adopted by the Agency for Healthcare Research and Quality, Institute of Medicine, and the Institute for Healthcare Improvement. Donabedian's triad model is relevant to

the problem of interest as it connects to safety, quality assurance, and positive patient outcomes in healthcare settings. Closing the quality gap requires a solid understanding of frontline processes and will require leadership's assistance in implementing interventions that create effective quality improvement resulting in better patient outcomes. Donabedian's triad model is the perfect example of a framework designed to enhance quality assurance.

Prior studies have utilized the Donabedian triad model for quality assurance. Nurses explored the use of Donabedian's framework when evaluating the impact of nurse practitioner services at a hospital (Gardner et al., 2013). The study demonstrated that the Donabedian triad, emphasizing structure, process, and outcome evaluation, was a valuable and validated approach to examining the safety and quality of a service innovation (Gardner et al., 2013). Donabedian's model has also been tied to research focused on evaluating the psychometric properties of the Safety Attitudes Questionnaire (SAQ) completed by researchers in 2006 (Sexton et al., 2006). Another study utilizing Donabedian's model to assess outcomes of preconception in women's health relayed one of the most important concepts of the triad, which was a focus on outcomes. This research supported that outcomes were the primary aim of healthcare, and Donabedian's model aligned well with this focus (Sardasht et al., 2014).

Conclusion

The literature search revealed three main leadership themes for achieving a successful culture of safety. The first theme is the utilization of LRs to improve frontline caregiver perceptions of a safety climate. Leader rounds were statistically successful in improving the perceptions of safety climate for frontline nurses (Thomas et al., 2005). Subsequent studies by Frankel et al. (2008), Chua and Luna (2014), and Schwendimann et al. (2013) found similar results reflect increases in nurses' perceptions of safety climate after the intervention of LRs.

The second theme highlighted in the literature review was the utilization of LRs to impact patient outcomes positively. Leader rounds were incorporated to connect with frontline staff to identify barriers, reinforce compliance with quality improvement initiatives through on the spot education or recognition, and facilitate actions to remove obstacles. Owings et al.'s (2018) study reported increased compliance of infection control bundles and a reduction in CLABSI rates. Similar findings were discovered in Purvis et al.'s (2017) study that looked at leadership rounds and CAUTI rates. The researchers reported a 65% reduction in CAUTIs and an overall decrease in catheter utilization rates (Purvis et al., 2017).

The third theme found in the literature was leadership attributes that promote a culture of safety. Fischer et al. (2018) highlighted expert consensus for a framework of transformational leadership attributes that enhance safety climate. Their structure included explaining and teaching staff about patient safety and ensuring communication with staff is proactive, trustworthy, inclusive, and bidirectional (Fischer et al., 2018). Leader rounds were discussed as one method of providing this two-way communication. Another study that supports this position was a study evaluating CEO attributes. The authors reinforce leadership attributes such as giving resource provisions, staff motivation and engagement, commitment and support, monitoring progress, and embedding program elements (Parand et al., 2013). Lastly, nursing leadership behaviors were researched in a 2014 study by Agnew and Flin that highlighted senior charge nurse behaviors. Authors of this study reported envisioning change behavior was more strongly predictive of safety performance data, such as lower infection rates, as compared to other leader behaviors (Agnew & Flin, 2014).

A vital summary finding from this literature review was the inconclusive research findings related to LRs and patient experience scores. Winter and Tjiong (2015) reported no

correlation between how patients scored on the HCAHPS question and how patients responded to questions posed by leaders during rounds. Also, there were no statistically significant results in the pre- and postintervention HCAHPS scores (Winter & Tjiong, 2015). Two research studies from 2017 (Hudson-Covola et al.; Manss) had conflicting results. The first reported a global rating HCAHPS increase with scores improving from 66.9% to 76.7% after the utilization of LRs. However, the increase was not statistically significant (Hudson-Covola et al., 2017). The second study by Manss (2017) conflicted with previous findings as they reported LRs statistically helped to increase HCAHPS scores in the one, three, and 10-year post rounds evaluation.

Chapter Summary

In conclusion, a strength of the literature review is the vast amount of information, research, and studies focused on leader rounds, safety climate, and patient outcomes. Results of multiple studies support the utilization of LRs as one method of enhancing the safety climate in an acute care setting. Nurses who participated in LRs during Thomas et al.'s (2005) study rated their perception of safety climate as 72.9% positive compared to a score of 52.5% in the control group. Positive patient outcomes after implementing LRs were noted in Purvis et al.'s (2017) research that revealed a decrease in CAUTI rates. Other positive outcomes were found in Manss' (2017) study that resulted in a one, three, and 10-year increase in patient experience scores.

Gaps in the literature review included several studies in which limited patient outcome data were available. This was found in Knobloch et al.'s (2018) study in which no hospital-acquired infection data was presented. Patient outcome data was also lacking in Owings et al.'s 2018 study that looked at LR and CAUTI rates. Another weakness of the literature review is conflicting research results evaluating LR and patient experience. Manss' (2017) study reported

an increase in patient experience overall rating scores by 7.1% in one year. However, other studies reported no statistically significant increase. Winter and Tjiong's (2015) study reported no statistically different pre- and post-LR HCAHPS scores. Hudson-Covola et al.'s (2017) study also noted no statistically significant increase.

Overall, the literature review gives guidance to incorporating leader rounds to improve staff perceptions of safety climate. The results emphasize that attention should be spent on the structure and organization of LRs. Leader rounds are best suited to occur with frontline nurses and less beneficial if spent with patients to try to improve patient experience scores. The DNP project focused on leader rounds with frontline nursing staff versus general clinical providers and patients. The LRs in this project focused on safety culture as measured by frontline nurses.

Chapter 3: Research Methods

Patient safety is a top priority for people receiving care, nurses providing the care, and leaders creating an environment in which healthcare is provided. Healthcare is and will continue to remain a high-risk industry with errors resulting in grave consequences at times. A leader's recognition of this high-risk environment and a culture of safety as the cornerstone of any safety program will lead to advancements in patient safety and culture (Pumar-Mendez et al., 2014). This project focused on leader rounds (LRs) to enhance the organization's commitment to patient safety, improve communication between frontline nurses and leaders, and provide opportunities to strengthen and support a culture of safety. The purpose of this chapter is to explain the methods used to design and implement LRs at a midsize acute care hospital.

Project Design

The DNP project took a quantitative approach, more specifically, a quasi-experimental pre- and posttest study design. The project was conducted to investigate nurse perceptions of safety as measured by the Safety Attitudes Questionnaire (SAQ) before and after introducing LRs. A pre- and posttest quasi-experimental design was utilized, with the pretest SAQ score serving as the control group and the posttest SAQ score serving as the experimental group. Participants were not required to consent to the study per institutional review board (IRB) approval to waive consent.

The intervention for this study was the implementation of LRs conducted by the telemetry director. The director completed rounds once a week on all five telemetry units over six weeks. The DNP student was not involved in the actual rounds; however, the student did debrief with the director when requested. After the LRs were completed, an additional two weeks were outlined before nurses from these units were asked to complete the postSAQ. The postSAQ

mean score was compared to the preSAQ mean score. Based on the level of available literature on LRs, the quasi-experimental design was beneficial as it helped explore the impact of the intervention and provided important study outcomes that could support continued exploration of LRs on a larger scale in future experimental project(s).

Instruments and Measurement Tools

The Safety Attitudes Questionnaire (SAQ) is a survey utilized to gain a snapshot of safety culture within an organization from the perspective of frontline workers. The SAQ measures the safety climate of employees across organizations, usually grouped by their work environment, such as patient care areas or nursing units. The questionnaire elicits frontline caregiver attitudes through a six-factor analytically derived climate scale (Sexton et al., 2006). The six climate scales include teamwork, safety, job satisfaction, perceptions of management, working conditions, and stress recognition. Based on recommendations by the authors of the SAQ, the short form SAQ version was utilized for this project (see Appendix B). Permission to use the questionnaire was obtained (see Appendix C). The short form SAQ is comprised of 36 questions and takes on average 10–15 minutes to complete. Every question is answered using a five-point Likert scale, with some questions being negatively worded (Sexton et al., 2006). The five-point scale includes available responses of 1= *disagree strongly*, 2 = *disagree slightly*, 3 = *neutral*, 4 = *agree slightly*, and 5 = *agree strongly* (Sexton et al., 2006). Questions are categorized into the six climate scales. For instance, teamwork climate includes six questions such as how nurse input is received, how disagreements are resolved, and how easy it is for staff to ask questions if they do not understand (Sexton et al., 2006). Mean scores are calculated from the data to show an overall safety climate score.

The SAQ was heavily studied in the early 2000s, with psychometric properties published in a 2006 study. Six cross-sectional surveys of healthcare providers across 203 clinical areas in three different countries were used in the psychometric research analysis. In total, this study looked at a sample size of 10,843 SAQ surveys (Sexton et al., 2006). The SAQ has strong psychometric properties with a Raykov's *p* coefficient value of .09. The study's overall conclusion was that the SAQ was a reliable instrument for healthcare organizations to measure frontline staff perceptions of patient safety-related domains or use the SAQ results to compare themselves with other organizations utilizing the same tool (Sexton et al., 2006).

Another well-known safety culture assessment instrument is the Hospital Survey on Patient Safety Culture (HSOPS). The HSOPS was developed by the Agency for Healthcare Research and Quality in 2004 and was recently updated to the second edition in 2019. While this instrument is a widely available and utilized tool, it was not selected for this DNP project. The primary reason for this was due to the hospital's familiarity and utilization of the HSOPS on previous safety assessments. While the organization has utilized HSOPS in the past, the data analysis and summaries are outsourced to another vendor. The DNP student did not want to intermingle this project with other hospital operations. Also, utilizing another validated tool such as the SAQ provided the organization with a fresh perspective on safety culture perceptions.

Data Collection, Management, and Analysis Plan

The primary source of data for this project was the SAQ results. Additional data collected included demographic information such as position, gender, and years of nursing experience. The questionnaire was administered through an electronic survey platform. Surveys that are quantitative in design are useful in eliciting an individual's shared beliefs, values, and norms related to safety issues. In addition, questionnaires are widely utilized as a method of assessing

safety culture because of their ability to be readily distributed and their ability to generate numerical data. This data can then be appropriately analyzed and used for comparison within the organization for broader generalizations (Pumar-Mendez et al., 2014). One flaw of utilizing questionnaires for safety-specific data collection is that questionnaires do not elicit deeper aspects of safety culture, such as primary beliefs or values. Descriptive qualitative data are the primary way to provide more detailed explanatory responses of the specific values and beliefs (Pumar-Mendez et al., 2014). However, a qualitative approach was not feasible in this project due to the timeline, extra costs, and resources needed to collect this type of data.

The DNP student conducted the collection, management, and analysis of data. The electronic surveys were the method of data collection. Individual results were kept confidential by the DNP student. De-identified data collected by the student were stored in a secure university drive under the project lead's name. De-identifying information filled out on the SAQ survey included patient care work area, position, gender, years in specialty range, and the date. Data will be owned by the university in case access may be needed at a future point in time. This storage system is provided by the online graduate school for doctoral student research data and is supported by the university's information technology department for security purposes. Data are kept for the minimum required time according to IRB guidelines.

Utilizing the appropriate level of data analysis and aggregation was crucial to this project's design. Aggregated unit-level data helps understand interactions of people belonging to a group and is more valid as it averages out variances created from individual dispositions (Pumar-Mendez et al., 2014). Safety studies have varied in terms of group-level aggregation. Some studies have aggregated at the unit level, while others have focused on the organization, professional background of respondents, and the managerial position. The lack of certain levels

of data aggregation creates an inconsistent process for research and the application of studies on a broader scale. This project did not focus on individual unit-level data analysis as the sample size was too small for each unit. Rather, the data analysis focused on data aggregation for the telemetry service line.

The study population was an acute care nonteaching hospital in Texas. The nursing sample was recruited from the hospital's telemetry service line, consisting of five telemetry units. Nonprobability convenience sampling was utilized for the project. This strategy is one of the most common forms of nonprobability sampling as it allows participants to be selected based on convenience and the availability of research participants. Focusing the intervention and sampling across the telemetry service line provided for a similar population to be included to help create a more representative sample from within the broader nursing population. Nurse perceptions of safety were measured pre- and postimplementation of LRs utilizing the SAQ. Demographic information for the sample was summarized using frequencies and percentages for categorical variables and means and standard deviation for quantitative variables. The primary analysis was a comparison of the mean SAQ scores pre- and postintervention using the parametric paired-samples *t* test. The paired-samples *t* test was an appropriate statistical analysis to utilize as this project looked at a pair of observations, pre- and postSAQ scores, from the same group of licensed nurses. The paired *t* test helped the principal investigator analyze whether the mean difference in the two scores was zero (Kellar & Kelvin, 2013).

The selection process for participation in the project was voluntary, and consent was not required per the IRB approval process. The participants were anticipated to experience minimal risk due to the voluntary nature of the project. Permission to conduct the project was requested

from Abilene Christian University's IRB. Additional permissions were requested from the hospital's chief nursing officer and telemetry director.

Methodology Appropriateness

In hospital settings, quantitative methods have been the primary approach for assessing a culture of safety. A quantitative approach is appropriate as it is a more formal and objective process with numerical data outcomes as compared to a qualitative approach. This design allows the findings to be generalized beyond the study example to a larger population of interest (Keele, 2011). More specifically, quasi-experimental designs are a research method used in the building of a study to evaluate an intervention. The research question this project explored was what impact LRs might have had on nurse perceptions of safety culture. The independent variable was LRs, and the dependent variables were nurse perceptions of safety culture as measured by the pre- and postSAQ mean safety score.

The DNP student was responsible for the collection, analysis, and distribution of data findings. Data collection occurred through the utilization of the pretest and posttest SAQ electronic survey. The electronic survey was made available to all eligible participants, dayshift RNs and LVNs, on the five telemetry units. Study participants were protected as no personal identification was required to complete the questionnaire. It was acknowledged that hospital management might inquire about specific units with low SAQ scores. Hospital management was briefed and asked for their support of the study and the outcomes to help protect units from this inquiry. An overview of the project and intervention was provided to all the telemetry units. Informed consent forms were not required per the IRB approval process. Participants experienced minimal risk due to the voluntary aspect and nature of the project.

Feasibility and Appropriateness

The project was conducted at an acute care nonteaching hospital over a four-month timeline. The DNP student was responsible for meeting with the chief nursing officer and telemetry director to obtain organizational permission to conduct the project. Support services needed to complete the project included access to the hospital's telemetry units, electronic SAQ forms, the education department to assist in pushing out the electronic surveys through the learning management platform, and nursing leadership in disseminating project findings. A major area of support required for the project was the time commitment and effort required of the telemetry director. Her time was needed to discuss the process for LRs and to then implement these rounds. This required a time commitment of at least 1–2 hours every week during the intervention phase. Arrangements were made with the hospital to allow nursing staff to complete the paper questionnaire during regularly scheduled work time. This was instrumental in increasing participation and questionnaire response rates. Costs for the project were minimal, with the majority of the expenses related to the nonproductive work time required of the telemetry director.

IRB Approval and Process

Permission for the project was obtained through Abilene Christian University's IRB (see Appendix D). The project was cleared as exempt with a waiver of consent. Formal organizational approval was requested and granted by the hospital's chief nursing officer. Full IRB approval was granted in August 2020.

Interprofessional Collaboration

The DNP student worked collaboratively with the telemetry director to assist in the facilitation of LRs and answer any rounding process questions she had. Also, collaboration

occurred with the hospital's education department to assist in rolling out the electronic SAQ surveys through the online learning management platform. Other key stakeholders included the chief nursing officer and nurse directors, who were requested to attend a meeting to discuss the project results. Further communication occurred to consider rolling out the intervention to more nursing units or not based on project results.

Practice Setting

The project was completed across the telemetry service line consisting of five inpatient units at an acute care nonteaching hospital in Texas. The hospital employs an average of 3,500 people and has an active medical staff of approximately 250 physicians practicing in multiple specialties. The determination to utilize the telemetry service line for this project was based on the availability and access to key stakeholders required to complete the project. Also, it allowed the project to be implemented and data analysis aggregated at an appropriate level. The quasi-experimental design allowed the results to be generalized to a larger population should stakeholders choose to do so going forward.

Target Population

The telemetry service line consisted of three progressive care units (PCU), one neuro-telemetry unit, and one medical-telemetry unit. Unit size ranged from 22 to 33 beds. Staff mix included registered nurses (RNs), licensed vocational nurses (LVNs), certified nurse aides (CNA), monitor technicians, and nurse managers for each unit who report to the department director. The majority of staff work 12–hour shifts, with typical shifts occurring from 7 a.m. to 7 p.m. or 7 p.m. to 7 a.m. Staffing numbers across these five units reflected approximately 138 RNs, two LVNs, and 100 unlicensed assistive personnel. Utilizing the GPower sample size

analysis tool for a two-tailed *t* test, the sample size needed to reach a statistically acceptable sample size was approximately 42 participants.

Leader rounds were conducted by the telemetry director and completed for an hour once a week for six weeks. Subjects chosen for the project and asked to complete the pre- and postSAQ were dayshift RNs and LVNs. Other clinical and support staff were not chosen due to the anticipation that their exposure to the intervention would be minimal, and the sample size was too small for any statistical analysis. This concept was supported by previous research conducted in 2005 by Thomas et al. in which the intervention was not successful in nonnursing providers due to low sample sizes.

Risks and Benefits

For this project, risks to the study population and sample were minimal. Participants were not required to consent for the study and completed a pre- and postelectronic survey. Benefits to the organization were the implementation of LRs across the telemetry department. Benefits also included an evaluation of the nurse perceptions of safety culture that would not have been available without this study's data.

Timeline

The timeline for this project was a total of 124 days. This time was divided into different sections, each specific to various project tasks. The first four weeks were spent discussing leadership walkround processes with the telemetry director and gathering the pretest SAQ data. The next six weeks were focused on the telemetry director's implementation of leadership walkrounds on the five tele units. Posttest SAQ data collection began two weeks after the completion of the intervention. The remaining project time was spent completing data analysis. See Appendix E for a detailed project timeline.

Chapter Summary

In summary, the DNP project occurred over four-months and followed a quasi-experimental pretest-posttest design. Leader rounds were implemented across the telemetry service line to determine the impact LRs may have had on frontline nurse perceptions of safety culture. After full IRB approval was received, eligible nurses participated in the study and experienced minimal risks. Data analysis occurred utilizing the parametric paired *t* test focusing specifically on the pre- and postSAQ mean scores. Findings were disseminated to key stakeholders, including nursing leadership, to facilitate further discussion and potential rollout of LRs to other areas of the hospital.

Chapter 4: Findings

Purpose of the Project

The purpose of this project was to determine if the implementation of LRs in an acute care hospital had any impact on nurse perceptions of safety culture. Safety culture is comprised of the individual and group beliefs, values, attitudes, perceptions, competencies, and patterns of behavior that determine an organization's commitment to quality outcomes and patient safety (Charalambous & Kelly, 2018). A hospital's safety culture forms the backbone of how it views and provides care. Establishing and fostering a culture of safety requires the work of all hospital personnel, including leadership. Leadership has an integral role in creating and sustaining a strong safety culture that transcends all hospital departments and working environments. Effective leadership within the healthcare environment is vitally important to promoting quality, safety, and integration of care across the healthcare system.

This project focused on a single service line, telemetry, and evaluated the potential impact LRs had on frontline nurse perceptions of safety culture. Leader rounds were conducted by the service line director and occurred over six weeks. The project followed a pre- and posttest design with nurse perceptions of safety culture measured via the SAQ pre- and post-LRs. Due to COVID-19 concerns, the surveys were administered electronically. Eligible participants included dayshift licensed RNs and LVNs from the five telemetry units. A total of 69 nurses were eligible to participate. Each participant was sent an electronic survey link via the hospital's online learning management system. Participants were not required to complete a consent form due to IRB approval to waive an electronic consent based on the study's design and minimal risks.

Discussion of Demographics

The targeted population was licensed nurses working in an acute care hospital setting. The telemetry service line was comprised of five nursing units and had approximately 130–140 licensed nurses, consisting of RNs and a smaller number of LVNs. For the purposes of this study, the population consisted of dayshift licensed nursing staff on the five telemetry units. A total of 69 nurses were included in the targeted population. Utilizing the GPower sample size analysis tool for a two-tailed *t* test, the sample size needed to reach a statistically acceptable sample size was approximately 42 participants. Due to COVID-19 restrictions and limited ability to utilize a unique participant identification process, the pre- and posttest target sample consisted of the same 69 nurses. Descriptive analyses such as frequencies and percentages were used to describe the sample demographics. The preSAQ had a sample size of 59, equaling an 86% response rate. All respondents were RNs. Forty-nine (83%) of the respondents were female, and 10 (17%) were male. The years in specialty range were seven (12%) who had less than six months of experience, six (10%) had six to 11 months, 21 (36%) had one to two years, 14 (24%) had three to four years, six (10%) had five to 10 years, five (8%) had 11 to 20 years, and none had 21 or more years. The postSAQ sample size was 50, which equaled a 72% response rate. Forty-nine of the respondents were RNs, and only one was an LVN. Forty-three (86%) were female, and seven (14%) were male. The years in specialty range were two (4%) had less than six months of experience, 11 (22%) had six to 11 months, 14 (28%) had one to two years, 14 (28%) had three to four years, one (2%) had five to 10 years, six (12%) had 11 to 20 years, and two (4%) had more than 21 years. Tables 1 through 4 outline the preSAQ data frequencies, while Tables 5 through 8 outline the postSAQ data frequencies for all 42 questions.

Table 1

PreSAQ Frequencies Items 2–11

Item	2	3	4	5	6	7	8	9	10	11
Mean	4.04	1.64	4.38	4.66	4.74	4.31	4.57	4.57	4.61	4.32
Mode	5.00	1.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Median	5.00	2.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Table 2

PreSAQ Frequencies Items 12–21

Item	12	13	14	15	16	17	18	19	20	21
Mean	1.76	4.48	4.29	4.03	4.38	4.63	4.53	4.67	3.42	3.60
Mode	1.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.00
Median	2.00	5.00	5.00	4.00	5.00	5.00	5.00	5.00	4.00	4.00

Table 3

PreSAQ Frequencies Items 22–31

Item	22	23	24	25	26	27	28	29	30	31
Mean	3.92	3.47	2.88	4.28	3.39	4.05	3.79	4.51	3.57	4.34
Mode	4.00	4.00	4.00	5.00	4.00	5.00	5.00	5.00	4.00	5.00
Median	4.00	4.00	3.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00

Table 4

PreSAQ Frequencies Items 32–42

Item	32	33	34	35	36	37	38	39	40	41	42
Mean	3.84	4.02	3.74	3.01	4.19	4.22	4.50	4.65	4.25	4.29	2.56
Mode	4.00	5.00	4.00	4.00	5.00	5.00	5.00	5.00	5.00	5.00	2.00
Median	4.00	5.00	4.00	4.00	4.00	4.00	5.00	5.00	4.00	5.00	3.00

Table 5

PostSAQ Frequencies Items 2–11

Item	2	3	4	5	6	7	8	9	10	11
Mean	4.03	1.53	4.43	4.42	4.75	4.22	4.36	4.61	4.66	4.43
Mode	5.00	1.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Median	4.50	1.00	5.00	5.00	5.00	4.00	5.00	5.00	5.00	5.00

Table 6

PostSAQ Frequencies Items 12–21

Item	12	13	14	15	16	17	18	19	20	21
Mean	1.72	4.56	4.31	3.89	4.13	4.30	4.35	4.59	3.18	4.02
Mode	1.00	5.00	5.00	4.00	5.00	5.00	5.00	5.00	5.00	5.00
Median	2.00	5.00	5.00	4.00	4.00	5.00	5.00	5.00	4.00	4.00

Table 7

PostSAQ Frequencies Items 22–31

Item	22	23	24	25	26	27	28	29	30	31
Mean	4.10	3.74	3.33	4.07	3.31	4.18	3.76	4.17	3.40	4.04
Mode	4.00	4.00	4.00	5.00	4.00	5.00	5.00	5.00	4.00	5.00
Median	4.00	4.00	4.00	5.00	4.00	5.00	4.00	5.00	4.00	5.00

Table 8

PostSAQ Frequencies Items 32–42

Item	32	33	34	35	36	37	38	39	40	41	42
Mean	3.48	3.95	3.63	2.90	4.27	4.12	4.47	4.62	4.06	4.37	2.23
Mode	5.00	5.00	4.00	4.00	5.00	4.00	5.00	5.00	4.00	5.00	2.00
Median	4.00	4.50	4.00	3.00	5.00	4.00	5.00	5.00	4.00	4.50	2.00

Data Analysis

Quantitative methods have been the primary approach for assessing a culture of safety in hospital settings. A quantitative approach, as compared to a qualitative approach, was appropriate for this project as it was a formal and objective process producing numerical data outcomes for comparison. The project followed a quasi-experimental design with a pre- and postSAQ survey. Pre- and posttest study designs are widely utilized as a method for comparing groups and measuring change resulting from experimental treatments (Dimitrov & Rumrill, 2003). The design was appropriate for this project as it allowed for evaluating the project's intervention of leader rounds. Keele (2011) stated that quantitative study approaches could be helpful to allow findings to be generalized beyond the study example to a larger population of interest. This supports the chosen methodology and data analysis process, as the hospital and researcher were interested in studying a smaller nursing population with the potential to leverage the findings to a larger population within the hospital.

Data analysis for this project focused on differences in the mean safety attitudes scores for the pre- and postSAQ survey. The paired *t* test was chosen for the data analysis as there were only two sets of groups for the independent variable. The dependent variable data were the mean SAQ scores for each safety question. A five-point Likert scale was utilized to assign numerical values for the respondents' level of agreement to the SAQ survey. Specifically, responses for the SAQ survey were outlined as 5 = *agree strongly*, 4 = *agree slightly*, 3 = *neutral*, 2 = *disagree slightly*, or 1= *disagree strongly*. The parametric paired *t* test was utilized to analyze the change in mean safety culture scores on the pre- and postSAQ. No individual unit-level analysis was completed as this was not the project's focus and the limited sample size by unit. A safety climate score for each question was calculated utilizing the numerical Likert scale response.

Question Guiding the Inquiry

The research question explored for this project was for nurses in an acute hospital setting and if the implementation of formal leader rounds, compared to unstructured leader rounds, impact nurse safety attitude scores over four months. The parametric paired-samples *t* test was an appropriate data analysis to utilize as it helps to calculate the mean difference between two paired groups. The null hypothesis for a paired-samples *t* test is that no difference exists. For this project, the null hypothesis was that there would be no statistically significant difference in the pre- and postSAQ safety culture scores. The alternative hypothesis was that there was a statistically significant difference in pre- and postSAQ scores after the completion of leader rounds.

A paired *t* test was performed to test the hypothesis that the preSAQ and postSAQ mean safety scores after the intervention of LRs was equal. It is noted that the correlation between the two conditions was estimated at r = .97, $p < 0.05$. The null hypothesis of no difference in nurse perceptions of safety was retained, $t(40) = 1.89$, $p = .054$. The postSAQ safety climate mean (3.92) was lower than the preSAQ safety climate mean (3.98); however, it was not statistically significant (*sig* = .054). A graphical representation of the data analysis is outlined in Tables 9 through 11.

Table 9

Paired Samples Statistics

Statistics		*M*	*N*	*SD*	*SEM*
Pair 1	PreSAQ	3.98	41	.735	.115
	PostSAQ	3.92	41	.739	.115

Table 10

Paired Samples Correlations

Correlations		*N*	Correlation	*Sig*
Pair 1	PreSAQ & PostSAQ	41	.968	.000

Table 11

Paired Samples Test

		Paired Differences							
		M	*SD*	*SEM*	95% Confidence Interval of the Difference		*t*	*df*	*Sig* (2-tailed)
					Lower	Upper			
Pair 1	PreSAQ – PostSAQ	0.058	0.187	0.029	-0.0009	0.117	1.989	40	0.054

Further evaluation included an analysis of the preSAQ and postSAQ mean scores for each of the six safety climate areas to determine if a difference in the mean score existed. The six safety climate areas included teamwork, safety, job satisfaction, stress recognition, perceptions of management, and working conditions. The parametric paired-samples *t* test with a $p < 0.05$ was utilized for this analysis. Teamwork climate showed a decrease in the mean difference by 0.065 but was not statistically significant (.190). Safety climate showed an increase in the mean difference by 0.007; however, it was not statistically significant (0.865). Job satisfaction showed a statistically significant (.007) decrease in mean scores by 0.216. Stress recognition climate had a statistically significant (.014) decrease in differences of 0.33. Perceptions of management climate had a mean decrease by 0.106; however, this was not statistically significant (.255). Lastly, working conditions climate had a statistically significant (.041) decrease in mean

difference scores of 0.225. This information is practical for nurse leaders to increase understanding of the detailed components of the SAQ scores post-LRs. A future direction might include targeting a specific safety climate section and incorporating rounding questions pertinent to this area into the LR process.

Reliability and Validity

The design of this project focused on the utilization of a pre- and postSAQ survey to measure nurse perceptions of safety. The same survey platform, process, and safety attitude questions were asked on both the pre- and postquestionnaire to enhance reliability. Ensuring consistent survey questions increased the project's reliability. This approach provided an enhanced ability for the findings to be repeated in future projects or rolled out to other areas within the organization should the hospital choose to do so. Another measure used to increase reliability was ensuring the SAQ surveys were available to only the eligible sample. One concern regarding the project's reliability was that not all of the eligible samples participated in leader rounds. Thus, it is a limitation to know whether the intervention of LRs had a direct impact on the nurses' perceptions of safety or were other uncontrollable factors involved. Uncontrollable factors with the potential to comprise the reliability of the project included the COVID-19 pandemic. During this project, the hospital faced significant challenges and surging COVID-19 hospitalization rates. Two of the five units involved in the project were converted to COVID-19 units that only provided care to these types of patients. In addition to this challenge, the hospital also lost the electronic medical record platform as it encountered unplanned downtime for two weeks. This greatly impacted hospital operations and had the chance to impact perceptions of safety.

Validity for this project was enhanced by adopting and using the scientifically studied and validated Safety Attitudes Questionnaire. The SAQ measures the safety climate of employees across organizations, usually grouped by their work environment, such as nursing units. The questionnaire elicits frontline caregiver attitudes through a six-factor analytically derived climate scale (Sexton et al., 2006). The SAQ was heavily studied in the early 2000s, with psychometric properties published in a 2006 study by Sexton et al. The SAQ has strong psychometric properties with a Raykov's *p* coefficient value of .09. The SAQ was a valid instrument for healthcare organizations to measure frontline staff perceptions of patient safety (Sexton et al., 2006). Another measure to increase the project's validity was the large sample size. Utilizing the GPower sample size analysis tool for a two-tailed *t* test, the sample size needed to reach a statistically acceptable sample size was approximately 42 participants. The actual sample size for the preSAQ was 59, and the postSAQ was 50.

Chapter Summary

The project focused on nurse perceptions of safety climate as measured by a pre- and postSAQ survey. The project achieved a large sample size on both the pre- and postSAQ surveys. The null hypothesis was that no difference in mean safety climate scores would be found after the intervention of LRs. A paired-samples *t* test of the preSAQ and postSAQ mean safety climate score was completed utilizing a pre- and posttest design. The null hypothesis was retained, and the alternative was rejected. A decrease in the mean safety climate score was noted after the intervention; however, it was not statistically significant. It is important to highlight key considerations in limitations of this study that included surging COVID-19 hospitalizations and a two-week loss of electronic medical record (EMR) capability at the participating hospital prior to and during the postSAQ phase of this project.

Chapter 5: Discussion of the Findings

Healthcare is a diverse, dynamic, complex system of health-related services. Patients seeking healthcare services place demands on organizations to deliver safe, reliable, and effective care (Frankel et al., 2017). Patient safety is defined as reducing the risk of unnecessary harm associated with healthcare to an acceptable minimum and is achieved through the integration of values and behaviors of the individual and organization within a healthcare environment (Tavares et al., 2018). Quality care cannot exist without a culture of safety. One method discussed in the literature to enhance a culture of safety is leader rounds (LRs). The purpose of this pre- and posttest designed DNP project was to determine if the implementation of LRs in an acute care hospital had any impact on nurse perceptions of safety culture.

Interpretation and Inference of the Findings

There are significant factors that may explain the findings in this study. The leaders conducting rounds were middle management rather than executive-level leaders. The staff exposure to leader rounds showed that only a small minority of staff had participated in leader rounds over the six-week time frame. The leaders doing the rounds reported that they spent significantly more time rounding than previously expected. Lastly, during the study period, the hospital units experienced a heavy influx of COVID-19 patients, resulting in higher acuity patients and a higher than normal volume of acutely ill patients. In addition, the hospitals' EMR system was offline for two weeks during the study period, causing increased stress on staff and the potential for compromising patient safety.

The research question explored by this project was for nurses in an acute hospital setting and if the implementation of formal leader rounds, compared to unstructured leader rounds, impacted nurse safety attitude scores over four months. The project had a strong degree of

participation from the targeted population of 69 dayshift RNs and LVNs working in five telemetry nursing units at an acute care hospital. The preSAQ had a response rate of 86%, and the postSAQ was 72%. The null hypothesis of this project was that there would be no statistically significant difference in the pre- and postSAQ safety culture mean scores. The alternative hypothesis was that there was a statistically significant difference in pre- and postSAQ scores after the completion of leader rounds. The major finding of this project was that the null hypothesis was retained, and the alternative hypothesis was rejected. The project found a difference in the overall mean safety score; however, it was not statistically significant. The mean safety score difference was 0.058 but was not statistically significant.

An insight gained from this study was the amount of time and commitment of leadership to complete LRs. A nurse director-level position completed LRs once a week over the course of six weeks. The intervention planned for this project was for the director to complete LRs in approximately one hour each week. This was additional time set aside from an already busy work schedule for this director. During the six weeks, the time required to complete rounding was continuously more than one hour. Feedback from the director was that more time was required to engage multiple staff in conversation and provide an opportunity for meaningful dialogue. This finding was supported by prior research. Frankel et al.'s (2008) study was completed across seven hospitals and highlighted a challenge involving the level of leader commitment to complete EWRs. Only two of the seven hospitals included in the study were able to comply with weekly executive walkrounds (Frankel et al., 2008). This DNP project adds to the body of knowledge that leadership time and commitment to complete LRs is extensive and may not be feasible.

Another finding from this project that adds to the current literature was the component of what leadership level may be effective or needed in rounding. The current project found a nonstatistically significant decrease in nurse perceptions of safety after implementing LRs. This project utilized a nurse director-level position to complete rounds due to availability and access. Prior literature supporting a positive increase in safety scores utilized executive-level positions for rounding. Thomas et al. (2005) found a statistically significant increase in nurse perceptions of safety for the intervention group compared to the control group after introducing executive-level leader rounds.

Another interesting finding was the majority of respondents on the postSAQ reported no to little involvement in LRs. Of the 50 respondents, 62% reported no participation in LRs, and 30% reported participating one time. Only 8% responded that they had participated in two or more LRs. This coincided with prior research that little to no effect was found when evaluating safety climate scores for employees that did not participate in LRs. Schwendimann et al. (2013) reported higher safety climate scores when units with ≥ 60% of caregivers reported at least one exposure to LRs. Thomas et al. (2005) found no increase in safety climate perceptions for nurses with no direct participation in executive walkrounds.

The theoretical model, Donabedian's triad of structure, process, and outcome, was chosen as the theoretical framework. The Donabedian triad defines three areas in which the quality of healthcare is viewed. The three components of the triad are structure, how care is offered; process, what is done to the patient; and outcome, what ultimately happens to the patient (AHRQ, 2019). The theoretical framework outlined how leaders had the ability to connect with frontline staff to observe and discuss how care was offered to patients, monitor processes throughout the organization, and ultimately review and impact quality outcomes such as safety

culture. The structure of rounding took the form of middle management rather than the previously supported executive-level management. The structure was further compromised with the hospital's EMR system offline for two weeks. The process was complicated by the extent of time involved, the lack of staff participation, and the increased workload that resulted during this period from the COVID-19 pandemic. Thus, the process did not proceed as planned and may have resulted in negative versus positive perceptions of safety. Donabedian's triad helps to outline the complexity noted in healthcare delivery and processes that can lead to undesired healthcare outcomes. Qualitative feedback from the director supported the project's ability to connect the leader with frontline caregivers to understand better how care was being offered and the processes involved in delivering the care. The director reported that staff was open to discussing challenges or barriers they faced in how care was delivered and the processes involved in providing patient care.

Implications of Analysis for Leaders

This project is important to nurse leaders as it provided further insight into frontline nurse perceptions of safety culture and the outcomes of leader rounds. The project and its relevant findings are helpful guides for healthcare leaders to understand better what actions may or may not enhance staff perceptions of safety culture. Nurse leaders should utilize the findings of this project to evaluate further the best utilization of their time. Leader rounds by the nurse director in this study required a significant amount of time and commitment. Based on a decline in postSAQ safety culture mean scores, nurse leaders should evaluate if LRs are the best utilization of time and energy to impact safety culture as outlined in this project.

Another question that arose from this project was the level of leadership utilized for safety rounding. The director-level rounding in this project did not yield an increase in safety

perceptions. Hospital leaders should evaluate the appropriate role or position to complete leader rounds. Future research should evaluate staff response to unit-level leader rounds versus executive team rounding. In addition, the project findings highlight staff's desire for leader rounds. When asked on the postSAQ survey if leader rounds should continue, 45 out of the 50 respondents (90%) responded yes.

Another question arising from this project was the best approach to measure safety culture. This project focused on a quantitative approach to measure staff perceptions of safety. A flaw of utilizing a quantitative approach with questionnaires for safety-specific data collection is that questionnaires do not elicit deeper aspects of safety culture, such as primary beliefs or values. Descriptive qualitative data is the primary way to provide more detailed explanatory responses of the specific values and beliefs (Pumar-Mendez et al., 2014).

Essentials of Doctoral Education for Advanced Practice Nurses

Essential 1: Scientific Underpinnings of Practice

The healthcare industry remains a complex and dynamic environment in which safety is a top priority for leaders, providers, and patients. Literature helped provide support regarding the need for and importance of a safety culture. Literature also provided insight into different approaches and outcomes hospitals have found to enhance the culture of safety and patient outcomes. Several studies identified a link between leader rounds and staff perceptions of safety. Theoretical frameworks or models have been utilized to guide practice discoveries and new evidence-based practice findings. The Donabedian triad is one such theoretical framework with a specific focus on healthcare delivery, processes, and outcomes.

Essential 2: Organizational and Systems Leadership for Quality Improvement

A hospital's structure, processes, leadership, and culture of safety are critical to patient outcomes. Leadership has an integral role in creating and sustaining a strong safety culture that transcends all hospital departments and working environments. Effective leadership within the healthcare environment is vitally important to promoting quality, safety, and integration of care across the healthcare system. Leadership has an impact on employees and patients with a patient-centered focus and establishment of a safety culture. Effective leaders have been shown to increase collaboration, inspiration, and retention among staff. Care environments with strong leaders in place experience reduced patient mortality rates, decreased adverse events, and higher levels of patient satisfaction (Sfantou et al., 2017). Practice changes and improvements in delivery of care are not sustainable with corresponding changes in culture and organizational practice. While the results of this project did not show an increase in safety climate perceptions, it did show 90% of the respondents had a desire for leaders to round.

Essential 3: Clinical Scholarship and Analytical Methods for Evidence-Based Practice

Doctor of Nursing Practice graduates are well-positioned to translate scientific discovery and scholarly research into actual nursing practice through the dissemination and integration of new research. The nursing profession has a significant role in discovering new clinical practice and applying this new information into healthcare environments. The acute care hospital setting is a dynamic and complex component of the healthcare industry. This project involved a deeper look at hospital safety cultures, an important topic for healthcare organizations, leaders, staff, and patients. An extensive literature review was conducted to draw to the surface existing scientific evidence involving the topic. Appropriate analytical methods were utilized in the design of this project to ensure the accuracy of outcomes that would enhance the current

knowledge and assist hospital leadership in solving complex practice problems. The methodological approach enabled this project to be utilized by diverse healthcare teams and leaders in other practice areas.

Essential 4: Information Technology & Patient Care Technology for Improvement & Transformation

Information technology (IT) and systems are a component of all healthcare environments. These tools are utilized by healthcare teams in the delivery of care to enhance safety and efficiency. Patients are also highly connected to IT as a means to enhance knowledge, connect care, and increase healthy outcomes. The DNP graduate must be adept and fully utilize information technology and systems to enhance patient care. This can be achieved through the utilization of IT, data, and electronic systems to enhance the nursing profession's delivery of care that will ultimately improve patient outcomes. The project leveraged existing hospital IT platforms and the online learning management system to connect frontline nurses with the SAQ surveys. Qualitative feedback from the director who completed LRs relayed that some items mentioned by staff during rounds included practice struggles that involved the EMR system. These comments centered on components of the EMR nursing staff would prefer enhanced to either improve patient care processes or to increase staff efficiency in completing tasks within the EMR.

Essential 5: Healthcare Policy for Advocacy

Healthcare policy can occur at multiple levels, including a single organization, city, state, industry, or federal level. Health policies influence the way in which care is delivered and accessed. It is important the nursing profession understands the role policies play and their impact on the health outcomes of individuals, local communities, and entire populations of

people. The DNP graduate must leverage their knowledge and voice in the advocacy of healthcare policies that promote the safety, health, and wellbeing of patients and the profession. Active involvement includes actions such as decision making, advocacy, designing, and influencing policy. The setting for this project was a midsize acute care hospital. Policy pertinent to this project was focused on institutional decision-making and organizational standards at the local hospital level. The project and its findings assisted the organization in understanding the complexities of its safety culture. Hospital leaders now have additional information to guide their decision-making and process involving leader rounds. Data from this project did not support the implementation of LRs as outlined in the project's intervention design. However, hospital leaders have increased insight and information to help guide them in future organization standards and processes.

Essential 6: Interprofessional Collaboration for Improving Outcomes

The healthcare environment is complex and dynamic, with multiple components of the system competing for scarce time or resources. In order to deliver high-quality healthcare with positive patient outcomes, collaboration across the entire system and healthcare teams is essential. Doctors of Nursing Practice understand the need for collaborative care is required to provide safe, timely, effective, efficient, equitable, and patient-centered care. This DNP project focused on a culture of safety. Safety cultures are highly integrated and comprised of interprofessional interactions and collaborations. Ryan et al. (2017) wrote that nurses view ineffective communication and collaboration as the greatest challenge to providing quality care. The SAQ incorporates components of interprofessional collaboration. Questions on the SAQ pertinent to this concept included "the physicians and nurses here work together as a well-coordinated team," "working here is like being part of a larger family," "management supports

my daily efforts," "management does not knowingly compromise patient safety," "I experience good collaboration with nurses in this clinical area," "I experience good collaboration with staff physicians in this clinical area," and "I experience good collaboration with pharmacists in this clinical area." The project results revealed that frontline dayshift nurses on the telemetry service line rated stronger levels of collaboration with nurses (M = 4.62) as compared to physicians (M = 4.06). In addition, staff report higher levels of support from unit-level management (M = 4.07) compared to hospital-level management (M = 3.31).

Essential 7: Clinical Prevention and Population Health

Scholarly inquiry and new research findings lead to new evidence-based practice recommendations that can impact the health of people at the individual, aggregate, and wider population levels. The DNP utilizes a combination of abilities to lead, integrate, and institutionalize evidence-based recommendations that impact health promotion and disease prevention. This DNP project focused on frontline nurse perceptions of safety culture within an acute care hospital setting. A culture of safety supports a care environment and practices that produce quality patient outcomes. Nurses are the largest healthcare profession in most U.S. healthcare organizations; thus, they are a large occupational population that must be cared for and appropriately lead. The project showed a decrease in nurse perceptions of safety culture after the implementation of LRs. This is an important finding and provides hospital leadership information to discuss further considerations and evidence-based practice (EBP) recommendations to improve the occupational work environment for frontline nurses.

Essential 8: Advanced Nursing Practice

The nursing profession is often viewed as the heartbeat of healthcare and offers a variety of roles and opportunities through career development and growth. Nurse specialty roles have

increased out of a demand to meet the needs of a complex and quickly changing healthcare industry and patient needs that require increased competency and specialization of skills and knowledge. The DNP must be equipped to design, implement, and evaluate interventions based on science. In addition, they must demonstrate advanced levels of clinical judgment, systems thinking, and accountability in carrying out EBP (American Association of Colleges of Nursing [AACN], 2006). Advanced practice registered nurses (APRNs) who chose to specialize in administrative roles focus their practice on organizations and systems. The DNPs in this specialty must utilize their assessment skills at the organizational level to identify aggregate system needs and work with an array of stakeholders to enhance healthcare delivery models. This project had an administrative focus by studying the organization's culture of safety and assessed frontline nurse perceptions of safety culture. The key stakeholders included frontline nurses, the telemetry department director, and the hospital's nurse executive team to whom the outcomes were reported. The project provided valuable insight regarding the impact of LRs and nurse perceptions of safety culture. While the postSAQ results declined, leaders were able to utilize the study to understand better how nurses perceive the role of leaders and ideas to enhance safety culture.

Recommendations for Future Research

This project provided valuable insight into dayshift frontline nurses perceptions of safety. The study's overall results showed a nonstatistically significant decrease in nurse perceptions of safety culture after the implementation of LRs. A recommendation for future research is to include a qualitative component of safety culture to get a more in-depth understanding. The perceptions of management safety climate showed a large difference in the perception of unit-level management (M = 4.06) versus hospital-level management (3.31). This shows a disconnect

between the various layers of hospital structure and hierarchy. An important component for future research should include a focus on the role of the leader in completing safety rounds. This project utilized a department director familiar with frontline staff and processes. Utilizing an executive-level leader to complete safety rounds may produce different results. Another consideration for future research should explore the structure of rounding. This project focused on dayshift rounding for one hour a week due to participant availability. Future research should focus on the process of rounding, which may increase efficiency and better meet the needs of frontline staff availability during the shift.

Conclusion

Healthcare is a diverse and dynamic system of health-related services that puts patients in the hands of skilled clinicians who work tirelessly to heal, comfort, and care for the ill. Patients seeking healthcare services place demands on healthcare organizations to deliver safe, reliable, and effective care (Frankel et al., 2017). To deliver high-quality healthcare, acute care hospitals must achieve high degrees of safety culture at the individual nursing unit level. Unfortunately, the intrinsically complex, ever-changing, and competing demands of the healthcare environment place frontline nurses in positions to make medical errors.

The purpose of this quantitative quasi-experimental designed project was to determine if the implementation of LRs in an acute care hospital had an impact on nurse perceptions of safety culture. Safety culture is an important concept to explore as it supports the foundation of healthcare delivery. A hospital's safety culture forms the backbone of how it views and provides care through the behavior of employees, the priority of safety versus completion of tasks, and leadership's commitment to quality versus profit. Leaders play an integral role in establishing and fostering a culture of safety.

The major finding of this project was a decrease in the overall mean safety score (0.058) on the postSAQ as compared to the preSAQ; however, it was not statistically significant. While LRs did not positively increase nurse perceptions of safety culture, it is important to highlight limitations of the study, which included unforeseeable events with the potential to greatly impact nurse perceptions of safety. These events included a two-week network downtime in which all EMR functions were stopped toward the end of the six-week LR period and immediately prior to the postSAQ survey period. Additionally, the COVID-19 pandemic continued to present numerous challenges as the hospital encountered its peak COVID-19 hospitalizations during the postSAQ survey period. Recommendations for future research include a qualitative study approach that would enable a closer exploration of staff perceptions of safety culture. Additionally, future research should include an exploration of the structure of LRs. The structure review should include the most appropriate leader role to complete LRs.

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Appendix A: Facility Support Letter

[redacted]

January 17, 2020

To Whom It May Concern:

Heather Ray, RN, and I have discussed her proposed DNP Project focusing on Leadership Safety Rounds. I am providing full authorization for Heather Ray, RN to implement her project within [redacted] Additionally, Heather Ray, RN is authorized to access hospital analytics and electronic medical records, if necessary, to collect primary and secondary data relevant to her DNP Project.

Please do not hesitate to contact me if I can be of further assistance.

Sincerely,

[redacted]

Vice President/Chief Nursing Officer

Appendix B: Safety Attitudes Questionnaire Tool

Safety Attitudes: Frontline Perspectives from this Patient Care Area

I work in the (clinical area or patient care area where you typically spend your time): This is in the
Department of: Please complete this survey with respect to your experiences in this clinical area.

- Use number 2 pencil only.
- Erase cleanly any mark you wish to change.

Correct Mark ● Incorrect Marks ✓ ✗ ◒ ◔

Please answer the following items with respect to your specific unit or clinical area.
Choose your responses using the scale below:

A	B	C	D	E	X
Disagree Strongly	Disagree Slightly	Neutral	Agree Slightly	Agree Strongly	Not Applicable

Not Applicable
Agree Strongly
Agree Slightly
Neutral
Disagree Slightly
Disagree Strongly

1. Nurse input is well received in this clinical area.
2. In this clinical area, it is difficult to speak up if I perceive a problem with patient care.
3. Disagreements in this clinical area are resolved appropriately (i.e., not *who* is right, but *what* is best for the patient).
4. I have the support I need from other personnel to care for patients.
5. It is easy for personnel here to ask questions when there is something that they do not understand.
6. The physicians and nurses here work together as a well-coordinated team.
7. I would feel safe being treated here as a patient.
8. Medical errors are handled appropriately in this clinical area.
9. I know the proper channels to direct questions regarding patient safety in this clinical area.
10. I receive appropriate feedback about my performance.
11. In this clinical area, it is difficult to discuss errors.
12. I am encouraged by my colleagues to report any patient safety concerns I may have.
13. The culture in this clinical area makes it easy to learn from the errors of others.
14. My suggestions about safety would be acted upon if I expressed them to management.
15. I like my job.
16. Working here is like being part of a large family.
17. This is a good place to work.
18. I am proud to work in this clinical area.
19. Morale in this clinical area is high.
20. When my workload becomes excessive, my performance is impaired.
21. I am less effective at work when fatigued.
22. I am more likely to make errors in tense or hostile situations.
23. Fatigue impairs my performance during emergency situations (e.g. emergency resuscitation, seizure).
24. Management supports my daily efforts: Unit Mgt Hosp Mgt
25. Management doesn't knowingly compromise pt safety: Unit Mgt Hosp Mgt
26. Management is doing a good job: Unit Mgt Hosp Mgt
27. Problem personnel are dealt with constructively by our: Unit Mgt Hosp Mgt
28. I get adequate, timely info about events that might affect my work, from: Unit Mgt Hosp Mgt
29. The levels of staffing in this clinical area are sufficient to handle the number of patients.
30. This hospital does a good job of training new personnel.
31. All the necessary information for diagnostic and therapeutic decisions is routinely available to me.
32. Trainees in my discipline are adequately supervised.
33. I experience good collaboration with nurses in this clinical area.
34. I experience good collaboration with staff physicians in this clinical area.
35. I experience good collaboration with pharmacists in this clinical area.
36. Communication breakdowns that lead to delays in delivery of care are common.

BACKGROUND INFORMATION

Have you completed this survey before? ○ Yes ○ No ○ Don't Know **Today's Date (month/year):**_____

Position: (mark only one)

- ○ Attending/Staff Physician
- ○ Fellow Physician
- ○ Resident Physician
- ○ Physician Assistant/Nurse Practitioner
- ○ Nurse Manager/Charge Nurse
- ○ Registered Nurse
- ○ Pharmacist
- ○ Therapist (RT, PT, OT, Speech)
- ○ Clinical Social Worker
- ○ Dietician/Nutritionist
- ○ Clinical Support (CMA, EMT, Nurses Aide, etc.)
- ○ Technologist/Technician (e.g., Surg., Lab, Rad.)
- ○ Admin Support (Clerk/Secretary/Receptionist)
- ○ Environmental Support (Housekeeper)
- ○ Other Manager (e.g., Clinic Manager)
- ○ Other:_____

Mark your gender: ○ Male ○ Female **Primarily** ○ Adult ○ Peds ○ Both

Years in specialty: ○ Less than 6 months ○ 6 to 11 mo. ○ 1 to 2 yrs ○ 3 to 4 yrs ○ 5 to 10 yrs ○ 11 to 20 yrs ○ 21 or more

Note. See Appendix C for permission to use questionnaire tool.

Appendix C: Measurement Tool Permission Letter

---------- Forwarded message ---------
From: **Thomas, Eric** [redacted]
Date: Thu, May 23, 2019 at 7:57 AM
Subject: Re: SAQ permission letter
To: Heather Ray <[redacted]>

Heather, I think there is something wrong with our online process. Please accept this email a letter that is giving your permission to use the Safety Attitudes Questionnaire. Thank you for your interest in the survey.

Sincerely,

Eric Thomas

Appendix D: IRB Approval Letter

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

August 10, 2020

Heather Ray
Department of Nursing
Abilene Christian University

Dear Heather,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Progressing towards a culture of safety: The impact of leadership rounds",

(IRB# 20-091)is exempt from review under Federal Policy for the Protection of Human Subjects.

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs

Appendix E: Project Timeline

Project Tasks List and Timeline		
Initial project development	Apr-19	
Received permission to utilize Safety Attitudes Questionnaire (SAQ)	23-May-19	
Project design with chair	Jul-19	Sep-20
Met with key hospital stakeholder's (CNO & VP Quality)	Sep-19	
Received permission letter from organization	17-Jan-20	
IRB approval process	Jun-20	10-Aug-20
Pre and Post SAQ survey design	Aug-20	
Project announcement with key stakeholders (Tele Service Leadership, CNO)	01-Sep-20	11-Sep-20
Recruit participants	Sep-20	
PreSAQ survey available	18-Sep-20	12-Oct-20
Implementation of LRs	12-Oct-20	20-Nov-20
PostSAQ survey available	15-Dec-20	12-Jan-21
Evaluation of SAQ survey data	Jan-21	Feb-21
Project results discussed with CNO & VP Quality/Safety	Mar-21	
Project Defense with Committee	Mar-21	
Submit paper for publishing	May-21	

Timeline													
Tasks	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20
Initial project development													
Received permission to utilize Safety Attitudes Questionnaire (SAQ)													
Project design with chair													
Met with key hospital stakeholder's (CNO & VP Quality)													
Received permission letter from organization													

Timeline cont.													
Tasks	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21
IRB approval process													
Pre and Post SAQ survey design													
Project announcement with key stakeholders (Tele Service Leadership, CNO)													
Recruit participants													
PreSAQ survey available													
Implementation of LRs													
PostSAQ survey available													
Evaluation of SAQ survey data													
Project results discussed with CNO & VP Quality/Safety													
Project Defense with Committee													
Submit paper for publishing													