

Copyright
by
Dennis W Cook
2021

The Dissertation Committee for Dennis W Cook

Certifies that this is the approved version of the following dissertation:

**Associations in Nurses' Perceptions of Patient Safety Culture
Within the Hospital Setting: A Secondary Analysis of the 2018 HSOPS Database**

Committee:

Mary O'Keefe RN, PhD, JD, FAAN, Supervisor

Darlene "Cheyenne" Martin, PhD, RN, FAAN

Deborah Crumpler, PhD, RN

Heidi Spratt, PhD

Hoang Nguyen, PhD, Research Supervisor

J. Michael Leger, PhD, MBA, RN, NEA-BC, CNE,
CNL

Dean, Graduate School

**Associations in Nurses' Perceptions of Patient Safety Culture
Within the Hospital Setting: A Secondary Analysis of the 2018 HSOPS Database**

by

Dennis W. Cook, MSN, RN, CJCP, CPHQ, CPPS, HACP, CSSBB

Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas Medical Branch

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas Medical Branch

May, 2021

Dedication

I dedicate this work to all patients who have experienced harm while receiving care in the hospital and to the nurses who are dedicated to keeping patients safe from harm while commonly being at the sharp end of error trajectory.

Acknowledgements

I would like to thank my partner Alex for providing consistent support, love, understanding, and celebration throughout this program – it has been an interesting journey indeed. I also want to recognize my parents Richard Cook and Gwenn Flowers for their love. Little did they know that bringing a child into this world could potentially have profound positive implications on the safety of patient care

Associations in Nurses' Perceptions of Patient Safety Culture

Within the Hospital Setting: A Secondary Analysis of the 2018 HSOPS Database

Publication No. _____

Dennis Cook, PhD

The University of Texas Medical Branch, 2016

Supervisor: Mary O'Keefe

Within the hospital setting there continues to be concerns around a lack of effective leadership that cultivates a patient safety culture, which includes leaders' insufficient support of patient safety event reporting, their lack of responding to staff and others who report patient safety gaps, their tolerating intimidation of staff who report patient safety events, and their declining to prioritize and implement patient safety recommendations.

The study objective was to identify potential associations of patient safety culture measures and background characteristics of nurses in the hospital setting. The central hypothesis was that there are correlations within perceptions of patient safety culture measures as well as background characteristics in nurses within the hospital setting. This study achieved the objective through a retrospective, secondary, quantitative analysis of the 2018 Hospital Survey on Patient Safety Culture to evaluate the responses of 126,390 nurses within the United States.

The findings from this study indicate that nurses' perceptions of leadership actions and support for patient safety culture are positively correlated with nurses' perceptions of patient safety culture, including willingness to communicate patient safety issues. This study also found that there is variability in nurses' perceptions of patient safety culture based on nurse background characteristics.

TABLE OF CONTENTS

List of Tables	ix
List of Graphs.....	x
List of Abbreviations.....	xi
Chapter One: Introduction	
Introduction.....	1
Statement of the Problem.....	1
Background and Significance of the Problem	1
Statement of Purpose and Goals	5
The Study Objective, Hypothesis, Aims, and Research Questions	6
Statement of the Theoretical Framework.....	7
The Study Variables.....	8
Definition of Relevant Terms	8
Overview of Research Methodology	9
Overview of Design: Data Collection and Data Analysis	9
Overview of Study Findings	10
Summary of Chapter	10
Plan for Remaining Chapters	11
Chapter Two: Review of Literature	
Introduction.....	12
Conceptual and Historical Review of Literature	12
Literature Review of the Relevant Research	16
Literature Rview of the Study Variables	18

Gaps in the Literature.....	23
Rationale for the Study	24
Summary of Literature Review.....	24
Summary of Chapter	25
Plan for Remaining Chapters.....	25
Chapter Three: Research Methods and Procedures	
Introduction.....	26
Research Methodology: The Design and Rationale.....	26
Population, Setting, and Sample	26
Ethical Considerations	27
Measurement Methods.....	27
Data Collection Process	28
Definition of Study Variables.....	28
Data Analysis Procedures	31
Management of Missing Responses.....	31
Analysis of Composites.....	32
Summary of Chapter	33
Plan for Remaining Chapters.....	33
Chapter Four: Findings	
Introduction.....	34
Sample Characteristics.....	34
Evaluation of Nurse Background Characteristics.....	35
Evaluation of Research Questions.....	37

Summary of Findings.....	53
Summary of Chapter.....	54
Plan for Remaining Chapter.....	55
Chapter Five: Conclusions, Discussion, and Recommendations	
Introduction.....	56
Statement of the Problem.....	56
Overview of the Methodology.....	56
Interpretation of Major Findings and Conclusions.....	57
Comparison to Current Literature.....	59
Study Implications.....	59
Study Strengths.....	60
Study Limitations.....	60
Recommendations for Further Research.....	60
Conclusions.....	61
Summary of Chapter.....	61
References.....	62
Attachments	
Attachment A: Hospital Survey on Patient Safety Culture.....	69
Attachment B: Donabedian's Structure/Process/Outcome Model.....	74
Attachment C: IRB Exemption Letter.....	75
Attachment D: Missing Responses per Survey Question.....	76
Attachment F: Linkages Between Study Specific Aims, Research Questions, and HSOPS Composite Measures and Survey Questions.....	78

List of Tables

Table 1: Interpretation of the Strength of a Correlation Between two Variables.....	34
Table 2: Nurse Primary Work Area in the Hospital.....	35
Table 3: Length of Time the Nurse Has Worked in the Profession.....	36
Table 4: Length of Time Nurse Has Worked in Current Hospital.....	36
Table 5: Length of Time Nurse Has Worked in Current Work Area.....	37
Table 6: Correlation between Overall Perceptions of Patient Safety and Management Support for Patient Safety.....	38
Table 7: Correlation between Communication Openness and Feedback & Communication About Error.....	38
Table 8: Correlation between Nonpunitive Response to Error and Supervisor/Manager Expectations & Actions Promoting Patient Safety.....	39
Table 9: Comparison of Near Miss Reporting by Work Area.....	40
Table 10: Comparison of Nurse Patient Safety Grade by Work Area.....	43
Table 11: Comparison of Nurse Patient Safety Grade by Length of Time in Current Hospital.....	45
Table 12: Comparison of Nurse Patient Safety Grade by Length of Time in Work Area.....	48
Table 13: Comparison of Nurse Patient Safety Grade by Length of Time in Nursing.....	51

List of Graphs

Graph 1: Comparison of Near Miss Reporting – <i>Never/Rarely</i> – by Work Area.....	42
Graph 2: Comparison of Near Miss Reporting – <i>Most of the Time/Always</i> – by Work Area	43
Graph 3: Nurse Patient Safety Grade – <i>Excellent/Very Good</i> – by Work Area.....	45
Graph 4: Nurse Patient Safety Grade – <i>Excellent/Very Good</i> – by Length of Time in Current Hospital.....	47
Graph 5: Nurse Patient Safety Grade – <i>Poor/Failing</i> – by Length of Time in Current Hospital.....	48
Graph 6: Nurse Patient Safety Grade – <i>Excellent/Very Good</i> – by Length of Time in Work Area.....	50
Graph 7: Nurse Patient Safety Grade – <i>Poor/Failing</i> – by Length of Time in Work Area.....	51
Graph 8: Nurse Patient Safety Grade – <i>Excellent/Very Good</i> – by Length of Time in Nursing.....	53
Graph 9: Nurse Patient Safety Grade – <i>Poor/Failing</i> – by Length of Time in Nursing.....	54

List of Abbreviations

AHA – American Hospital Association
AHRQ – Agency for Healthcare Research and Quality
ED – Emergency Department
HSOPS – Hospital Survey on Patient Safety Culture
ICU – Intensive Care Unit
IHI – Institute for Healthcare Improvement
IOM – Institutes of Medicine
IRB – Institutional Review Board
Lab – Laboratory
LPN – Licensed Practical Nurse
LVN – Licensed Vocational Nurse
Rehab – Rehabilitation Department
RN – Registered Nurse
RQ – Research Question
SPO – Structure/Process/Outcome
TJC – The Joint Commission
U.S. – United States
UTMB – University of Texas Medical Branch
WHO – World Health Organization

Chapter 1: Introduction

Introduction

Chapter One introduces this quantitative study, which explores the interrelationships of patient safety culture measures and background characteristics in nurses within the hospital setting. Chapter One begins with a statement of the study problem. The Chapter then provides the background and significance of the problem, statement of purpose and goals, research questions and aims, theoretical framework, study variables, and definition of terms. Finally, Chapter One offers an overview of research methodology, data collection and analysis, and a brief overview of study findings.

Statement of the Problem

The problem of interest for this study was to examine associations of patient safety culture measures and background characteristics among nurses within the hospital setting.

Background and Significance of the Problem

Background

The Institute of Medicine Report.

A 1999 report by the Institute of Medicine (IOM) exposed the level of patient harm in the United States (U.S.). It revealed that “as many as 98,000 people die each year in the U.S. due to unsafe care in the hospital” (Kohn, 2000). Since the IOM report, the healthcare industry has had a major focus on the implementation of patient safety processes and the identification and reduction of patient harm.

The World Health Organization (WHO) defines patient safety as “the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum” (WHO, 2004).

Since 2003, The Joint Commission (TJC) has encouraged hospitals to focus on national patient safety goals as part of its requirements for hospital accreditation.

The Institute for Healthcare Improvement.

In 2004, the Institute for Healthcare Improvement (IHI) launched its 100K Lives campaign, which recognized that the U.S. healthcare system was complex and flawed with many broken processes that led to patient harm. This campaign focused on implementing industry recognized best practices across the country to improve care and reduce patient harm that had been occurring for years. The campaign was extended to Protecting 5 Million Lives from Harm in 2006 and encouraged hospitals to participate and commit to reducing patient harm and death by implementing additional steps from the original campaign to meet the goal over a two-year period (IHI, 2006).

Patient Safety and Quality Improvement Act of 2005.

To further advance patient safety, in 2006, then President George W. Bush ratified the Patient Safety and Quality Improvement Act of 2005 due to growing concerns about continued patient harm in the U.S. The Act provided certain protections to healthcare organizations to encourage voluntary reporting of patient safety events and sharing of patient safety issues and efforts.

Centers for Medicare and Medicaid Services.

In 2011, the Centers for Medicare and Medicaid Services (CMS) implemented the Partnership for Patients. This effort was focused on reducing hospital acquired conditions, such as falls, adverse drug events, healthcare-associated infections, and obstetric events.

Patient Safety Culture.

As patient safety science has progressed, evidence suggests that patient safety culture, or a lack thereof, has a significant effect on patient safety outcomes. A strong patient safety

culture is demonstrated by leadership's commitment to patient safety in their decision making, maintaining a proactive approach to seek out and identify patient safety issues, creating a work environment that supports communication of patient safety concerns without fear of reprisal, and addressing patient safety process issues that are identified (TJC, 2018). Mardon et al. (2010) pointed out that a strong patient safety culture is correlated with fewer events. Conversely, as suggested by TJC, a weak patient safety culture contributes to harmful events, such as wrong site surgeries. The lack of effective leadership that cultivates a patient safety culture is evidenced in many ways including "insufficient support of patient safety event reporting, lack of responding to staff and others who report patient safety gaps, tolerating intimidation of staff who report patient safety events, and declining to prioritize and implement patient safety recommendations" (TJC, 2018).

Patient Safety Grade.

Perceptions of patient safety culture and overall hospital patient safety grade has shown to vary. Aiken et al. (2017) revealed that even though 7% of the nurses across hospitals within their study gave their hospital a "poor" or "failing" safety grade, only one-third indicated that their hospital demonstrated a "poor" safety culture.

Nurse-Related Patient Safety Outcomes.

Nurses play a significant role in preventing patient harm. Their ability to recognize and willingness to communicate patient safety concerns may be affected by leadership styles, feeling of empowerment, and tenure. Nurses who are new graduates may feel reluctant to speak up to seasoned nurses when they witness patient safety concerns (Murray et al., 2019). Nurse tenure may also play a role in patient safety cultural dynamics. Studies of individual nurse experience have shown to not be a predictor of nurse-related patient safety event

outcomes (Lee et al., 2018). However, studies on nurse tenure and perceptions of patient culture are limited.

Principles of Clinical Ethics.

Patient safety is grounded by principles of clinical ethics – what one ought to do when faced with a dilemma (AORN, 2017). Patient safety in nursing practice is guided by the principles of nonmaleficence and beneficence. In the context of nursing, nonmaleficence refers to the commitment of the nurse to not knowingly inflict harm on a patient and beneficence refers to the act of the nurse to remove or prevent harm from reaching the patient (King, 2017). Ethical dilemmas may arise in a weak patient safety culture and have the potential to not only allow for patient harm but also legal recourse.

Agency for Healthcare Research and Quality.

The Agency for Healthcare Research and Quality (AHRQ) is a federal agency that exists to improve the safety and quality of the United States healthcare system. AHRQ works to develop knowledge, tools, and obtain the data necessary to improve the health care system and provide citizens, health care professionals, and policymakers information to make informed health decisions (AHRQ, n.d.)

Hospital Survey on Patient Safety Culture.

Led by researchers at AHRQ, the development of the Hospital Survey on Patient Safety Culture (HSOPS) occurred in 2003. Psychometric evaluation of the HSOPS occurred initially in 2003, which resulted in identifying items consisting of independent and reliable patient safety culture composites. Initial psychometric analysis showed reliabilities that ranged from .63 to .84. Additional psychometric analysis was performed in 2010 and showed that all composites were determined to have acceptable reliability with ranges from .62 to .85

(Sorra & Dyer, 2010). (See Attachment A: Hospital Survey on Patient Safety Culture, Version 1.0).

Released in 2004, the HSOPS is made up of 42 items that measure 12 composites. It uses a 5-point Likert scale to assess each of the composite measures. There are three to four questions for each composite measure (“strongly disagree” to “strongly agree” or “never” to “always”). The survey also assesses perceptions of overall patient safety of the respondent’s work area/unit by asking the respondent to provide a grade (“excellent” to “failing”). Respondent background characteristics such as primary work area, length of time working in the hospital, and length of time in the current profession are also obtained (AHRQ, 2018). The HSOPS does not obtain sample demographics such as age, gender, race, ethnicity, etc.

Significance

This study is significant because it is one of the largest studies to date that examines nurses’ perceptions of patient safety culture in the hospital setting. Furthermore, this study adds to AHRQ’s mission to produce evidence to make health care safer and to share evidence gained in patient safety science. It is expected that the study findings will make a significant contribution to current knowledge of the influencers of patient safety culture within the hospital setting and potentially lead to future study and application on hospital leaders’ approach to patient safety culture.

Statement of the Purpose and Goals

The purpose of this study was to gain a better understanding of how nurses’ perceptions of the patient safety culture in the hospital setting relates to patient safety concerns and responses to other elements of patient safety culture by the nurse. This study also provided insight into nurse characteristics - work area, length of time in the hospital as well as in the profession - and perceptions within a culture of patient safety. The goal of this study was to

make a significant contribution to current knowledge of the influencers of patient safety culture within the hospital setting with the potential to impact nurse leaders' approach to patient safety.

The Study Objective, Hypothesis, Aims, and Research Questions

Study Objective and Hypothesis

The overall objective of this study was to examine associations of patient safety culture measures and background characteristics of nurses within the hospital setting. The central hypothesis is that there are correlations within perceptions of patient safety culture measures as well as background characteristics in nurses within the hospital setting.

Specific Aims and Research Questions

The following specific aims and research questions were addressed.

Specific Aim 1.

Evaluate the relationship between perceptions of hospital management support for patient safety and overall perceptions of patient safety of nurses working in the hospital setting.

Research Question 1

Among nurses working in the hospital setting, what is the relationship between perceptions of hospital management support for patient safety and overall perceptions of patient safety?

Research Question 2

Among nurses working within the hospital setting, what is the relationship between leadership feedback about error and openness to communicate error?

Research Question 3

Among nurses working within the hospital setting, what is the relationship between perceptions of leadership actions that promote patient safety and error response?

Specific Aim 2.

Evaluate the relationship between nurse background characteristics and frequency of reporting events among nurses working within the hospital setting.

Research Question 4

Among nurses working in the hospital setting, what is the relationship between nurse work area and frequency of reporting mistakes that are caught and corrected before affecting the patient (near miss)?

Specific Aim 3.

Evaluate the relationship between nurse background characteristics and the primary work area patient safety grade in nurses working within the hospital setting.

Research Question 5

Among nurses working in the hospital setting, what is the relationship between background characteristics and the patient safety grade that the nurse gives for his/her work area?

Statement of the Theoretical Framework

The theoretical framework for this study is the Donabedian Model of Structure-Process-Outcome (SPO), which allows for the identification of connections between variables that contribute to the quality of healthcare outcomes (Ayanian & Markel, 2016). In the case of patient safety culture measures in the hospital setting, the nurse leader creates and maintains a work climate that promotes a culture of patient safety (structure). This work climate supports the nurses' perceptions of a culture of patient safety and of empowerment to act on behalf of

the safety of the patient (process). The subsequent effects are increased reporting of patient safety issues and decreased harm to patients (outcome). This study focused on evaluating structure and process as described above. This study did not evaluate for outcomes related to nurses' perceptions of patient safety culture. (See Attachment B: Donabedian's Structure/Process/ Outcome Model).

The Study Variables

The 2018 HSOPS de-identified data was utilized to examine relationships between patient safety culture composite measures as well as nurse background characteristics and the patient safety grade provided by the nurse respondents. The HSOPS composites and other survey items that form the study variables include:

- Overall perception of patient safety
- Management support for patient safety
- Communication openness
- Feedback and communication about error
- Nonpunitive response to error
- Supervisor/manager expectations and actions promoting patient safety
- Frequency of reporting events
- Patient safety grade
- Nurse background characteristics (AHRQ, 2018)

Definition of Relevant Terms

The following definitions were used for this study:

- **Patient Safety:** “The absence of preventable harm to a patient during the process of health care and the reduction of risk of unnecessary harm associated with health

care to an acceptable minimum” (WHO, 2004).

- **Patient Safety Culture:** “The product of individual and group beliefs, values, attitudes, perceptions, competencies, and patterns of behavior that determine the organization’s commitment to quality and patient safety” (TJC, 2018).
- **Near Miss:** “When a mistake is made but caught and corrected before affecting a patient” (AHRQ, 2018).

Overview of Research Methodology

The research design for this study was a retrospective, secondary, quantitative analysis. The SPO model was utilized as the framework to investigate the relationships between the study variables. Specifically, nurses’ perceptions of unit leadership (structure), was compared to perceptions of actions taken on behalf of the safety of the patient (process). In this study, the effects of the structure and the process were not evaluated against outcomes.

Overview of Design: Data Collection and Data Analysis

Data Collection

The dataset that was used in this study was originally obtained by AHRQ between 2015 and 2017 through the administration of the HSOPS version 1.0 (Attachment: A). The HSOPS Database is funded by AHRQ and administered by Westat under Contract No. HHSP233201500026I / HHSP23337004T. The results of the survey are shared publicly in the 2018 HSOPS Database Report. The portion of the dataset that was utilized for this study included only registered nurse (RN) and licensed vocational nurse (LVN)/licensed practical nurse (LPN) respondents (AHRQ, 2018).

Data Analysis

Analysis of the composites was conducted at the individual level once the data was restricted to nurse respondents. An index score was established by calculating a mean of the

respondents' scoring of the items that made up each composite. These index scores were used to perform the analyses of the composites. Each composite had three to four associated questions. Composites were used in the data calculations only if there were at least two questions answered by the nurse for each composite. This method was utilized so that there would be a more accurate representation of the respondent's perception of the composite. Also, for the calculations of correlations, only the individual respondents that matched across the comparison composites for each research question were utilized. Questions that were left blank by the respondent were coded as missing and not included in the mean calculation or composite score. For negatively worded responses, reverse coding was utilized so that all responses were worded positively. SAS software version 9.4 (2015) was used to statistically analyze and interpret the data. Pearson correlation coefficient and chi-square tests were used to examine the data.

Overview of Study Findings

This study evaluated nurse response data from the 2018 HSOPS that was administered by AHRQ. The findings from this study indicate that positively correlated relationships exist within nurses' perceptions of patient safety culture and nurses background characteristics. The study provides evidence that positive perceptions of leadership's actions and support for patient safety have a positive relationship with nurses' perception of patient safety culture. Additionally, the study findings revealed that perceptions of patient safety vary with nurse tenure.

Summary of Chapter

Chapter One introduced this quantitative study, which explored associations of patient safety culture measures and background characteristics of nurses within the hospital setting. Chapter One began with a statement of the study problem. The chapter then provided the

background and significance of the problem, statement of purpose and goals, research questions and aims, theoretical framework, study variables, and definition of terms. Finally, Chapter One offered an overview of research methodology, data collection and analysis, and a brief overview of study findings.

Plan for Remaining Chapters

Chapter Two will provide a detailed review of the literature on perceptions of safety culture within healthcare. Chapter Three will discuss the application of the retrospective, secondary, quantitative study design. Chapter Four will present the study findings. Chapter Five will present the conclusions, discussion, and recommendations relative to the study findings.

Chapter 2: Review of the Literature

Introduction

Chapter Two provides a review of literature related to patient safety culture, nurses' perceptions of leadership in the context of a culture of safety, nurses' communication of patient safety issues, and frequency of reporting patient safety events. The Chapter begins with a conceptual and historical overview of literature regarding patient safety culture within healthcare organizations, including related research studies. The literature review also explores related variables. Finally, the Chapter defines variables, identifies gaps in the literature, and discusses the rationale for the study.

Conceptual and Historical Literature Review

Conceptual Review

Safety culture can be conceptually defined as “a set of shared values, actions, and behaviors that demonstrate a commitment to safety by the individual and collective responsibility of everyone at all levels of an organization” (Morrow & Coplen, 2017, p.2). The concept of safety culture is multidimensional and can be understood in terms of organizational safety structures and interrelationships that are the foundation for shared values and behaviors that promote safety within organizations (Chib & Kanetkar, 2104; Lestiani et al., 2017). Thus, safety culture includes several factors of safety within an organization. These factors exist within diverse groupings, such as behavioral, institutional, and spiritual characteristics of an organization (He et al., 2012).

Maturation of the Concept of Patient Safety Culture.

As patient safety culture has matured it has been further conceptually defined in terms of organizational values, structures, behaviors, and relationships that support and promote

patient safety in the hospital setting. Some scholars define patient safety culture based on three main concepts – just culture, reporting culture, and learning culture:

- **Just Culture:** Actions and behaviors are clearly defined as being right or wrong and there is an understanding of how staff should not be punished for errors that arise from failed systems. In a just culture environment, fairness, accountability, and trust are critical factors.
- **Reporting Culture:** Encourages staff to report actual errors and near-miss errors so that measures can be taken to address failing processes.
- **Learning Culture:** Encourages learning from past mistakes or from known critical issues on safety.

The interrelationship between just culture, reporting culture, and learning culture support a reliable patient safety culture (Feng et al., 2008; Ulrich & Kear, 2014).

Historical Review

The increased negative impacts of medical errors have made healthcare organizations adopt strategies to minimize or eliminate errors while improving overall healthcare quality (Ammouri et al., 2015). These strategies include a focus on building and sustaining a culture of patient safety. As concerns about patient safety in healthcare organizations grew in the 1990s and 2000s, patient safety culture started to develop as an independent concept. Patient safety culture as a concept became linked to overall healthcare organizational culture, which has since been determined to significantly influence patient outcomes (Antonsen, 2009).

The Occurrence of Adverse Events.

The occurrence and magnitude of adverse events affecting patients in hospitals had not been widely explored until the 1990s when different healthcare organizations from various

countries started to report such incidences, especially those resulting from medical errors. The World Health Organization (WHO) termed the problem an endemic concern (WHO, 2004).

Institute of Medicine Report.

In the United States, the formation of the Institute of Medicine (IOM) was a key development in the history of healthcare. A report published by the IOM found that medical errors claimed the lives of between 44,000 and 98,000 patients in the country every year. The report revealed that medical errors led to more deaths than automobile accidents, AIDS, and cancer (Kohn, 2000). As a result, the management committee of the IOM recommended that healthcare organizations should develop and sustain organization cultures in which patient safety is a crucial aim of every hospital, is highly prioritized, and is leadership driven. Healthcare organizations have increasingly responded to the IOM recommendation by adopting measures to improve patient safety culture (Sammer et al., 2010).

Global Attention to Patient Safety.

Attention to patient safety culture has increasingly been a focus in healthcare settings in virtually all developed countries in the world. Global awareness of persistent issues regarding patient safety and how to improve in patient safety and quality outcomes has become a major effort and a primary objective for organizations such as AHRQ, IHI, and WHO's World Alliance for Patient Safety, among others. These organizations support research into patient safety practices and provide recommendations for healthcare organizations to implement in an effort to improve patient safety culture and outcomes. However, challenges in implementing and sustaining these processes at the organization level have persisted. These challenges have prevented some nations from attaining the overall goal of safe and quality-driven healthcare. (Emanuel et al., 2009). Still, the prevention of medical errors is now widely discussed by medical practitioners and academics. The process of

identifying and learning from mistakes has been recognized as a critical component of addressing patient safety processes within healthcare organizations (Lark et al., 2018).

Factors Promoting Patient Safety Practices.

Transforming the Work Environment.

The level of patient safety practice in healthcare settings relies on various factors, including communication, leadership, and teamwork, among others. Findings suggest that poor communication, inadequate knowledge about patient safety, lack of event reporting systems, lack of teamwork, and lack of leadership that promotes patient safety compromises the safety of patients in hospitals. As a result, healthcare organizations should establish a patient safety culture that focuses in transforming the work environment to promote patient safety.

Ammouri et al. (2015) reported that hospitals can promote patient safety by redesigning and restructuring the work environment and by recognizing and supporting staff's safety efforts and performance that enhance patient safety, such as communication. Some global healthcare systems, such as in the United Kingdom, have attempted to build and promote a patient safety culture by encouraging event reporting and evaluating those events to enhance learning. These learnings are intended to promote patient safety practices.

Organizational Learning.

Organizational learning is an important element in those healthcare organizations that promote patient safety. The effectiveness of organization learning depends on the established safety culture. Findings indicate that a culture of blame prevents organizational learning because it prevents the healthcare staff from realizing opportunities that might help improve healthcare delivery. (Ammouri et al., 2015). Analysis of the U.S. healthcare system reveals that the dominant culture of blame in U.S. healthcare organizations hinders healthcare

providers' opportunity to learn from medical error. Research conducted in many global healthcare settings indicates that nurses' work environment provides a perfect opportunity to learn and improve patient safety practices. However, an environment that supports learning is dependent on the established safety culture within the healthcare organization.

Literature Review of the Relevant Research

Patient Safety Culture Practice Studies

Research studies reveal that a healthcare organization's patient safety practices have a relationship with patient outcomes. Evidence suggests that hospitals with higher levels of patient safety have reduced healthcare costs and improved patient outcomes (Ammouri et al., 2015).

Global Studies.

According to a study by Xuanyue et al. (2013), patient safety culture practices have gained attention among academics from all over the world. Their study found that the number of research studies focused on patient safety culture has been increasing over the last few decades, with the number of published studies reaching a peak between 2010 and 2011. The findings of Xuanyue and colleagues suggested that varying research studies are being conducted, focusing on healthcare quality as well as patient safety in healthcare settings. The use of the Patient Safety Culture Scale as a measurement tool was utilized in most of these studies.

Intervention Studies.

Commentary reviews and cross-sectional studies are common among the published literature. Halligan and Zecevic (2011) determined that some studies have explored the interventions adopted and implemented by healthcare organizations to enhance healthcare

safety in hospitals. Some of these studies reported improvement in safety culture and practice while others reported no change.

Organizational Studies.

Weaver et al. (2013) contend that most of the research studies in the database of AHRQ focus predominantly on how organizations can promote safety culture within healthcare organizations. However, the researchers note that these studies have not successfully explored effective tactics to enhance this process.

Studies Using the HSOPS

Gartshore et al. (2017) suggested that most of the studies investigating safety culture have been conducted within mainstream healthcare settings using the HSOPS. The studies include those conducted in acute care hospitals by hospital staff and physicians. Gartshore and colleagues noted that non-mainstream care settings, such as long-term care facilities, have not been as much a part of the focus of patient safety culture research as have the general acute care hospitals.

Perceptions of Healthcare Workers of Patient Safety Culture

Some studies have explored perceptions of healthcare workers regarding patient safety and patient safety culture within healthcare organizations. Additionally, these studies have examined hospital management actions that promote patient safety practices and the different factors that influence management's practices in promoting a culture of patient safety. A review of these studies reveals that individual factors such as age, education level, working hours, years of experience, position in the organization, as well as organizational factors including patient safety culture, leadership effectiveness, patient safety climate, working relationships, and communication among staff all influence management expectations and actions that promote patient safety. (Jang et al., 2017; Wagner et al., 2009).

Literature Review of the Study Variables

Nurse Perception of Leadership Actions Related to Patient Safety

There are contrasting definitions of the meaning of perception, depending on the context. Sincero (2013) supports that there are three components of perception: the perceiver, the target, and the situation. First, the *perceiver* is the person whose awareness is concentrated on a stimulus (what is being perceived) and thus begins to perceive it. Factors that influence the perceptions of the perceiver include motivation, emotion, and experience. Secondly, the *target* is the object of the perception – who or what is being perceived. The amount and type of information received by the perceiver may affect the interpretation and understanding of the target. Finally, the elements of a given *situation* affect the process of perception. These elements include environmental factors, timing, and level of stimulation (Sincero, 2013).

The Role of Perception.

It is important to understand the role of perception within patient safety in the hospital setting. Specifically, a nurse's perception of their leaders' actions and behaviors that support patient safety may impact the nurse's desire or willingness to act on perceived patient safety concerns. A study by Ji-Hye et al. (2019) found a positive association between nurses who have a positive perception of patient safety management and their adherence to standard precautions. It is also important to note that nurses' perceptions of leaders' actions related to patient safety may be different between unit-level leadership and hospital-level leadership. A small study in Norway demonstrated that registered nurses in the ICU setting had a more positive perception of patient safety culture at the unit level than at the hospital level (Ballangrud et al., 2012). The findings suggested that unit-level leadership demonstrated more patient safety actions and behaviors than leaders at the hospital level.

The Effect of Burnout.

A study by Profit et al. (2014) found that burnout was prevalent among nurses and respiratory care providers within a healthcare facility. The researchers found a significant negative relationship between high levels of burnout and nurses' trust in leadership and the conditions of working. The researchers noticed that burnout contributed to a poor patient safety culture suggesting that nurses' perceptions of leadership has an impact on nurse engagement in their work, and hence, their perception of patient safety. In a report published by the Lucian Leape Institute (2013), researchers determined that workers who believe in the leadership of their organizations are more likely to derive joy and meaning from their work, therefore dedicating themselves to their work and to the aims of the organization. Stewart et al. (2011) suggest that leaders who are responsive to staff's reporting of adverse events are often perceived as effective and successful at creating a culture of transparency and communication within their organization.

Nurse Background Characteristics Related to Patient Safety

The Effect of Demographic Variables.

Nurse background characteristics include individual factors such as age, gender, work status, level of nurse education (diploma, baccalaureate, master's degree), job position, and years of experience may influence patient safety and quality of care (Lee et al., 2018).

Other Factors Influencing Levels of Patient Safety.

Additional factors Influencing levels of patient safety may include:

- **Fear of Reprisal:** Swart et al. (2015) found that factors such as the inability of the nurse to recognize an error as well as fear of reprisal as a result of reporting an error may prevent nurses from reporting patient safety events or near misses.
- **Level of Nursing Education:** Swart et al. (2015) also determined that registered

nurses were more likely to report patient safety events than enrolled nurses (a licensed vocational nurse in the U.S.). Their study findings suggest that level of nursing education may influence patient safety culture.

- **Level of Experience:** Other studies focus on new graduate nurses and find that communicating patient safety concerns can be challenging for these nurses. Law and Chan (2016) found that the process of new graduate nurses learning to speak up is complex, requiring training, mentorship, and creating an environment that is considered safe to speak up about patient safety. Murray et al. (2019) found that new graduate nurses experienced transition challenges with concentrating on time management and task completion as priority over patient safety concerns.

Perceptions of Workload, Staffing Levels, and Skill Mix.

Researchers have also determined that nurses' perceptions of workload and staffing levels within their units influenced the number of reported events (MacPhee et al., 2017). Aiken and colleagues have performed large scale studies to determine the effects of staffing and skill mix on patient safety. They discovered that nurse staffing, specifically the greater proportion of professional nurses, was associated with better patient outcomes, such as preventable deaths. Managerial support for patient safety and quality of care was found to be associated with improved patient safety and quality outcomes (Aiken et al., 2012, 2017).

Nurse Communication of Patient Safety Concerns

The Near Miss.

Over the 20 years since the U.S. healthcare system was made aware of the unnecessary and preventable harm occurring in hospitals across the country (Kohn, 2000), there have been efforts to identify patient safety hazards and mitigate patient harm well before a latent error has the opportunity to reach the patient. Along with utilizing evidence-based practices

designed to deliver effective and efficient care, hospitals rely on staff to create awareness when errors occur or even when an error does not occur but could have – this is called a “*near miss*.” Evaluation of a near miss or collection of near misses provides an opportunity for a hospital to act on failing processes before the failure leads to an error and reaches the patient, potentially causing harm (AHRQ, 2018).

The Communication of Patient Safety Concerns.

Communicating patient safety concerns plays a key role in preventing errors and patient harm. This communication allows for the identification of potential patient safety process breakdown that contributes to patient harm. Hospitals rely on early identification of process breakdown to proactively implement prevention strategies.

Factors Impacting Communication.

A study conducted by Morrow et al. (2016) revealed that various factors negatively affect open communication amongst hospital staff. These factors include power dynamics and hierarchies, entrenched expectations of nurse behaviors, and nurse managers. The researchers identify that open communication is unsafe and ineffective in healthcare settings where nurses have low confidence that communicating patient safety concerns will significantly impact patient safety. They also reveal that leaders perceived as “caring” positively impact nurse communication. In their study, the researchers found that organizational commitment to open communication and peer support improve the utilization of safety voices in healthcare settings. A study conducted by Ng et al. (2017) in Hong Kong supports the above findings. These researchers found that creating a safe environment promotes confidence in nurses, which, in turn, encourages them to speak up.

Frequency of Reporting Events by Nurses

Over the years, there have been efforts by the U.S. healthcare system to increase the frequency of reporting events within the healthcare environment. The need to increase the frequency of reporting events is correlated with the desire to prevent patient safety events that negatively impact patient outcomes. As a result, hospitals continue to implement strategies to develop their culture of safety in a way that promotes communicating patient safety issues.

Factors Impacting Frequency of Reporting Events.

The frequency of reporting adverse events has been widely studied due to its perceived effects on patient safety outcomes and patient safety culture in organizations. A study by Hughes (2008) found that various factors affect the frequency of error reporting among nurses. The study pointed out that nurses' belief in “doing the right thing” – reporting events – leads to an increase in reporting errors, which promotes a positive patient safety climate. A study by Jafree et al. (2017) found that nurses' perceptions about organizational effectiveness in responding to error reports also play a critical role in determining the number of reports an organization will receive.

The Presence of an Effective Safety Culture.

A significant amount of research supports that the presence of a safety culture encourages nurses to report events and near misses. An effective safety culture encourages event reporting by increasing the confidence and motivation of the nurse by eliminating the sense of judgment that would typically deter open communication.

A study conducted by Miller et al. (2019) evaluated the relationship between the ambulatory setting's safety culture and the frequency of reporting events. In their study, the researchers found that the presence of a safety culture increased the staff's frequency of reporting events. The researchers also found that workers in environments where their

thoughts and ideas are less likely to be judged report more events than those who work in environments that are considered judgmental. The findings show that the safety culture in healthcare settings has a positive association with event reporting.

The Impact of the Organization.

A study by Mahajan (2010) determined that the frequency of incident reporting can also be affected by organizational factors, like organizational safety culture. The researchers argue that it is prudent to assess safety culture when taking various measures to enhance level of reporting in such organizations.

The Impact of Reporting Response.

In addition, some nurses also believe that lack of feedback, and perceptions that incident reports are not effectively handled, all contribute to low frequency of reporting in some organizations. Ajri-Khameslou et al. (2018) found that nurses' perceptions that reporting an error would cause harm to some people, the need to maintain one's reputation, lack of accountability, and the fear of negative organizational encounters can contribute to the low frequency of reporting. Factors that can lead to increased reporting levels include pleasant experiences within one's organization, individual values, being a new employee, and a supportive environment. These studies show that both organizational and nurses' factors can have a significant influence on the frequency of reporting of patient safety events.

Gaps in the Literature

As illustrated in this literature review, studies exist that focus on nurses' perceptions of patient safety and actions taken because of these perceptions. However, the research has mainly been performed on a small scale or focused on a single hospital, small group of like hospitals, or type of patient care area. No large-scale study has been identified that addresses nurses' perceptions of patient safety culture within the hospital setting.

Rationale for the Study

This study was one of the largest to date that examines nurses' perceptions of patient safety culture in the hospital setting, adding to AHRQ's mission to produce evidence to make health care safer. It provides a better understanding of how nurses' perceptions of the patient safety culture in the hospital setting relates to patient safety concerns and responses to other elements of patient safety culture by the nurse. It also provides insight into nurse characteristics - work area, length of time in the hospital as well as in the profession - and response within a culture of patient safety.

Summary of Literature Review

The literature review provides an overview of the studies that have been performed to better understand how nurses' perceptions of patient safety play a role in organizational patient safety culture. Although there are many studies, the broad range of topic areas within the vastness of patient safety context present a challenge when searching for a focus. This literature review attempted to bring together the relevant studies that provided a foundation for understanding the relationships between nurses' understanding of patient safety, key drivers of patient safety within the context of nursing, perceptions of patient safety, and the resulting effect on patient safety outcomes.

In summary, this study narrows the gap in current research because there has been limited investigations of associations of patient safety culture measures and background characteristics in nurses within the hospital setting. To further close the gap in knowledge, future studies should focus on the patient outcomes as a result of nurses implementing and sustaining a strong patient safety culture.

Summary of Chapter

Chapter Two provided a review of literature related to patient safety culture, nurses' perceptions of leadership in the context of a culture of safety, nurses' communication of patient safety issues, and frequency of reporting patient safety events. The Chapter began with a theoretical and historical overview of literature regarding patient safety culture within healthcare organizations, including related research studies. The literature review also explored related patient safety variables. Finally, the Chapter defined variables, identified gaps in the literature, and discussed the rationale for the study.

Plan for Remaining Chapters

Chapter Three will discuss the application of the quantitative retrospective analysis research design. Chapter Four will present the study findings. Chapter Five will present the conclusions, discussion, and recommendations relative to the study findings.

Chapter 3: Research Methods and Procedures

Introduction

Chapter Three presents the research methods and procedures. The Chapter describes the research design including participant population, setting, and sampling. The Chapter also provides a discussion of data analysis procedures.

Research Methodology: The Design and Rationale

The Design

A retrospective, secondary, quantitative analysis of the 2018 AHRQ HSOPS database was utilized to evaluate the associations of patient safety culture measures and background characteristics in nurses within the hospital setting.

The Rationale

This methodological approach was chosen because the data was collected between 2015 and 2017.

Population, Setting, and Sample

The Population

The population for this study included all nurses (RNs and LVN/LPNs) in all hospitals in the United States that participated in the 2018 HSOPS. Respondents who did not indicate RN or LVN/LPN on the survey was excluded from the study data.

The Sample and Setting

The number of survey respondents utilized for the study was 126,390 from a total of 630 hospitals within the United States. Of the respondents, 123,227 (97.5%) were registered nurses, and 3,163 (2.5%) were LVN/LPNs. There were 117,082 (92.6%) respondents who had direct interaction/contact with patients, 5,562 (4.4%) with no direct interaction/contact with patients, and 3,746 (3.0%) respondents whose interaction/contact with patients was not

provided. The total of nurse respondents in this study represented approximately 7.4% of the nurses employed within United States' general medicine and surgical hospitals ($n = 1,713,120$) based on the U.S. Bureau of Labor Statistics (May 2019).

Ethical Considerations

This study did not meet the definition of human subject research as outlined at 45 CFR 46.102. Therefore, IRB review or oversight was not required (see Attachment C: IRB Exemption Letter).

Measurement Methods

The dataset that was used in this study was originally obtained by AHRQ between 2015 and 2017 through the administration of the HSOPS version 1.0 to hospitals within the U.S. The results of the survey are shared publicly in the 2018 HSOPS Database Report. In addition to obtaining perceptions of patient safety culture within the hospital setting, the HSOPS obtains hospital characteristics such as bed size, teaching status, ownership, and geographic region. According to AHRQ (2018), the characteristics of the hospitals that participated in the survey “are fairly consistent with the distribution of hospitals registered with the American Hospital Association.” The HSOPS also obtains respondent characteristics – work area, staff position, interaction with patients, tenure at the hospital, tenure in current work area, tenure in current specialty or profession, and hours worked per week. The HSOPS does not obtain sample demographics such gender, age, race, ethnicity, etc.

Data Collection Process

AHRQ Database

Obtaining Access to the Data.

An abstract was submitted to AHRQ requesting permission to utilize the 2018 HSOPS dataset for this study. The abstract was approved, and permission to utilize the dataset was granted. AHRQ prepared the data package in SAS format and made it available for download as a zip file on a secured server.

Study-Specific Data Within the Dataset.

The portion of the HSOPS dataset that was utilized for this study included only nurse respondents (RN and LVN/LPN).

Definitions of Study Variables

Perception of Patient Safety

The variable *overall perception of patient safety* is conceptually defined as *the nurses' confidence that there are effective systems in the workplace that support patient safety*.

Operationally, *overall perception of patient safety* is defined for this study and within the HSOPS as “*the extent to which procedures and systems are good at preventing errors and there is a lack of patient safety problems*” (AHRQ, 2018).

Management Support for Patient Safety

The variable *management support for patient safety* is conceptually defined as *the perception by nurses that management supports patient safety work climate and actions*.

Operationally, *management support for patient safety* is defined for this study and within the HSOPS as “*the extent to which hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority*” (AHRQ, 2018).

Communication of Patient Safety Concerns

The variable *communication openness* is conceptually defined as *the act of the nurse communicating patient safety concerns to leadership*.

Operationally, *communication openness* is defined for this study and within the HSOPS as “*the extent to which staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority*” (AHRQ, 2018).

Feedback About Error

The variable *feedback and communication about error* is conceptually defines as *the act of the nurse receiving feedback from leadership about errors that happen and are given feedback about changes implemented*.

Operationally, *feedback and communication about error* is defined for this study and within the HSOPS as “*the extent to which staff are informed, from leadership, about errors that happen and are given feedback about changes implemented*” (AHRQ, 2018).

Error Response

The variable *nonpunitive response to error* is conceptually defined as *the perceived attitudes of a leader toward event reporting when a nurse makes a mistake*.

Operationally, *error response* is defined for this study and within the HSOPS as “*the extent to which staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file*” (AHRQ, 2018).

Promoting Patient Safety

The variable *supervisor/manager expectations and actions promoting patient safety* is conceptually defined as *the perception by nurses that leaders act to promote patient safety*.

Operationally, *supervisor/manager expectations and actions promoting patient safety* is defined for this study and within the HSOPS as “*the extent to which supervisors/managers*

consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems” (AHRQ, 2018).

Frequency of Reporting Events

The variable, *frequency of reporting events*, is conceptually defined as *the perceived occurrence of the reporting of near misses*.

Operationally, *frequency of reporting events* is defined for this study and within the HSOPS as “the extent to which there is the reporting of mistakes that are caught and corrected before affecting the patient” (AHRQ, 2018).

Patient Safety Grade

The variable *the patient safety grade* is conceptually defined as “the nurse’s perception of patient safety within his/her work area.”

Operationally, the *patient safety grade* is defined for this study and within the HSOPS as “the overall grade on patient safety that the nurse gives for his/her work area” (AHRQ, 2018). The patient safety grade is rated using a 5-point Likert scale (failing to excellent).

Nurse Background Characteristics

The variable *nurse background characteristics* is conceptually defined within four domains as “the nurse’s primary work area, length of time in current hospital, length of time in current work area, and length of time in the profession” (AHRQ, 2018).

Operationally, *nurse background characteristics* are defined for this study and within the HSOPS as:

1. *Primary work area* – “the current area of work within the hospital” (medicine, surgery, ED, ICU, different units, etc.).

2. *Length of time in current hospital, length of time in current work area, and length of time in the profession* – “less than 1 year, 1 to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, 21 years or more” (AHRQ, 2018).

Data Analysis Procedures

Analyses were conducted at the individual level once the data was restricted to nurse respondents. For questions that were negatively worded, reverse coding was utilized for analysis.

Management of Missing Responses

Attachment D shows the missing responses (respondent did not answer) for each survey question that formed the HSOPS survey composites used to formulate and answer the research questions of this study. The composite *nursing background characteristics* had the highest number of questions that were not answered - *how long working in the facility* (12.3% did not answer), *length of time in nursing profession* (11.4% did not answer), and *how long working in current work area* (10.0%). Sixteen of the 27 questions had less than 5% missing responses. Additionally, there were eight questions that had between 5% and 7% missing responses.

Responses were used in the data calculations only if there were at least two questions answered by the nurse for each composite. This method was utilized so that the representation of the composite was more likely to be accurate. Also, for the calculations of correlations, only the individual respondents that matched across the comparison composites were utilized. This tactic was used to maintain representation of the composite measure.

Analysis of Composites

SAS software version 9.4 (2015) was utilized to statistically analyze and interpret the data. Pearson correlation coefficient and chi-square tests were used to test the hypothesis for each specific aim.

Research Question 1

The relationship between the composite measure *management support for patient safety* and the composite measure *overall perceptions of patient safety* was examined using Pearson correlation coefficient.

Research Question 2

The relationship between composite measure *leadership feedback about error* and the composite measure *openness to communicate error* was examined using Pearson correlation coefficient.

Research Question 3

The relationship between the composite measure *leadership actions that promote patient safety* and the composite measure *error response* was examined using Pearson correlation coefficient.

Research Question 4

The relationship between *nurse work area* and *frequency of reporting mistakes that are caught and corrected before affecting the patient (near miss)* was examined using the chi-square test.

Research Question 5

The relationship between *nurse background characteristics and the patient safety grade that the nurse gives for his/her work area* was examined using the chi-square test.

(See Attachment E: Linkages Between Study Specific Aims, Research Questions, and HSOPS Composite Measures and Survey Questions)

Summary of Chapter

Chapter Three presented the research design. The Chapter began by identifying the research objective, aims, research questions, and the research methodology for exploring the aims. The Chapter described the application of retrospective, secondary analysis principles in the study, including participant population, setting, and sampling. The Chapter also provided a discussion of data analysis procedures.

Plan for Remaining Chapters

Chapter Four will present the study findings. Chapter Five will present the conclusions, discussion, and recommendations relative to the study findings.

Chapter 4: Findings

Introduction

Chapter Four will present the findings of this study, which explored the associations of patient safety culture measures and background characteristics in nurses within the hospital setting. The Chapter will begin with an evaluation of nurse background characteristics and research questions. In addition, major findings and conclusions will be introduced, with a summary of findings.

Sample Characteristics

For this study, the following respondent characteristics were utilized to answer the research questions: *staff position, work area, tenure in current specialty or profession, tenure with hospital, and tenure in current work area*. When Pearson correlation coefficient was used in this study, the strength of the association of the variables was interpreted based on Portney and Watkins (2009) and is shown in Table 1.

Table 1

Interpretation of the Strength of a Correlation Between Two Variables

Strength of Correlation	Interpretation (Relationship)
.00 to .25	Little or None
.25 to .50	Fair
.50 to .75	Moderate
Above .75	Strong

Evaluation of Nurse Background Characteristics

Nurse Primary Work Area in Current Hospital

Table 2 shows the primary work areas of the nurse respondents. The category of “Other” had the highest response (19.5%) followed by medicine (18.2%), surgery (15.5%), ICU (14.3%), and ED (9.0%). There were 2.5% of the survey respondents who did not provide a work area.

Table 2

Nurse Primary Work Area in the Hospital

	<i>n</i>	%
Other	24,658	19.5
Medicine	22,943	18.2
Surgery	19,562	15.5
ICU	18,026	14.3
ED	11,369	9.0
Obstetrics	10,388	8.2
Different Units	6,127	4.9
Pediatrics	3,567	2.8
Mental Health	2,632	2.1
Rehab	2,180	1.7
Radiology	1,251	1.0
Anesthesiology	297	0.2
Lab	150	0.1
Pharmacy	106	0.1
Total	123,256	97.5
No Response	3,134	2.5

Length Time Nurse Has Worked in the Profession

Table 3 shows that the majority of the respondents indicated that they had been in the nursing profession for one to five years (26.3%), 21 years or more (20.0%), and six to 10 years (15.9%). There were 11.4 % of the respondents who did not provide a length of time in the profession.

Table 3*Length of Time the Nurse Has Worked in the Profession*

Years	<i>n</i>	%
< 1	8,619	6.8
1 to 5	33,208	26.3
6 to 10	20,141	15.9
11 to 15	13,365	10.6
16 to 20	11,412	9.0
21 or >	25,232	20.0
Total	111,977	88.6
No Response	14,413	11.4

Length of Time Nurse Has Worked in Current Hospital

Table 4 shows that the majority of the respondents indicated that they had been in their current hospital for one to five years (30.9%), six to 10 years (15.7%), less than a year (11.6%), and 21 years or more (11.3%). There were 12.3% of the respondents who did not provide their length of time in their current hospital.

Table 4*Length of Time Nurse Has Worked in Current Hospital*

Years	<i>n</i>	%
< 1	14,682	11.6
1 to 5	39,044	30.9
6 to 10	19,849	15.7
11 to 15	13,737	10.9
16 to 20	9,183	7.3
21 or >	14,327	11.3
Total	110,822	88.6
No Response	15,568	11.4

Length of Time Nurse Has Worked in Current Work Area

Table 5 shows that a majority of the respondents indicated that they had been in their current work area for one to five years (38.4%), less than a year (15.9%), and six to 10 years (15.5%). Ten percent of the respondents did not provide a length of time in their current work area.

Table 5

Length of Time Nurse Has Worked in Current Work Area

Years	<i>n</i>	%
< 1	20,097	15.9
1 to 5	48,495	38.4
6 to 10	19,592	15.5
11 to 15	11,517	9.1
16 to 20	6,886	5.5
21 or >	7,131	5.6
Total	113,718	90.0
No Response	12,627	10.0

Evaluation of Research Questions

Research Question 1

Research question 1 asked, *among nurses working in the hospital setting, what is the relationship between perceptions of hospital management support for patient safety and overall perceptions of patient safety?* As shown in Table 6, there is a moderately strong positive relationship ($r = 0.66$) between *overall perceptions of patient safety* (procedures and systems are good at preventing errors and there is a lack of patient safety problems) and *management support for patient safety* (management provides a work climate that promotes patient safety and shows that patient safety is a top priority). The correlation was found to be statistically significant ($p < .0001$).

Table 6

Correlation between Overall Perceptions of Patient Safety and Management Support for Patient Safety

Composite	Statistics				
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Overall Perceptions of Patient Safety	125,144	3.49	0.847	1.0	5.0
Management Support for Patient Safety	122,490	3.58	0.920	1.0	5.0

Note. Pearson Correlation coefficient: $n = 121,694$; $r = 0.66$; $p < .0001$; Min = strongly disagree; Max = strongly agree

Research Question 2

Research question 2 asked, *among nurses working in the hospital setting, what is the relationship between leadership feedback about error and openness to communicate error?*

The relationship was examined using Pearson correlation coefficient, which was found to be statistically significant ($p < .0001$). There were 118,799 responses for both composites that were analyzed from the data for this research question. As shown in Table 7, there is a strong positive relationship ($r = 0.79$) between *communication openness* (staff freely speaking up if they see something that may negatively affect a patient) and *feedback and communication about error* (staff are informed about errors that happen, are given feedback about changes implemented, and discuss ways to prevent errors).

Table 7

Correlation between Communication Openness and Feedback & Communication About Error

Composite	Statistics				
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Communication Openness	121,407	3.71	0.763	1.0	5.0
Feedback & Communication About Error	118,971	3.81	0.829	1.0	5.0

Note. Pearson Correlation coefficient: $n = 118,799$; $r = 0.79$; $p < .0001$; Min = strongly disagree; Max = strongly agree

Research Question 3

Research question 3 asked, *among nurses working in the hospital setting, what is the relationship between perceptions of leadership actions that promote patient safety and error response?* The relationship was examined using Pearson correlation coefficient, which was found to be statistically significant ($p < .0001$). There were 116,796 responses for the composites that were analyzed for this research question. As shown in Table 8, there was a moderately positive relationship ($r = 0.52$) between *nonpunitive response to error* (staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file) and *supervisor/manager expectations & actions promoting patient safety* (supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems).

Table 8

Correlation between Nonpunitive Response to Error and Supervisor/Manager Expectations & Actions Promoting Patient Safety

Composite	Statistics				
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Nonpunitive Response to Error	122,568	3.25	0.934	1.0	5.0
Supervisor/Manager Expectations & Actions Promoting Patient Safety	119,920	3.95	0.814	1.0	5.0

Note. Pearson Correlation coefficient: $n = 116,796$; $r = 0.52$; $p < .0001$; Min = strongly disagree; Max = strongly agree

Research Question 4

Research question 4 asked, *among nurses working in the hospital setting, what is the relationship between nurse work area and frequency of reporting mistakes that are caught and corrected before affecting the patient (near miss)?* A chi-square test of independence was performed to examine this relationship, which was found to be significant ($p < .0001$). Table 9 illustrates the number of responses of near miss reporting by work area along with the

percentage for each level of response. A majority of the respondents felt that near misses were reported *most of the time* overall (35.5%). The perception of near misses being reported *most of the time* was also the highest across all work areas. The second highest response overall was *sometimes* (26.8%), which included medicine, surgery, ICU, ED, obstetrics, and pediatrics, and those that indicated they worked on different units. Mental health, rehab, and radiology had *always* as their second highest response.

Table 9

Comparison of Near Miss Reporting by Work Area

	<i>n</i>	Response (%)				
		Never	Rarely	Sometimes	Most of the Time	Always
Other	22,666	1.9	10.4	23.9	34.2	29.7
Medicine	21,681	1.4	11.1	26.4	36.3	24.8
Surgery	18,375	1.8	11.9	25.9	35.9	24.5
ICU	17,066	1.6	13.1	30.1	37.2	18.0
ED	10,768	3.1	16.3	30.1	32.5	18.0
Obstetrics	9,766	1.3	11.4	27.6	37.3	22.4
Different Units	5,620	2.4	13.6	28.7	34.6	20.7
Pediatrics	3,294	0.9	11.5	28.0	38.5	21.2
Mental Health	2,444	1.8	10.3	25.2	34.0	29.0
Rehab	2,025	1.4	10.7	20.4	34.8	32.7
Radiology	1,131	2.6	13.3	24.9	30.5	28.8
Anesthesiology	267	2.3	14.6	27.0	30.0	26.2
Lab	136	2.9	18.4	28.7	25.7	24.3
Pharmacy	99	6.1	12.1	19.2	39.4	23.2
Total	115,338	1.8	12.0	26.8	35.5	23.8
No Response	11,052					

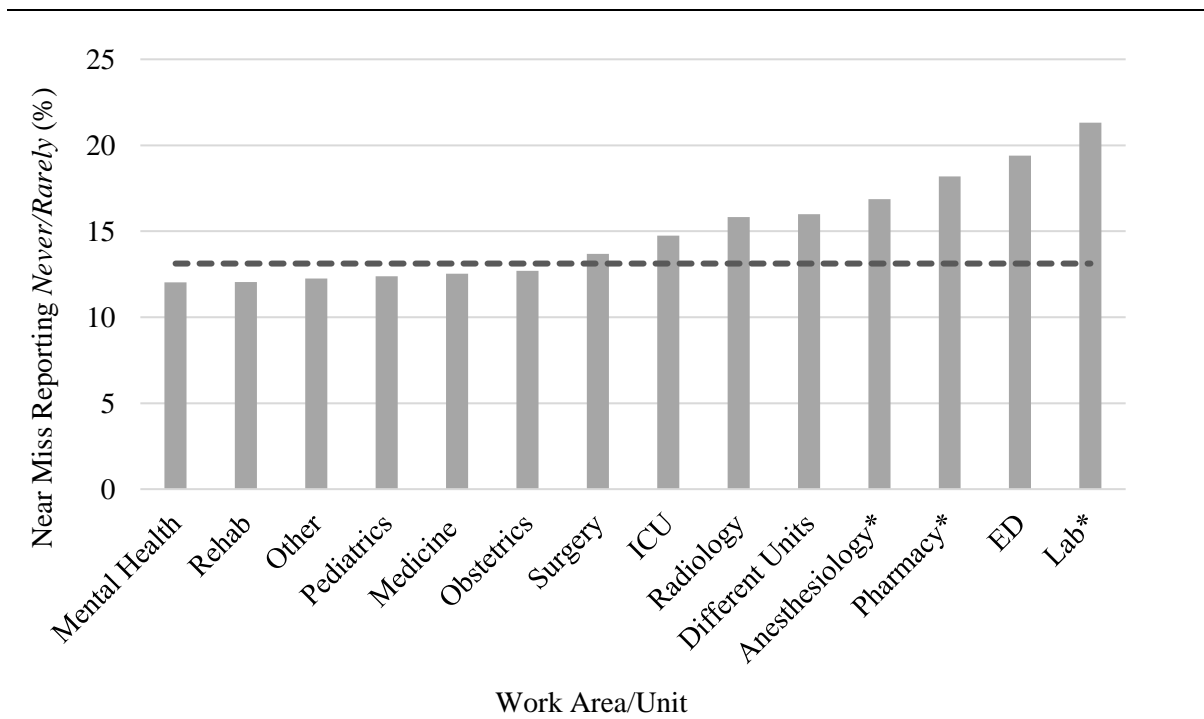
Note. Chi-Square: $X^2 (df = 52, n = 115,338) = 1655.6, p = <.0001.$

Graph 1 and Graph 2 show the combination of the responses “never” and “rarely” as well as “most of the time” and “always,” respectively. The percent values for the combined responses were added together and is shown as a bar line for each work area. Additionally, the means of the totals of the combined responses were added together to provide a point of reference across all work areas, which is noted as the dashed line. This method of combining positive and negative responses is used in subsequent comparisons in this study.

Graph 1 shows that the nurses within the areas of surgery, ICU, radiology, ED, and those who work in different departments have a higher-than-average perception that near misses are *never* or *rarely* reported.

Graph 1

Comparison of Near Miss Reporting - Never/Rarely - by Work Area

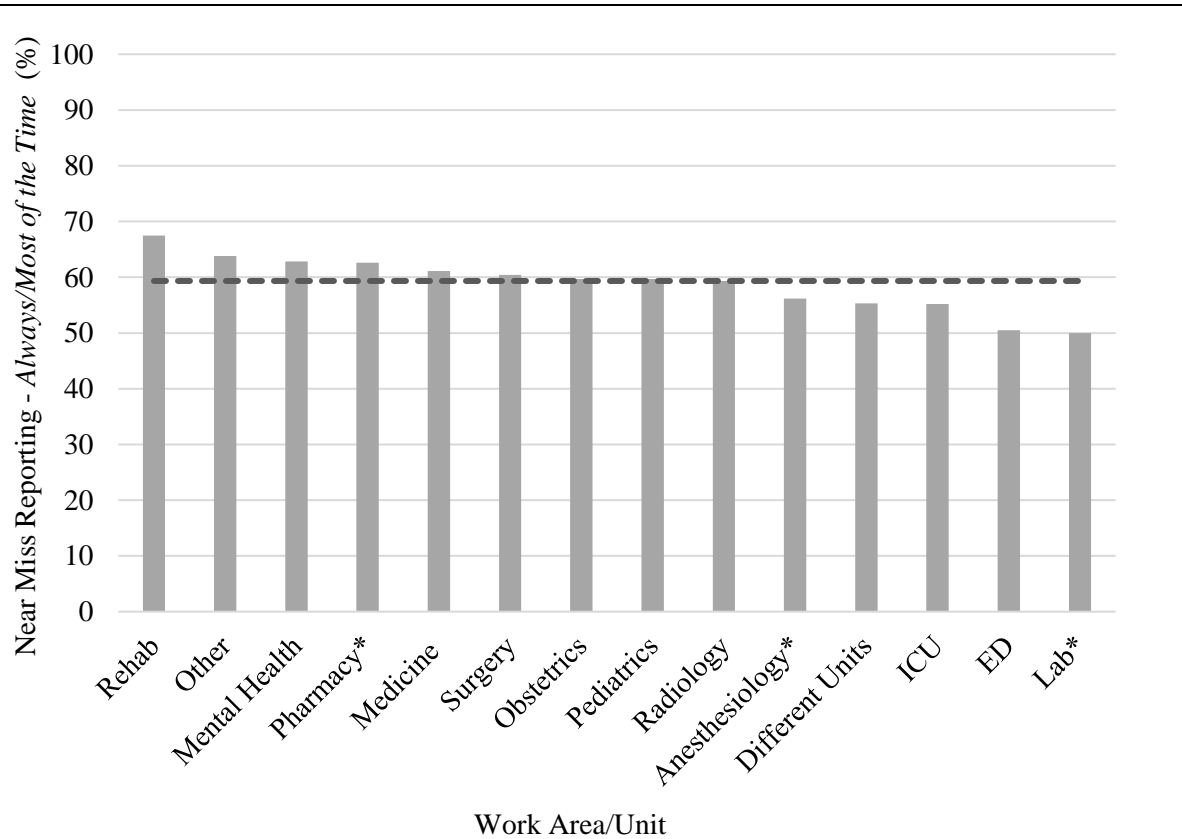


Note. Total respondents for *Never/Rarely* = 15,917 (13.8%); Dashed line = mean of the totals (13.2)
 *Considered to have a low response rate and could show values that have sensitivities to small changes within the data.

Graph 2 shows that the nurses within the areas of mental health, physical rehabilitation (rehab), medicine, and those who identified as working in “Other” areas had a higher-than-average perception that near misses were reported *most of the time* or *always*.

Graph 2

Comparison of Near Miss Reporting – Most of the Time/Always - by Work Area



Note. Total respondents for *Most of the Time/Always* = 72,202 (62.6%); Dashed line = mean of the totals (59.3)

*Considered to have a low response rate and could show values that have sensitivities to small changes within the data.

Research Question 5

Research question 5 asked, *among nurses working in the hospital setting, what is the relationship between background characteristics and the patient safety grade that the nurse gives for his/her work area?* A chi-square test of independence was performed to examine the

relationship between background characteristics - *length of time in current hospital, length of time in current work area, length of time in nursing* - and the *patient safety grade that the nurse gives for his/her work area*. The relationships between these variables were found to be significant ($p < .0001$).

Relationships Between Patient Safety Grade and Work Area

Table 10 shows the comparisons of the patient safety grade provided by the nurse respondent for his/her work area. The majority of the respondents rated the patient safety grade for their work area as either “excellent” or “very good.”

Table 10

Comparison of Nurse Patient Safety Grade by Work Area

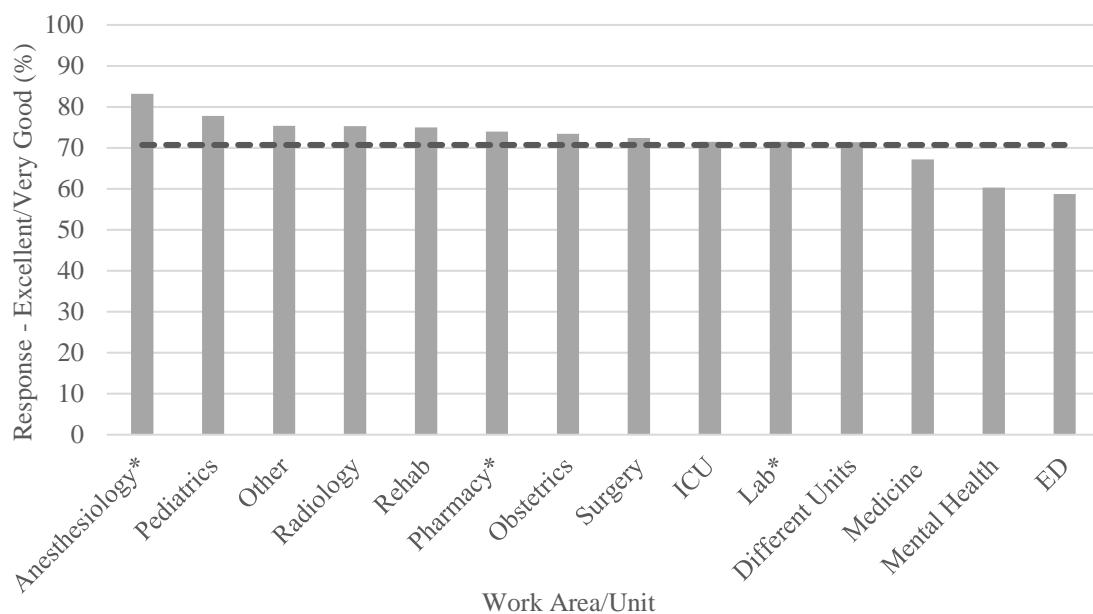
	<i>n</i>	Patient Safety Grade (%)				
		Excellent	Very Good	Acceptable	Poor	Failing
Other	23,831	32.9	42.5	19.2	4.6	0.9
Medicine	21,753	21.2	46.0	25.1	6.4	1.2
Surgery	18,463	28.4	44.0	20.9	5.8	1.2
ICU	17,208	25.4	46.1	21.4	5.7	1.4
ED	10,823	17.2	41.5	28.9	10.0	2.4
Obstetrics	9,921	28.0	45.4	20.3	5.3	1.0
Different Units	5,694	28.0	43.4	22.5	4.9	1.1
Pediatrics	3,327	28.4	49.4	18.1	3.6	0.5
Mental Health	2,490	20.4	39.9	27.0	10.4	2.3
Rehab	2,095	28.4	46.6	20.3	3.8	0.9
Radiology	1,164	32.1	43.2	18.1	4.9	1.6
Anesthesiology	279	31.2	52.0	15.1	1.8	0.0
Lab	144	24.3	47.2	22.9	4.2	1.4
Pharmacy	100	21.0	53.0	19.0	5.0	2.0
Total	117,292	26.3	44.4	22.2	5.9	1.2
No Response	9,098					

Note. Chi-Square: $X^2 (df = 52, n = 117,292) = 2425.7, p = <.0001$

Graph 3 shows the percent values for the combined positive patient safety grade (“excellent” and “very good”) responses ($n = 82,913$) for each work area. The areas that received a higher-than-average patient safety grade included pediatrics, radiology, rehab, obstetrics, surgery as well as the category of “Other” work area.

Graph 3

Nurse Patient Safety Grade - Excellent/Very Good - by Work Area



Note. Total respondents for *Excellent/Very Good* = 82,913 (70.7%); Dashed line = mean of the totals (70.7)
 *Considered to have a low response rate and could show values that have sensitivities to small changes within the data.

Relationship Between Patient Safety Grade and Length of Time in Current Hospital

Table 11 shows the comparisons of the patient safety grade for work area provided by the nurse respondent based on tenure in his/her current hospital. The majority of the respondents rated the patient safety grade, regardless of tenure in the current hospital, as either “excellent” or “very good.”

Table 11*Comparison of Nurse Patient Safety Grade by Length of Time in Current Hospital*

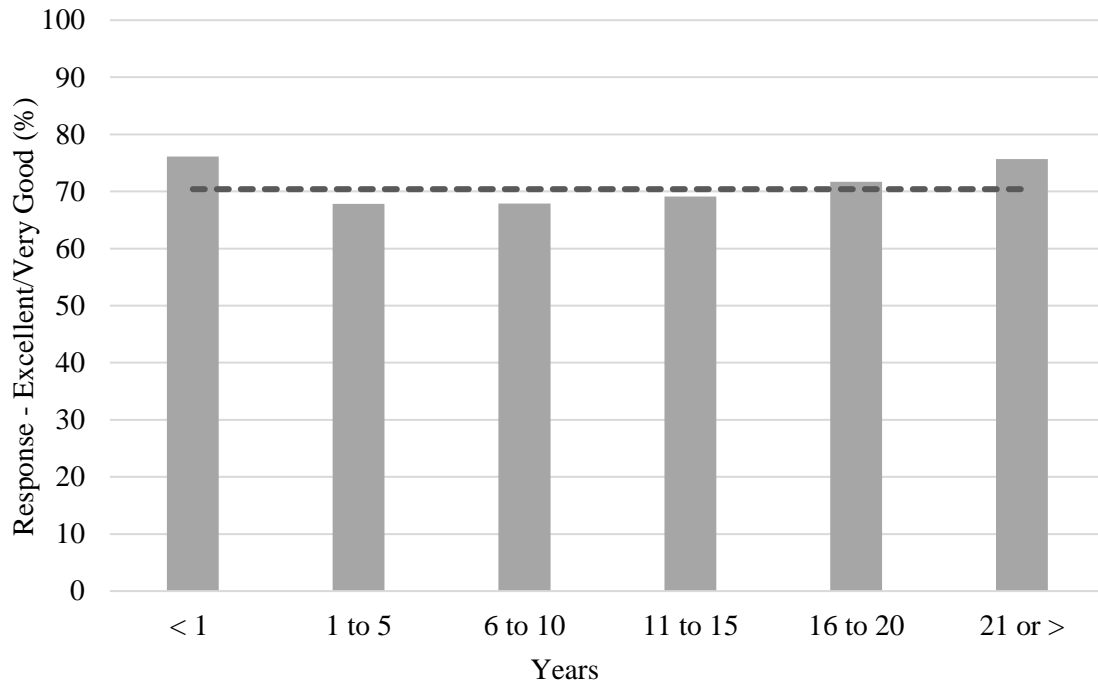
Years	n	Patient Safety Grade (%)				
		Excellent	Very Good	Acceptable	Poor	Failing
< 1	14,317	29.5	46.6	19.1	4.0	0.9
1 to 5	37,885	23.4	44.4	24.1	6.7	1.4
6 to 10	19,224	25.7	42.2	23.1	7.3	1.6
11 to 15	13,287	27.0	42.1	23.0	6.2	1.4
16 to 20	8,845	28.7	43.0	21.0	5.9	1.3
21 or >	13,819	31.5	44.2	19.3	4.2	0.9
Total	107,377	26.5	43.9	22.2	6.0	1.3
No Response	19,013					

Note. Nurse Patient Safety Grade = grade given for primary work area; Chi-Square: X^2 ($df = 20$, $n = 107,377$) = 901.1, $p = <.0001$.

Graph 4 shows the combined positive (“excellent” and “very good”) responses ($n = 75,656$) for work area across years in the current hospital. Measures that extend above the mean received a higher-than-average patient safety grade for work area. Overall, positive responses for the work area patient safety grade stayed above 60% regardless of tenure in the current hospital. Positive perceptions of work area patient safety by respondents who had worked less than one year was approximately 75%. The perceptions of patient safety for work area decreased below the mean starting at year one in the current hospital and increased steadily over time. Perceptions of patient safety for work area increased above the mean at a tenure of 21 years or more in the current hospital.

Graph 4

Nurse Patient Safety Grade - Excellent/Very Good - by Length of Time in Current Hospital

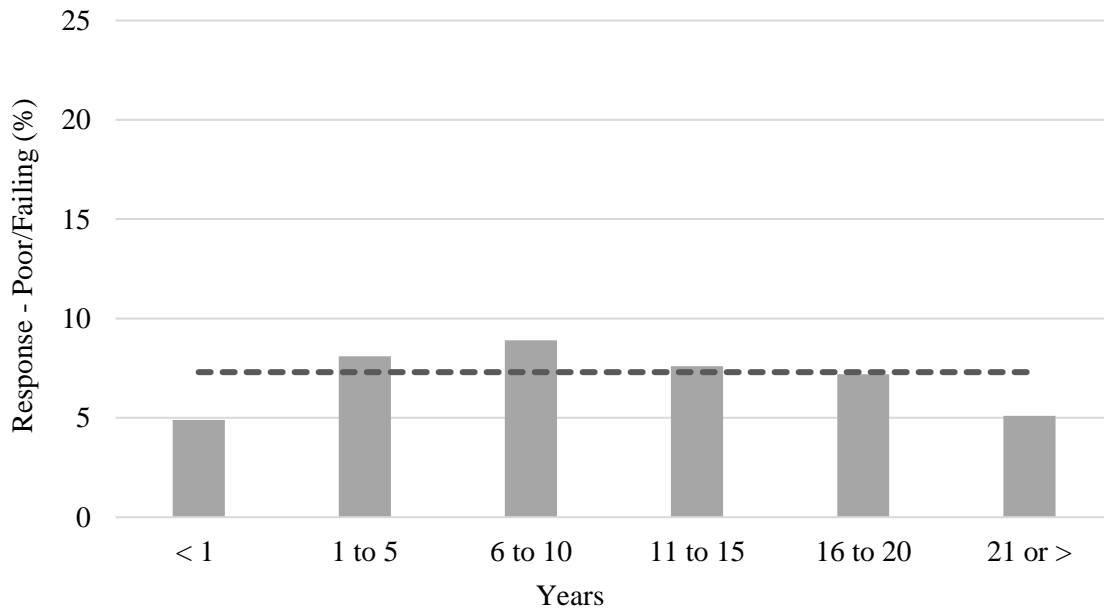


Note. Total Respondents for *Excellent/Very Good* = 75,656 (70.4%); Dashed line = mean of the totals (70.4)

Graph 5 shows the combined negative (“poor” and “failing”) responses ($n = 7,842$) for work area across years in the current hospital. Measures that extend above the mean received a higher-than-average negative patient safety grade for work area. Overall, less than 10% of respondents had a negative perception of patient safety on their work area regardless of tenure in their current hospital. Negative perceptions of patient safety for work area by respondents who had worked less than one year in their current hospital was approximately 5%. Negative perceptions of patient safety for work area increased slightly years one through ten in the current hospital and then steadily decreased at year 11 and beyond.

Graph 5

Nurse Patient Safety Grade – Poor/Failing - by Length of Time in Current Hospital



Note. Total Responses for *Poor/Failing* = 7,842 (7.3%); Dashed line = mean of the totals (7.3)

Relationship Between Patient Safety Grade by Length of Time in Work Area

Table 12 shows the comparisons of the patient safety grade for work area provided by the nurse respondent based on tenure in his/her current work area. The majority of the respondents rated the patient safety grade, regardless of tenure on the work area, as either “excellent” or “very good.”

Table 12*Comparison of Nurse Patient Safety Grade by Length of Time in Work Area*

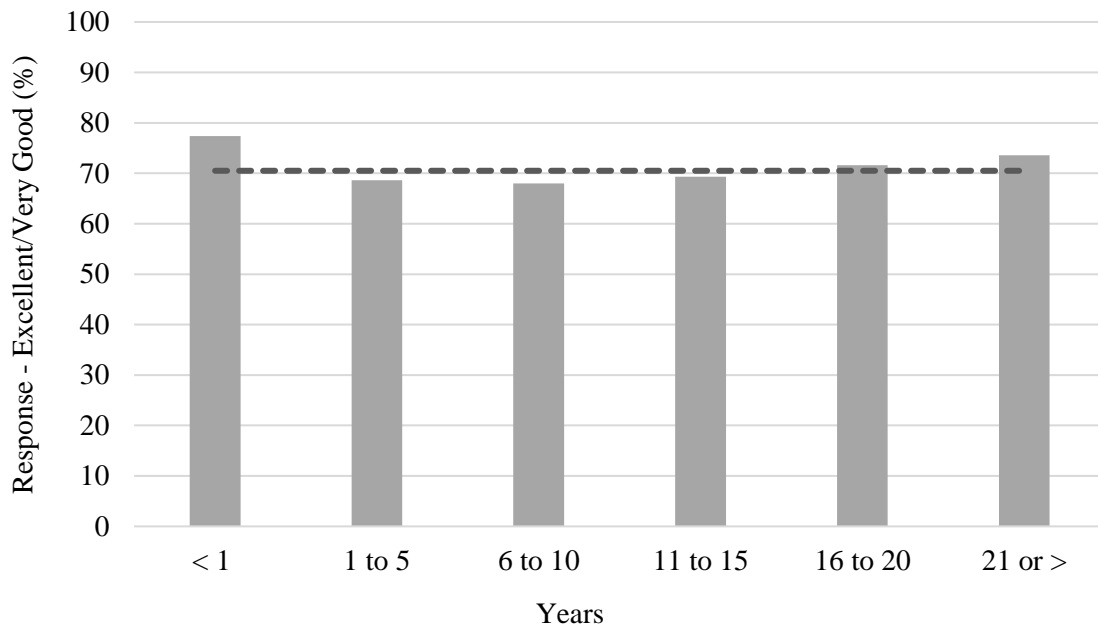
Years	n	Patient Safety Grade (%)				
		Excellent	Very Good	Acceptable	Poor	Failing
< 1	19,140	31.7	45.7	18.1	3.9	0.7
1 to 5	46,070	24.7	43.9	23.6	6.5	1.4
6 to 10	18,581	25.1	42.9	23.2	7.2	1.6
11 to 15	11,022	26.7	42.6	23.2	6.1	1.4
16 to 20	6,539	27.4	44.2	21.5	5.8	1.2
21 or >	6,742	29.1	44.5	20.7	4.8	0.9
Total	108,094	26.6	43.9	22.2	6.0	1.3
No Response	18,296					

Note. Nurse Patient Safety Grade = grade given for primary work area; Chi-Square: X^2 ($df = 20$, $n = 108,094$) = 819.8, $p = <.0001$.

Graph 6 shows the combined positive (“excellent” and “very good”) responses ($n = 76,289$) for work area across years in the current work area. Measures that extend above the mean received a higher-than-average patient safety grade for work area. Overall, positive responses for the work area patient safety grade stayed above 65% regardless of tenure in the current work area. Positive perceptions of work area patient safety by respondents who had worked less than one year was approximately 78%. The perceptions of patient safety for work area decreased slightly below the mean starting at year one in the current work area and increased steadily over time. Perceptions of patient safety for work area increased above the mean at a tenure of 21 years or more in the current work area.

Graph 6

Nurse Patient Safety Grade – Excellent/Very Good - by Length of Time in Work Area

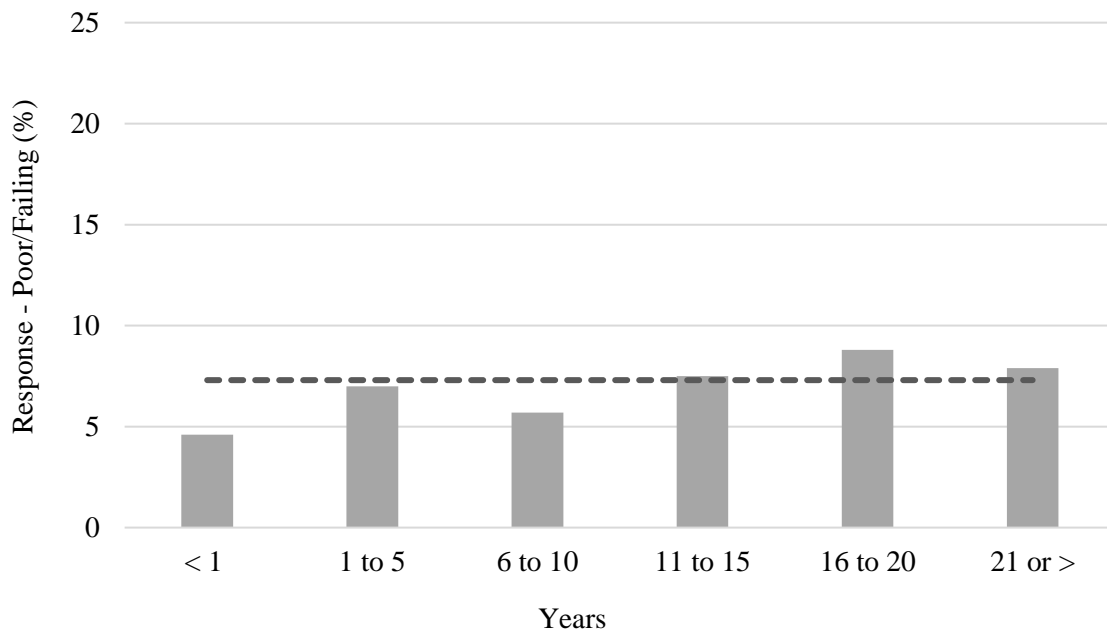


Note. Total Respondents for *Excellent/Very Good* = 76,289 (70.5%); Dashed line = mean of the totals (70.5)

Graph 7 shows the combined negative (“poor” and “failing”) responses ($n = 7,830$) for work area across years in the current work area. Measures that extend above the mean received a higher-than-average negative patient safety grade for work area. Overall, less than 10% of respondents had a negative perception of patient safety on their work area regardless of tenure in their current work area. Negative perceptions of patient safety for work area by respondents who had worked less than one year in their current work area was approximately 5%. Negative perceptions of patient safety for work area increased slightly to approximately 7% years one through five in the current work area, then decreased again to approximately 6% during years six through 10 in the current work area. There was another slight increase of negative perceptions of patient safety for work area during years 11 through 20, with years 16 through 20 having the highest years of negative perceptions of patient safety on the work area.

Graph 7

Nurse Patient Safety Grade - Poor/Failing - by Length of Time in Work Area



Note. Total Respondents for *Poor/Failing* = 7,830 (7.3%); Dashed line = mean of the totals (7.3)

Relationship Patient Safety Grade and Length of Time in the Profession of Nursing:

Table 13 shows the comparisons of the patient safety grade for work area provided by the nurse respondent based on tenure in the profession of nursing ($n = 108,694$). The majority of the respondents rated the patient safety grade, regardless of tenure on the work area, as either “excellent” or “very good.”

Table 13*Comparison of Nurse Patient Safety Grade by Length of Time in Nursing*

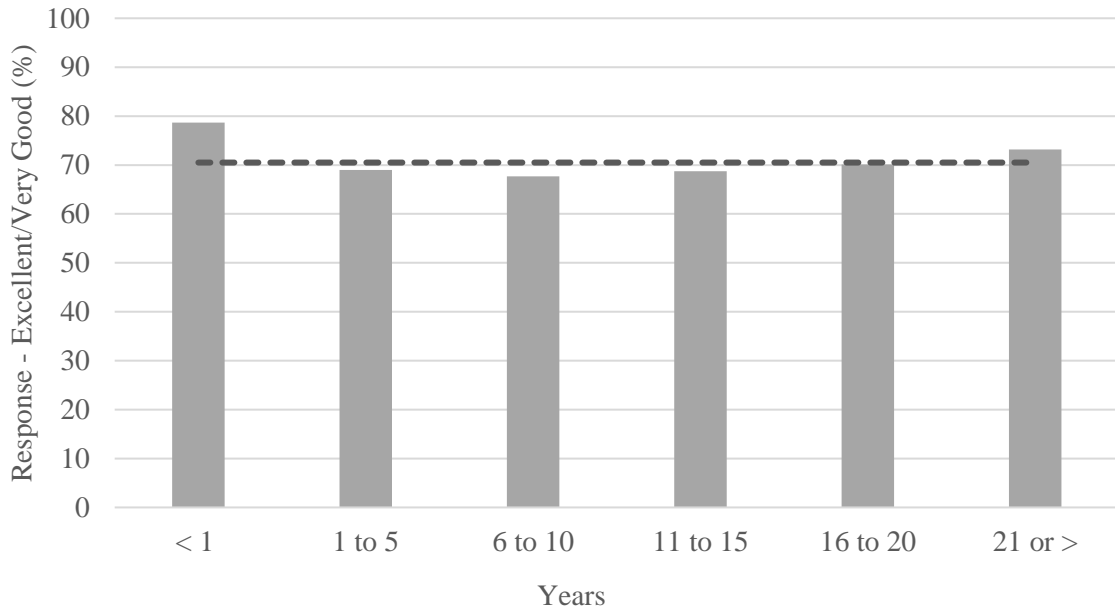
Years	<i>n</i>	Patient Safety Grade (%)				
		Excellent	Very Good	Acceptable	Poor	Failing
< 1	8,396	33.5	45.2	17.2	3.5	0.7
1 to 5	32,320	23.1	45.9	23.5	6.1	1.3
6 to 10	19,547	24.6	43.1	23.6	7.1	1.6
11 to 15	12,948	26.5	42.2	23.0	6.6	1.7
16 to 20	11,053	27.6	42.5	22.2	6.4	1.4
21 or >	24,430	30.2	43.0	20.6	5.2	1.0
Total	108,694	26.6	43.9	22.2	6.0	1.3
No Response	17,696					

Note. Nurse Patient Safety Grade = grade given for primary work area; Chi-Square: X^2 ($df = 20$, $n = 108,694$) = 908.6, $p = <.0001$.

Graph 8 shows the combined positive (“excellent” and “very good”) responses ($n = 76,680$) for work area across years in the profession of nursing. Measures that extend above the mean received a higher-than-average patient safety grade for work area. Overall, positive responses for the work area patient safety grade stayed above 65% regardless of tenure in the profession of nursing. Positive perceptions of work area patient safety by respondents who had worked less than one year was approximately 78%. The perceptions of patient safety for work area decreased slightly below the mean starting at year one in the profession of nursing and increased steadily over time. Perceptions of patient safety for work area increased above the mean at a tenure of 21 years or more in the profession of nursing.

Graph 8

Nurse Patient Safety Grade – Excellent/Very Good – by Length of Time in Nursing

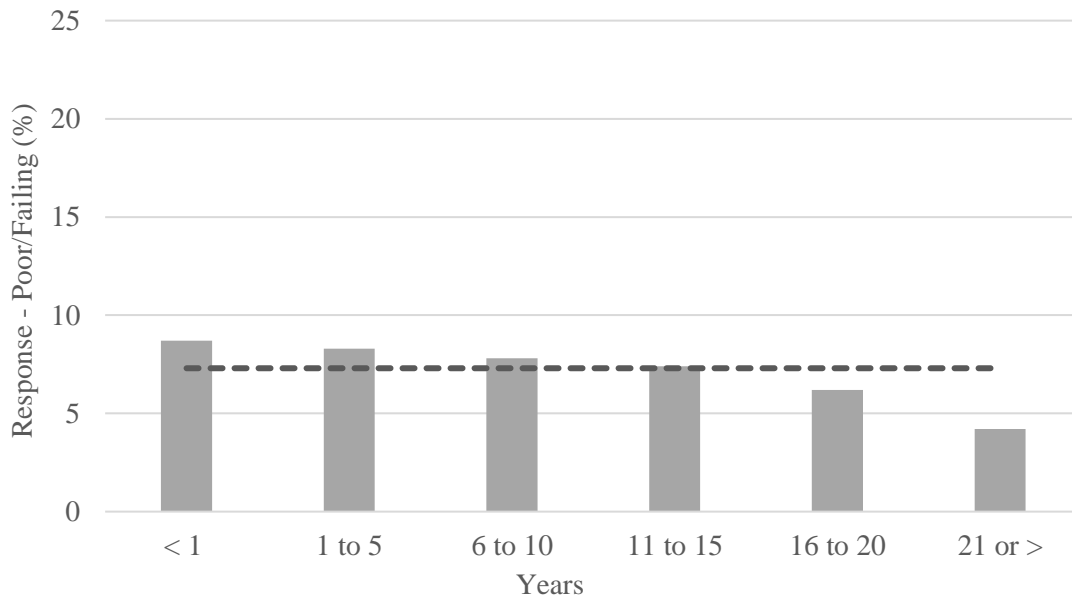


Note. Total Respondents for *Excellent/Very Good* = 76,680 (70.5%); Dashed line = mean of the totals (70.5)

Graph 9 shows the combined negative (“poor” and “failing”) responses ($n = 7,890$) for work area across years in the profession of nursing. Measures that extend above the mean received a higher-than-average negative patient safety grade for work area. Overall, less than 10% of respondents had a negative perception of patient safety on their work area regardless of tenure in the profession of nursing. Negative perceptions of patient safety for work area by respondents who had worked less than one year in the profession of nursing was above the mean at approximately 8%. Negative perceptions of patient safety for work area then steadily decreased at year one and beyond.

Graph 9

Nurse Patient Safety Grade – Poor/Failing - by Length of Time in Nursing



Note. Total responses for *Poor/Failing* = 7,890 (7.3%); Dashed line = mean of the totals (7.3)

Summary of Findings

The goal of the study was to examine associations in patient safety culture measures and background characteristics of nurses within the hospital setting to determine if there were associations in nurses' perceptions of patient safety culture.

Aim 1 evaluated the relationship between *perceptions of hospital management support for patient safety* and *overall perceptions of patient safety of nurses working in the hospital setting*. Significant positive correlations between *perceptions of hospital management support for patient safety* and *overall perceptions of patient safety* were found. This finding suggests that there is a relationship between unit management providing a *work climate that promotes patient safety* and *the perception that there is a lack of patient safety problems*. A strong positive correlation was also found between *communication openness and feedback and*

communication about error. This finding suggests that there is a relationship between *staff feeling free to speak up if they see something that may negatively affect a patient* and *staff being provided feedback about changes implemented as a result of speaking up.* Another positive correlation was found between *nonpunitive response to error* and *management expectations and actions promoting patient safety.* This finding suggests that there is a relationship between *managers considering staff suggestions for improving patient safety* and *staff feeling that their mistakes and event reports are not held against them.*

Aim 2 evaluated the relationships between *work area* and *frequency of reporting mistakes that are caught and corrected before affecting the patient (near misses) among nurses working in the hospital setting.* Results showed that a majority of the nurses in all work areas in the study perceived that near misses were being reported most of the time or sometimes. Areas such as mental health, rehab, medicine, and those who identified as working in “other” areas felt that near misses were reported most of the time or always.

Aim 3 evaluated the relationship between *nurse background characteristics* and *the primary work area patient safety grade in nurses working within the hospital setting.* The majority of nurses, regardless of *length of time in current hospital, length of time in current work area, or length of time in nursing,* gave their unit a patient safety grade of “excellent” or “very good.”

Summary of Chapter

Chapter 4 presented the findings of this study, which examined the interrelationships of patient safety culture measures and background characteristics in nurses within the hospital setting. The Chapter began with a presentation of sample characteristics. In addition, major findings and conclusions were introduced, with a summary of findings.

Plan for Remaining Chapter

Chapter 5 will provide an interpretation of the findings. This interpretation will include conclusions, discussions, and recommendations for future research.

Chapter 5: Conclusions, Discussion, and Recommendations

Introduction

Chapter Five presents a brief summary of this research, beginning with a review of the study's problem and methodology used to answer the research question. The Chapter then presents a comparison of the findings to the extant literature; the implications of the study; the study's strengths, limitations, and assumptions; recommendations for further research; and ends with the conclusions.

Statement of the Problem

The *problem of interest* for this study was to examine interrelationships of patient safety culture measures and background characteristics in nurses within the hospital setting.

Overview of the Methodology

Theoretical Framework

Donabedian's SPO model was used as the *theoretical framework* for evaluating perceived elements of leadership (structure) with feelings and actions by the nurse (process). Patient outcomes were not evaluated in this study.

Sampling

This study evaluated responses to the 2018 HSOPS of 126,390 nurses working in hospitals across the U.S. The number of respondents in this study made up 7.4% of nurses employed in general medicine and surgical hospitals in the United States (U.S. Bureau of Labor and Statistics, 2019).

Data Management

The dataset for this study was provided by AHRQ in electronic form. The data was maintained in a private, secured drive on the researcher's home computer. Access to the data required a password.

Data Analysis

SAS software version 9.4 (2015) was utilized to statistically analyze and interpret the data. Pearson correlation and chi-square tests were used to examine the data.

Interpretation of Major Findings and Conclusions

The goal of the present study was to examine associations of patient safety culture measures and background characteristics of nurses within the hospital setting. Analysis of the data revealed significant relationships between patient safety culture measures. The study also revealed variable perceptions of patient safety considering nurses' background characteristics.

Background Characteristics

Primary Work Area.

The collective majority of the nurses in this study identified their primary work area as *medicine, surgery, and ICU*. The category of *other* had high representation as well. Nurses who responded that their primary work area was *anesthesia, lab, and pharmacy* had the lowest collective representation.

Length of Time in the Profession of Nursing.

In this study, there was high representation from nurses who had worked in the profession for one to 10 years as well as those who had worked in the profession for 21 years or more. Those who identified as working for less than one year and working for 16 to 20 years in the profession had lower representation.

Length of Time Working in the Current Hospital.

In this study, there was high representation from nurses who had worked in their current hospital from less than one year to 15 years as well as from nurses who had worked in their current hospital for 21 years or more. There was lower representation from nurses who had worked in their current hospital from 16 to 20 years.

Length of Time Working in the Current Work Area.

In this study there was high representation from nurses who had worked in their current work area from less than one year to 15 years. There was lower representation from nurses who had worked in their current work area for 16 years or more.

Perceptions of Leadership Actions and Communication of Patient Safety Concerns

This study revealed that respondents who perceived that management provided a work climate that promoted patient safety and showed that patient safety was a top priority also perceived that there was a lack of patient safety problems. The study also found that respondents who perceived that they were informed about errors and were given feedback about changes implemented also perceived that they were free to speak up if they saw something that may negatively affect a patient. Additionally, the study found that respondents who perceived that their managers considered their suggestions for improving patient safety also perceived that their mistakes and event reports were not held against them.

Background Characteristics and Frequency of Reporting Events

This study revealed that, regardless of work area, the majority of nurses perceived that mistakes that were caught and corrected before affecting the patient (near misses) were reported most of the time.

Background Characteristics and the Primary Work Area Patient Safety Grade

This study revealed that the majority of nurses, regardless of length of time in their current hospital, length of time in their current work area, or length of time in the profession of nursing, perceived that their work area provided care in a manner that was safe for patients. Further exploration of the nurse patient safety grade based on length of time in the current hospital, length of time in the current work area, and length of time in the profession of nursing, revealed that the perception of the patient safety grade by nurses was initially high at

a tenure of less than one year then dropped at year one through five and then steadily increased over subsequent years.

Comparison to Current Literature

This study expands upon the knowledge gained by the work of previous researchers. The study supports findings related to research by Miller and colleagues (2019), which found that near misses were reported when there was a strong culture of safety. The results of this study also highlight the findings by Jafree et al. (2017), which showed that nurses' perceptions about organizational effectiveness in responding to error reports played a role in determining the number of reports an organization receives. Additionally, this study supports findings by Morrow et al. (2016), which revealed that open communication about patient safety concerns is futile in healthcare settings where nurses do not feel that reporting patient safety concerns will impact patient safety. A similar study by Ng et al. (2017) that found that creating confidence in nurses encourages them to speak up is also supported by this study.

Study Implications

This study provides a better understanding of how nurses' perceptions of the patient safety culture in the hospital setting relates to patient safety concerns and responses to other elements of patient safety culture by the nurse. It also provides insight into nurse background characteristics and response within a culture of patient safety. The findings of this study make a significant contribution to current knowledge of the influencers of patient safety culture within the hospital setting and has the potential to impact nurse leaders' approach to patient safety. The implications of this study may lead to further research about the causes of these associations as well as healthcare policy development.

Study Strengths

As discussed, the number of nurse respondents within the 2018 HSOPS was large, which provided strength for this study and significance in the study findings. Another strength of this study was that the nurse respondents made up approximately 7.4% of the nurses employed within United States general medicine and surgical hospitals (U.S. Bureau of Labor and Statistics, 2019). An additional strength of the study was that the researcher was able to identify a novel phenomenon – variations in nurses’ perceptions of patient safety related to tenure in the nursing profession, in their current hospital, and in their current work area.

Study Limitations

A potential limitation of the study was that there could have been biases within the HSOPS 2018 data: (1) Respondents may have felt pressure from their leader to participate or not participate in the survey, (2) Respondents may have felt obligated to respond to survey questions positively because they may be concerned that survey results will be identifiable, (3) Respondents may have decided to respond only if they had a strong positive or negative perception of the patient safety culture, and (4) Staff may have decided not to participate in the survey. Another limitation of the study is that there were nurses who did not respond to all of the survey questions, resulting in missing data points.

Recommendations for Further Research

Future research studies should attempt to explain the interrelationships between patient safety culture measures and background characteristics of nurses that were found in this study. Additionally, similar studies should be performed on more recent and subsequent HSOPS data to evaluate ongoing progress in patient safety culture efforts within nurses who work in hospitals across the U.S. Research is also recommended to evaluate variations in nurses’ perception of patient safety related to tenure and to evaluate the lower-than-average

perceptions of patient safety within the ED and ICU settings. Another focus of research should consider linking the perceptions of patient safety culture findings in this study to actual event reporting and outcomes, such as types of errors (patient falls, medication errors, hospital acquired infections, etc.). Also, future study should consider evaluating perceptions of patient safety culture independently between patient-facing and non-patient-facing nurses (nurse managers, nurse administrators, clinical educators, etc.). Other considerations for future study should focus on new graduate nurses' perceptions of patient safety culture as it pertains to their involvement in error.

Conclusions

The significant findings from this study suggest that relationships exist within nurses' perceptions of patient safety culture and nurses background characteristics. Positive perceptions of leadership's actions and support for patient safety have a positive relationship with nurses' perception of patient safety culture. Furthermore, nurses' perception of patient safety is variable in relation to tenure in the nursing profession, in their current hospital, and in their current work area.

Summary of Chapter

Chapter Five presented a brief summary of this research, beginning with a review of the study's problem and methodology used to answer the research question. The Chapter then presented a comparison of the findings to the current literature; the implications of the study; the study's strengths, limitations, recommendations for further research.

REFERENCES

- Agency for Healthcare Research and Quality (2018). HSOPS safety culture items and dimensions. <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/patientsafetyculture/hospdim.html>
- Agency for Healthcare Research and Quality (n.d.). Agency for Healthcare Research and Quality: A Profile. <https://www.ahrq.gov/cpi/about/profile/index.html>
- Aiken, L. H., Sermeus, W. Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., Bruyneel, L., Raffert, A. M., Griffiths, P., Moreno-Casbas, M., T., Tishelman, C., Scott, A., Brzostek, T., Kinnunen, J., Schwendimann, R., Heinen, M., Zikos, D., Sjetne, I. S., Smith, H. L., & Kutney-Lee, A. (2012). Patient safety, satisfaction, and quality of hospital care: Cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*, *344*.
<https://doi.org/10.1136/bmj.e1717>
- Aiken, L., Sloane, D., Griffiths, P., Rafferty, A. M., Bruyneel, L., McHugh, M., Maier, C. B., Moreno-Casbas, T., Ball, J. E., Ausserhofer, D., & Sermeus, W. (2017). Nursing skill mix in European hospitals: Cross-sectional study of the association with mortality, patient ratings, and quality of care. *BMJ Quality and Safety*, *26*, 559-568. <https://doi.org/10.1136/bmjqs-2016-006197>
- Ajri-Khameslou, M., Aliyari, S., Pishgooie, A. H., Jafari-Golestan, N., & Afshar, P. F. (2018). Factors affecting reporting of nursing errors: A qualitative content analysis study. *Annals of Medical and Health Sciences Research*, *8*, 215-219.

- Ammouri, A. A., Tailakh, A. K., Muliira, J. K., Geethakrishnan, R., & Al Kindi, S. N. (2015). Patient safety culture among nurses. *International Nursing Review*, 62(1), 102-110.
- Antonsen, S. (2009) Safety culture: Theory, method and improvement. Farnham, Surrey: Ashgate Publishing.
- AORN. (2017). AORN's Perioperative Explications for the ANA Code of Ethics for Nurses with Interpretive Statements. AORN. <https://www.aorn.org/-/media/aorn/guidelines/ana-code-of-ethics/aorn-periop-explications-for-ana-code-of-ethics-2017.pdf>
- Ayanian, J. Z., & Markel, H. (2016). Donabedian's lasting framework for health care quality. *New England Journal of Medicine*, 375(3), 205-207. <https://doi.org/10.1056/NEJMp1605101>
- Ballangrud, R., Hedelin, B., & Hall-Lord, M. L. (2012). Nurses' perceptions of patient safety climate in intensive care units: A cross-sectional study. *Intensive and Critical Care Nursing*, 28, 344-354. <https://doi.org/10.1016/j.iccn.2012.01.001>
- Chib, S., & Kanetkar, M. (2014). Safety culture: The buzzword to ensure occupational safety and health. *Procedia Economics and Finance*, 11(1), 130-136. [https://doi.org/10.1016/S2212-567\(14\)00183-X](https://doi.org/10.1016/S2212-567(14)00183-X)
- Emanuel, L., Berwick, D., Conway, J., Combes, J., Hatlie, M., Leape, L., ... & Walton, M. (2009). What exactly is patient safety? *Journal of Medical Regulation*, 95(1), 13-24.
- Feng, X., Bobay, K., & Weiss, M. (2008). Patient safety culture in nursing: A dimensional concept analysis. *Journal of Advanced Nursing*, 63(3), 310-319. <https://doi.org/10.1111/j.1365-2648.2008.04728.x>

- Gartshore, E., Waring, J., & Timmons, S. (2017). Patient safety culture in care homes for older people: A scoping review. *BMC Health Services Research*, 17(1), 752. <https://doi.org/10.1186/s12913-017-2713-2>
- Halligan, M., & Zecevic, A. (2011). Safety culture in healthcare: A review of concepts, dimensions, measures and progress. *BMJ Quality & Safety*, 20(4), 338-343. <https://doi.org/10.1136/bmjqs.2010.040964>
- He, A., Xu, S., & Fu, G. (2012). Study on the basic problems of safety culture. *Procedia Engineering*, 43, 245-249. <https://doi.org/10.1016/j.proeng.2012.08.042>
- Hughes, R. (Ed.). (2008). *Patient safety and quality: An evidence-based handbook for nurses* (Vol. 3). Rockville, MD: Agency for Healthcare Research and Quality.
- Institute for Healthcare Improvement. (2006). An introduction to the 5 Million Lives Campaign. <http://www.ihl.org/IHI/Programs/Campaign>.
- Jafree, S. R., Zakar, R., Zakar, M. Z., & Fischer, F. (2017). Assessing the patient safety culture and ward error reporting in public sector hospitals of Pakistan. *Safety in Health*, 3(1), 10. <https://doi.org/10.1186/s40886-017-0061-x>
- Jang, H, Song, Y. & Kang, H. (2017). Nurses' perception of patient safety culture and safety control in patient safety management activities. *Journal of Korean Academy of Nursing Administration*, 23. 450. <https://doi.org/10.11111/jkana.2017.23.4.450>.
- Ji-Hye, L., Jung-Won, A., & Youn-Jung, S. (2019). Association between hospital nurse' perception of patient safety management and standard precaution adherence: A cross-sectional study. *International Journal of Environmental Research and Public Health*, 16(23), 1-12. <https://doi.org/10.3390/ijerph16234744>
- King, C. A. (2017). Clinical ethics: Patient and provider safety. *AORN Journal*, 106(6), 548-551. <https://doi.org/10.1016/j.aorn.2017.10.003>

- Kohn, L. T., Corrigan, J., & Donaldson, M. S. (2000). *To err is human: Building a safer health system*. Washington, D.C: National Academy Press.
- Lark, M. E., Kirkpatrick, K., & Chung, K. C. (2018). Patient safety movement: history and future directions. *The Journal of Hand Surgery*, *43*(2), 174-178.
- Lee, S. E., Vincent, C., Dahinten, S. Scott, L. D., Park, C. G., & Lopez, K. D. (2018). Effects of individual nurse and hospital characteristics on patient adverse events and quality of care: A multilevel analysis. *Journal of Nursing Scholarship*, *50*(4), 432-440. <https://doi.org/10.1111/jnu.12396>
- Lestiani, M. E., Yudoko, G., & Purboyo, H. (2017). Developing a conceptual model of organizational safety risk: Case studies of aircraft maintenance organizations in Indonesia. *Transportation Research Procedia*, *25*, 136-148. <https://doi.org/10.1016/j.trpro.2017.05.386>
- Lucian Leape Institute (2013). *Through the eyes of the workforce: Creating joy, meaning, and safer health care*. Boston, Massachusetts: National Patient Safety Foundation. http://www.mtpinnacle.com/pdfs/Through-Eyes-of-the-Workforce_online.pdf
- MacPhee, M., Dahinten, V. S., & Havaei, F. (2017). The impact of heavy perceived nurse workloads on patient and nurse outcomes. *Administrative Sciences*, *7*(1), 7. <https://doi.org/10.3390/admsci7010007>
- Mahajan, R. P. (2010). Critical incident reporting and learning. *British Journal of Anaesthesia*, *105*(1), 69-75. <https://doi.org/10.1093/bja/aeq133>
- Morrow, S., & Coplen, M. (2017). *Safety culture: A significant influence on safety in transportation* (No. DOT/FRA/ORD-17/09). United States. Federal Railroad Administration. Office of Research, Development, and Technology.

- Morrow, K. J., Gustavson, A. M. & Jones, J. (2016). Speaking up behaviours (safety voices) of healthcare workers: A metasynthesis of qualitative research studies. *International Journal of Nursing Studies*, 64, 42-51.
<http://dx.doi.org/10.1016/j.ijnurstu.2016.09.014>
- Miller, N., Bhowmik, S., Ezinwa, M., Yang, T., Schrock, S., Bitzel, D., & McGuire, M. J. (2019). The relationship between safety culture and voluntary event reporting in a large regional ambulatory care group. *Journal of Patient Safety*, 15(4), e48-e51.
- Murray, M., Sundin, D., & Cope, V. (2019) New graduate nurses' understanding and attitude about patient safety upon transition to practice. *Journal of Clinical Nursing*, 28, 2543-2552. <https://doi.org/10.1111/jocn.14839>
- Ng, G. W. Y., Pun, J. K. H., So, E. H. K., Chiu, W. W. H., Leung, A. S. H., Stone, Y. H., ... & Leung, A. K. H. (2017). Speak-up culture in an intensive care unit in Hong Kong: a cross-sectional survey exploring the communication openness perceptions of Chinese doctors and nurses. *BMJ Open*, 7(8). <https://doi.org/10.1136/bmjopen-2016-015721>
- Portney, L. G. & Watkins, M. P. (2009). *Foundations of clinical research: Applications to practice* (3rd ed.). Pearson Health Science.
- Profit, J., Sharek, P. J., Amspoker, A. B., Kowalkowski, M. A., Nisbet, C. C., Thomas, E. J., ... & Sexton, J. B. (2014). Burnout in the NICU setting and its relation to safety culture. *BMJ Quality & Safety*, 23(10), 806-813. <https://doi.org/10.1136/bmjqs-2014-002831>
- Sammer, C. E., Lykens, K., Singh, K. P., Mains, D. A., & Lackan, N. A. (2010). What is patient safety culture? A review of the literature. *Journal of Nursing Scholarship*, 42(2), 156-165. <https://doi.org/10.1111/j.1547-5069.2009.01330.x>

- Sincero, S. M. (2013). *Perception*. Retrieved Oct 24, 2020 from <https://explorable.com/perception>
- Sorra, J., & Dyer, N. (2010). Multilevel psychometric properties of the AHRQ hospital survey on patient safety culture. *BMC Health Services Research*, 10:199. <https://doi.org/10.1186/1472-6963-10-199>
- Stewart, K., Wyatt, R., & Conway, J. (2011). Unprofessional behaviour and patient safety. *International Journal of Clinical Leadership*, 17(2), 93-101.
- Swart, R. P., Pretorius, R., & Klopper, H. (2015). Educational background of nurses and their perceptions of the quality and safety of patient care. *Curationis*, 38(1), 1-8. <https://doi.org/10.4102/curationis.v38i1.1202>
- The Joint Commission. (2018). Safety culture assessment: Improving the survey process. *The Joint Commission Perspectives*, 38(6). https://www.jointcommission.org/-/media/tjc/documents/accred-and-cert/safety_culture_assessment_improving_the_survey_process.pdf
- Ulrich, B., & Kear, T. (2014). Patient Safety and Patient Safety Culture: Foundations of Excellent Health Care Delivery. *Nephrology Nursing Journal*, 41(5).
- U.S. Bureau of Labor Statistics. (2019, May). *Occupational employment statistics*. <https://www.bls.gov/oes/current/oes291141.htm>
- Wagner, L. M., Capezuti, E., & Rice, J. C. (2009). Nurses' perceptions of safety culture in long-term care settings. *Journal of Nursing Scholarship*, 41(2), 184-192. <https://doi.org/10.1111/j.1547-5069.2009.01270.x>
- Weaver, S. J., Lubomksi, L. H., Wilson, R. F., Pfoh, E. R., Martinez, K. A., & Dy, S. M. (2013). Promoting a culture of safety as a patient safety strategy: A systematic

review. *Annals of Internal Medicine*, 158(5_Part_2), 369-374.

<https://doi.org/10.7326/0003-4819-158-5-201303051-00002>

World Health Organization. (2004). World alliance for patient safety: Forward programme

2005. https://www.who.int/patientsafety/en/brochure_final.pdf

Xuanyue, M., Yanli, N., Hao, C., Pengli, J., & Mingming, Z. (2013). Literature review

regarding patient safety culture. *Journal of Evidence-Based Medicine*, 6(1), 43-49.

<https://doi.org/10.1111/jebm.12020>

Attachments

Attachment A: Hospital Survey on Patient Safety Culture – Version 1.0

Survey on Patient Safety

Instructions

This survey asks for your opinions about patient safety issues, medical error, and event reporting in your facility and will take about 10 to 15 minutes to complete.

If you do not wish to answer a question, or if a question does not apply to you, you may leave your answer blank.

- An **"event"** is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm.
- **"Patient safety"** is defined as the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.

SECTION A: Your Work Area/Unit

In this survey, think of your work area as the unit, department, or clinical area of your facility where you spend most of your work time or provide most of your clinical services.

What is your primary work area or unit in your facility? Select ONE answer.

- | | | |
|---|---|--|
| <input type="checkbox"/> a. Many different units/No specific unit | <input type="checkbox"/> h. Psychiatric/mental health | <input type="checkbox"/> n. Other, please specify: |
| <input type="checkbox"/> b. Medicine (non-surgical) | <input type="checkbox"/> i. Rehabilitation | |
| <input type="checkbox"/> c. Surgery | <input type="checkbox"/> j. Pharmacy | |
| <input type="checkbox"/> d. Obstetrics | <input type="checkbox"/> k. Laboratory | |
| <input type="checkbox"/> e. Pediatrics | <input type="checkbox"/> l. Radiology | |
| <input type="checkbox"/> f. Emergency department | <input type="checkbox"/> m. Anesthesiology | |
| <input type="checkbox"/> g. Intensive care unit (any type) | | |

Please indicate your agreement or disagreement with the following statements about your work area/unit.

Think about your work area/unit...	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. People support one another in this unit.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. We have enough staff to handle the workload.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. When a lot of work needs to be done quickly, we work together as a team to get the work done.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. In this unit, people treat each other with respect.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. Staff in this unit work longer hours than is best for patient care.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION A: Your Work Area/Unit (continued)

Think about your work area/unit...	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
6. We are actively doing things to improve patient safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
7. We use more agency/temporary staff than is best for patient care	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
8. Staff feel like their mistakes are held against them	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
9. Mistakes have led to positive changes here	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
10. It is just by chance that more serious mistakes don't happen around here	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
11. When one area in this unit gets really busy, others help out.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
12. When an event is reported, it feels like the person is being written up, not the problem	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
13. After we make changes to improve patient safety, we evaluate their effectiveness	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
14. We work in "crisis mode" trying to do too much, too quickly	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
15. Patient safety is never sacrificed to get more work done	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
16. Staff worry that mistakes they make are kept in their personnel file	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
17. We have patient safety problems in this unit	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
18. Our procedures and systems are good at preventing errors from happening	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION B: Your Supervisor/Manager

Please indicate your agreement or disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report.

	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. My supervisor/manager seriously considers staff suggestions for improving patient safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. My supervisor/manager overlooks patient safety problems that happen over and over	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION C: Communications

How often do the following things happen in your work area/unit?

Think about your work area/unit...	Never ▼	Rarely ▼	Some- times ▼	Most of the time ▼	Always ▼
1. We are given feedback about changes put into place based on event reports	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. Staff will freely speak up if they see something that may negatively affect patient care	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. We are informed about errors that happen in this unit	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. Staff feel free to question the decisions or actions of those with more authority	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
5. In this unit, we discuss ways to prevent errors from happening again	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
6. Staff are afraid to ask questions when something does not seem right ...	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION D: Frequency of Events Reported

In your work area/unit, when the following mistakes happen, how often are they reported?

	Never ▼	Rarely ▼	Some- times ▼	Most of the time ▼	Always ▼
1. When a mistake is made, but is <u>caught and corrected before affecting the patient</u> , how often is this reported?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. When a mistake is made, but has <u>no potential to harm the patient</u> , how often is this reported?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. When a mistake is made that <u>could harm the patient</u> , but does not, how often is this reported?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION E: Patient Safety Grade

Please give your work area/unit an overall grade on patient safety.

- A B C D E
 Excellent Very Good Acceptable Poor Failing

SECTION F: Your Facility

Please indicate your agreement or disagreement with the following statements about your facility.

Think about your facility...	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
1. Management in this facility provides a work climate that promotes patient safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2. Units in this facility do not coordinate well with each other	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
3. Things "fall between the cracks" when transferring patients from one unit to another	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
4. There is good cooperation among units that need to work together	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION F: Your Facility (continued)

Think about your facility...	Strongly Disagree ▼	Disagree ▼	Neither ▼	Agree ▼	Strongly Agree ▼
5. Important patient care information is often lost during shift changes	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
8. It is often unpleasant to work with staff from other units in this facility.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
7. Problems often occur in the exchange of information across units in this facility.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
8. The actions of management in this facility show that patient safety is a top priority	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
9. Management in this facility seems interested in patient safety only after an adverse event happens	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
10. Units in this facility work well together to provide the best care for patients.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
11. Shift changes are problematic for patients in this facility.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION G: Number of Events Reported

In the past 12 months, how many event reports have you filled out and submitted?

- | | |
|--|--|
| <input type="checkbox"/> a. No event reports | <input type="checkbox"/> d. 6 to 10 event reports |
| <input type="checkbox"/> b. 1 to 2 event reports | <input type="checkbox"/> e. 11 to 20 event reports |
| <input type="checkbox"/> c. 3 to 5 event reports | <input type="checkbox"/> f. 21 event reports or more |

SECTION H: Background Information

This information will help in the analysis of the survey results.

- How long have you worked in this facility?

<input type="checkbox"/> a. Less than 1 year	<input type="checkbox"/> d. 11 to 15 years
<input type="checkbox"/> b. 1 to 5 years	<input type="checkbox"/> e. 16 to 20 years
<input type="checkbox"/> c. 6 to 10 years	<input type="checkbox"/> f. 21 years or more
- How long have you worked in your current work area/unit?

<input type="checkbox"/> a. Less than 1 year	<input type="checkbox"/> d. 11 to 15 years
<input type="checkbox"/> b. 1 to 5 years	<input type="checkbox"/> e. 16 to 20 years
<input type="checkbox"/> c. 6 to 10 years	<input type="checkbox"/> f. 21 years or more
- Typically, how many hours per week do you work in this facility?

<input type="checkbox"/> a. Less than 20 hours per week	<input type="checkbox"/> d. 60 to 70 hours per week
<input type="checkbox"/> b. 20 to 39 hours per week	<input type="checkbox"/> e. 80 to 89 hours per week
<input type="checkbox"/> c. 40 to 59 hours per week	<input type="checkbox"/> f. 100 hours per week or more

SECTION H: Background Information (continued)

4. What is your staff position in this facility? Select ONE answer that best describes your staff position.

- | | |
|--|---|
| <input type="checkbox"/> a. Registered Nurse | <input type="checkbox"/> j. Respiratory Therapist |
| <input type="checkbox"/> b. Physician Assistant/Nurse Practitioner | <input type="checkbox"/> k. Physical, Occupational, or Speech Therapist |
| <input type="checkbox"/> c. LVN/LPN | <input type="checkbox"/> l. Technician (e.g., EKG, Lab, Radiology) |
| <input type="checkbox"/> d. Patient Care Asst/Aide/Care Partner | <input type="checkbox"/> m. Administration/Management |
| <input type="checkbox"/> e. Attending/Staff Physician | <input type="checkbox"/> n. Other, please specify: |
| <input type="checkbox"/> f. Resident Physician/Physician In Training | <input type="text"/> |
| <input type="checkbox"/> g. Pharmacist | |
| <input type="checkbox"/> h. Dietician | |
| <input type="checkbox"/> i. Unit Assistant/Clerk/Secretary | |

5. In your staff position, do you typically have direct interaction or contact with patients?

- a. YES, I typically have direct interaction or contact with patients.
 b. NO, I typically do NOT have direct interaction or contact with patients.

6. How long have you worked in your current specialty or profession?

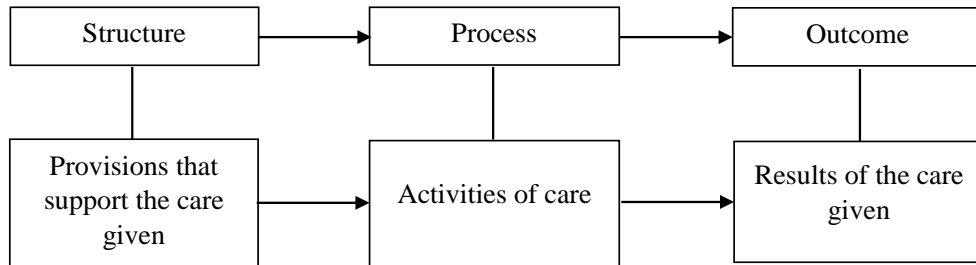
- | | |
|--|--|
| <input type="checkbox"/> a. Less than 1 year | <input type="checkbox"/> d. 11 to 15 years |
| <input type="checkbox"/> b. 1 to 5 years | <input type="checkbox"/> e. 16 to 20 years |
| <input type="checkbox"/> c. 6 to 10 years | <input type="checkbox"/> f. 21 years or more |

SECTION I: Your Comments

Please feel free to write any comments about patient safety, error, or event reporting in your facility.

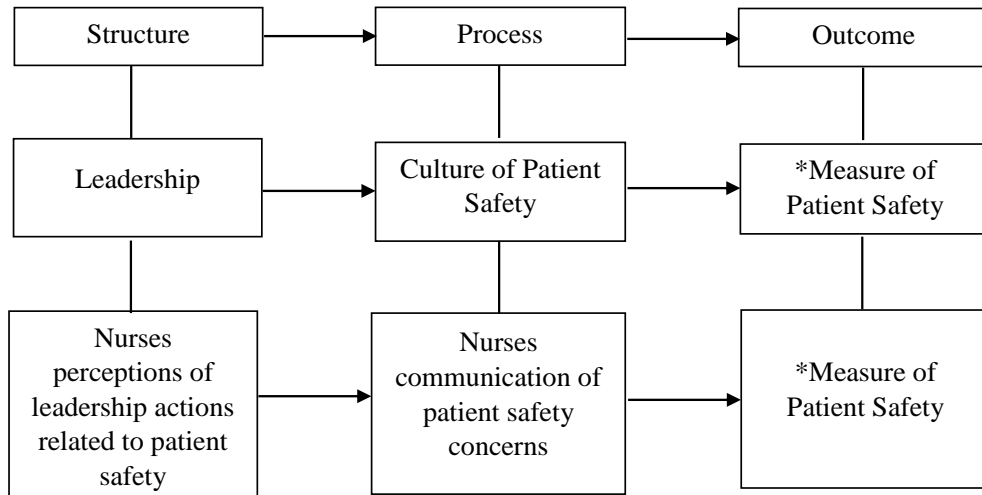
THANK YOU FOR COMPLETING THIS SURVEY.

**Attachment B:
Donabedian's Structure/Process/Outcome Model**



Utilization of the Structure/Process/Outcome Model for this Study

**Outcomes will not be evaluated in this study*



**Attachment C:
IRB Exemption Letter**



Anne Clark, BA, CIP
Dir, Human Research
Protection Program
301 University Blvd.
Galveston, TX 77555-0158
O 409.266.9434
E akclarkl@utmb.edu

DATE: June 18, 2020

TO: Dennis Cook, MSN, RN, CJCP, CPHQ, CPPS, HACP, CSSBB
UTMB School of Nursing

FROM: Anne Clark, BA, CIP
Director, Human Research Protection Program

RE: IRB Acknowledgement of Not Human Subject Research

Associations Among Nurses' Perceptions of Patient Safety Culture in the Hospital Setting

We have reviewed and determined that the project described below did not meet the definition of human subject research as outlined at 45 CFR 46.102; therefore, IRB review or oversight will not be required.

Project Description

This retrospective, secondary analysis of de-identified data set (130,000+ respondents) that was obtained by the Agency for Healthcare Research and Quality (AHRQ) between 2015 and 2017 through a national survey that occurs every two years - The Hospital Survey on Patient Safety Culture (HSOPS). The purpose of this project is to examine interrelationships of patient safety culture measures and background characteristics among nurses in the hospital setting. The Specific Aims are: (1) Evaluate the relationships between perceptions of leadership actions related to patient safety and communication of patient safety concerns among nurses working in the hospital setting, (2) Evaluate the relationship between nurse background characteristics and frequency of reporting events among nurses working in the hospital setting, and (3) Evaluate the relationship between nurse background characteristics and the patient safety grade that the nurse gives for his/her work area/unit in the hospital setting.

If you have any questions related to this project or the IRB, you may telephone me, at 409-266-9434.

Anne Clark

**Attachment D:
Missing Responses per Survey Question**

	Composite	Survey Question	Missing	
			<i>n</i>	%
RQ1	4. Management Support for Patient Safety	F1. Hospital management provides a work climate that promotes patient safety	3,722	2.9
		F8. The actions of hospital management show that patient safety is a top priority	4,563	3.6
		F9. Hospital management seems interested in patient safety only after an adverse event happens	4,849	3.8
	5. Overall Perceptions of Patient Safety	A15. Patient safety is never sacrificed to get more work done	2,457	1.9
		A18. Our procedures and systems are good at preventing errors from happening	1,848	1.5
		A10. It is just by chance that more serious mistakes do not happen around here	2,331	1.8
		A17. We have patient safety problems in this unit	2,479	2.0
RQ2	6. Feedback & Communication About Error	C1. We are given feedback about changes put into place based on event reports	8,032	6.4
		C3. We are informed about errors that happen in this unit	8,598	6.8
		C5. In this unit, we discuss ways to prevent errors from happening again	7,947	6.3
	7. Communication Openness	C2. Staff will freely speak up if they see something that may negatively affect patient care	5,247	4.2
		C4. Staff feel free to question the decisions or actions of those with more authority	5,715	4.5
RQ3	2. Supervisor/Manager Expectations & Actions Promoting Patient Safety	C6. Staff are afraid to ask questions when something does not seem right	5,419	4.3
		B1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	6,744	5.3

Composite	Survey Question	Missing	
		<i>n</i>	%
12. Nonpunitive Response to Errors	B2. My supervisor/manager seriously considers staff suggestions for improving patient safety	7,125	5.6
	B3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts	7,048	5.6
	B4. My supervisor/manager overlooks patient safety problems that happen over and over	7,178	5.7
	A8. Staff feel like their mistakes are held against them	4,046	3.2
	A12. When an event is reported, it feels like the person is being written up, not the problem	4,604	3.6
	A16. Staff worry that mistakes they make are kept in their personnel file	4,980	3.9
RQ4 Nurse background characteristics	AI. Work area/unit	3,134	2.5
8. Frequency of Events Reported	D1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported	8,031	6.4
RQ5 Nurse background characteristics	AI. Work area/unit	3,134	2.5
Patient safety grade	H1. How long working in the facility	15,568	12.3
	H2. How long working in current work area/unit	12,672	10.0
	H6. Length of time in nursing profession	14,413	11.4
	E1. (Excellent-A, Very Good-B, Acceptable-C, Poor-D, Failing-E)	6,001	4.8

Attachment E:
Linkages Between Study Specific Aims, Research Questions, and HSOPS Composite Measures and Survey Questions

Specific Aims	Research Questions	HSOPS Composite Measures	HSOPS Composite Measure Questions
<p>1. Evaluate the relationships between perceptions of leadership actions related to patient safety and communication of patient safety concerns among nurses working in the hospital setting</p>	<p>1. Among nurses working in the hospital setting, what is the relationship between perceptions of hospital management support for patient safety and overall perceptions of patient safety?</p>	<p>4. Management Support for Patient Safety</p>	<p>F1. Hospital management provides a work climate that promotes patient safety. F8. The actions of hospital management show that patient safety is a top priority. F9. Hospital management seems interested in patient safety only after an adverse event happens. (negatively worded)</p>
		<p>5. Overall Perceptions of Patient Safety</p>	<p>A15. Patient safety is never sacrificed to get more work done. A18. Our procedures and systems are good at preventing errors from happening. A10. It is just by chance that more serious mistakes do not happen around here. (negatively worded) A17. We have patient safety problems in this unit. (negatively worded)</p>
	<p>2. Among nurses working in the hospital setting, what is the relationship between leadership feedback about error and openness to communicate error?</p>	<p>6. Feedback & Communication About Error</p>	<p>C1. We are given feedback about changes put into place based on event reports. C3. We are informed about errors that happen in this unit. C5. In this unit, we discuss ways to prevent errors from happening again.</p>

		7. Communication Openness	C2. Staff will freely speak up if they see something that may negatively affect patient care. C4. Staff feel free to question the decisions or actions of those with more authority. C6. Staff are afraid to ask questions when something does not seem right. (negatively worded)
	3. Among nurses working in the hospital setting, what is the relationship between perceptions of leadership actions that promote patient safety and error response?	2. Supervisor/Manager Expectations & Actions Promoting Patient Safety	B1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures. B2. My supervisor/manager seriously considers staff suggestions for improving patient safety. B3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts. (negatively worded) B4. My supervisor/manager overlooks patient safety problems that happen over and over. (negatively worded)
2. Evaluate the relationships between nurse background characteristics and frequency of reporting events among nurses working in the hospital setting.	4. Among nurses working in the hospital setting, what is the relationship between nurse background characteristics and frequency of reporting events?	Nurse background characteristics	Work area/unit How long working in the facility How long working in current work area/unit Length of time in nursing profession
		8. Frequency of Events Reported (refers to the culture of the nurse work area/unit reporting near-miss events rather than the number of events reported)	D1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?

3. Evaluate the relationship between nurse background characteristics and the patient safety grade that the nurse gives for his/her work /unit in the hospital setting?	5. Among nurses working in the hospital setting, what is the relationship between background characteristics and the patient safety grade that the nurse gives for his/her work area/unit?	Nurse background characteristics	Work area/unit How long working in the facility How long working in current work area/unit Length of time in nursing profession
		Patient safety grade	Excellent Very Good Acceptable Poor Failing

VITA

NAME: Dennis Wayne Cook

PRESENT POSITION AND EMPLOYER'S PHYSICAL ADDRESS:

Regional Director, Regulatory Compliance
Christus Trinity Mother Frances Health System – Tyler
800 E Dawson St, Tyler, TX 75701

BIOGRAPHICAL:

DOB: 11/17/1966
Birthplace: Texas City, TX - US Citizen
Phone: 409-789-2868
Permanent Address: 7337 Willow Creek Dr. Tyler TX, 75703
Email: dewcook@utmb.edu

EDUCATION:

2021 – PhD University of Texas Medical Branch at Galveston
2003 – MSN University of Texas Medical Branch at Galveston
2000 – BSN Florida State University
1997 – AA Daytona Beach Community College

CERTIFICATIONS:

2005 – 2010 Acute Care Nurse Practitioner (ACNP)
2012 – Certified Professional in Patient Safety (CPPS)
2014 – Healthcare Accreditation Certified Professional (HACP)
2015 – Certified Professional in Healthcare Quality (CPHQ)
2019 – Certified Joint Commission Professional (CJCP)
2020 – Certified Six Sigma Black Belt (CSSBB)

LICENSURE INFORMATION:

2001 – Registered Nurse Lic. #675517 Exp. 11/2022

PROFESSIONAL WORK HISTORY:

2020 – present - Regional Director, Regulatory Compliance, Christus Health, Tyler TX
2019 – 2020 - Assistant Vice President, Quality/Patient Safety, HCA, Ambulatory Surgery Division, Dallas, TX
2018 – 2019 - Executive Director, Quality Operations (Interim), University of New Mexico Hospitals, Albuquerque, NM
2017 – 2018 - Executive Director, Quality Management (Interim), O'Connor Hospital, San Jose CA
2015 – 2016 - Division Director, Clinical Compliance and Accreditation, Baylor Scott & White Health, Dallas TX
2011 – 2015 - Vice President, Quality and Patient Safety, Texas Hospital Association Foundation, Austin TX
2007 – 2011 - Manager, Patient Safety/Quality Systems Design, Houston Methodist Hospital, Houston, TX
2005 – 2007 - Nurse Practitioner, Houston Methodist Hospital, Houston, TX
2004 – 2005 - Nurse Practitioner, The Schrader Clinic, Houston, TX
2001 – 2004 - Clinical Research Coordinator RN, University of Texas Medical Branch, Galveston, TX

RESEARCH ACTIVITIES:

Dissertation: Associations in Nurses' Perceptions of Patient Safety Culture Within the Hospital Setting: A Secondary Analysis of the 2018 HSOPS Database

TEACHING RESPONSIBILITIES:

Jan 2004 – May 2004 - Clinical Instructor, RN to BSN Program, UTMB

Jun 2003 – Sept 2003 - Clinical Instructor, RN to BSN Program, UTMB

MEMBERSHIP IN SCIENTIFIC SOCIETIES/PROFESSIONAL ORGANIZATIONS:

American College of Healthcare Executives

The American Society of Professionals in Patient Safety

National Association for Healthcare Quality

PUBLICATIONS - SUBMITTED:

2017 – Nursing Leadership Style: Effects on Patient Outcomes - Sigma Theta Tau International's 28th International Nursing Research Congress.

2016 – Nursing Leadership Style: A Consideration for Quality and Patient Safety - Nurse Leader Journal -Official Publication of the American Organization of Nurse Executives

INVITED LECTURES AT SYMPOSIA AND CONFERENCES:

2006 – Critical thinking week. Sigma Theta Tau International Nursing Conference, Montreal, Canada.

INVITED LECTURES - OFF CAMPUS:

2013 – Guest Lecturer, Patient Safety Essentials – University of Texas School of Nursing, Austin, TX

2012 – Guest Lecturer, Patient Safety Systems – University of Texas School of Nursing, Austin, TX

2012 – Guest Lecturer, Root Cause Analysis – University of Texas School of Nursing, Austin, TX

SCHOLARLY PRESENTATIONS:

2015 – Conducting Root Cause Analysis and Failure Mode Effects Analysis in the Hospital Setting: Texas Panhandle Hospital QI Collaborative.

2015 – Quality and Patient Safety Regulatory Update: Texas Gulf Coast Association for Healthcare Quality

2014 – Quality and Patient Safety: Opportunities and Challenges. Texas Gulf Coast Association for Healthcare Quality

2013 – Patient Safety Organizations. Austin Healthcare Financial Management Association/American College of Healthcare Executives.

2013 – Patient Safety and Quality Improvement: The Essentials. Texas Center for Quality & Patient Safety Annual Conference.

2012 – Hospital Quality and Patient Safety. Texas Society of Infection Control Practitioners Annual Conference.