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Nurse Managers' Patient Safety Communication

Christine Deatrick
University of Central Florida

NURSE MANAGERS' PATIENT SAFETY COMMUNICATION

by

CHRISTINE WARGO DEATRICK
B.S. University of Central Florida, 1994
B.S.N. University of Central Florida, 2009
M.S.N. University of Central Florida, 2013

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Major Professor: Christa Cook

ABSTRACT

Medical errors are a continuing issue for healthcare organizations and can lead to patient harm or death. To bring about organizational learning and therefore reduce medical errors, information must successfully flow through an organization. Nurse managers play an essential role as the conduit of information between frontline staff and the organization. The primary purpose of this study is to describe the decision-making process of how nurse managers actively select and transmit information on patient safety concerns. A qualitative constructivist grounded theory approach was used. Nineteen unit-level nurse managers, working full-time in an acute care hospital with a minimum of one-year experience were recruited through professional nursing organizations and snowball recruitment. Semi-structured, conversational, one-on-one interviews were conducted via Zoom or phone call, per the participant's preference. An initial interview guide based on the STOPS framework was used. Participants reported that after they acquired patient safety information, they quickly assessed whether or not the issue was severe and relevant. Then they prioritized the information based on the degree of the severity and relevance, the information source and type, and whether they needed feedback, guidance, or support. The prioritization step determined what mode and how frequently the message was forwarded. Although severity was a consistent consideration on whether to forward information, nurse managers struggled to define the concept. This study suggests that when a patient safety issue is on the extremes of the severity and relevance spectrum the decision-making process is clear. Whether to forward the information that was not on the extremes is less clear and more varied among nurse managers. This part of the decision-making process was inconsistent among nurse managers and has the potential for information to get lost. At the time of the interviews, COVID-19 had created an influx of patients into hospitals, which strained healthcare systems

and providers. Nurse managers are in a position where they have insight on how COVID-19 has affected patient safety and can communicate that to their staff and into the organization. Therefore, a secondary thematic analysis of the data was conducted concerning the effects of COVID-19 on patient safety. Nurse managers identified several risks to patient safety that were exacerbated and created by COVID-19. Worsening staffing shortages have negatively affected staff psychological well-being, compelled nurses to work beyond their skill set, and necessitated providing only the mere essentials of nursing care. Burnout and patient isolation have also compounded patient safety concerns. But in the chaos and confusion, nurse managers were able to see some positives that resulted from the pandemic, such as improved teamwork, vigilance, and learning new skills, which can be used to better weather the next pandemic.

Keywords: Nurse managers, medical errors, patient safety, communicative behaviors, information forwarding, COVID-19, pandemic

I dedicate this work to my two greatest inspirations, my grandmother, Grandma Dagmar, and my son, Joe. To my grandmother, the pragmatic Swede, your love of language and learning inspires me still today. Thank you for all the days on the front porch. I know you are still with me. And to my son, Grandma Dagmar perfectly described you as having an "old soul." Your patience, maturity, and wisdom have graced us from the very beginning. Your independence and courage inspire and amaze me. Your sense of humor and sharp wit always make me smile. But most importantly, your kindness and sincerity, and who you have decided to become, make me truly proud.

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CHAPTER 1: INTRODUCTION

In 1999 the Institute of Medicine (IOM) published *To Err is Human*, which estimated that up to 98,000 people die every year due to medical errors. This was a pivotal moment in healthcare and spawned efforts to improve patient safety (Bates & Singh, 2018; IOM 2000). Additional estimates suggest the actual number of deaths caused by medical errors may be as high as 250,000, making it the third cause of death in the United States (Makary & Daniel, 2016). In addition to deaths, medical errors contribute to patient harm. Globally medical errors are estimated to cost between $42 billion - $1 trillion (Bajracharya et al., 2019; WHO, 2021). In industrial nations, such as the United States, it is estimated that one in 10 patients experiences preventable harm while hospitalized (World Health Organization [WHO], 2020). In response to these data, the healthcare industry has worked to improve patient safety. Despite some improvements in patient safety, such as a reduction in hospital-acquired conditions (HAC) and medication-related errors, the occurrence of medical errors continues to be alarmingly high (Agency for Healthcare Research and Quality, 2021).

Breakdowns in communication are the cause of most preventable medical errors (Joint Commission, 2015). Communication is vital to individual problem-solving and organizational learning. When there is quality communication among healthcare providers, the safety and quality of patient care improves (Cvetic, 2011).

In addition, ineffective leadership is cited as another frequent cause of sentinel events (Joint Commission, 2015). There are several factors of leadership that can compromise patient safety. These include insufficient staff support, lack of feedback, and inconsistent patient safety prioritization (Joint Commission, 2017).

Among healthcare providers, nurse leaders play an essential role in the communication flow between frontline staff and the organization (AONL, 2015). Specifically, nurse managers are the conduit of information between frontline staff and organizational leadership (Islam et al., 2018). Their communicative behaviors influence the bedside nurse and the organization. Not only are nurse managers the link between the two, but they must synthesize information and communicate it as "knowledge brokers" (Beliveau, 2013; Boutcher et al., 2022). The communicative behaviors of nurse managers have a substantial impact on patient safety.

There are several theoretical frameworks used to explain communication behaviors. The Situational Theory of Problem Solving (STOPS) was developed by Kim & Grunig (2011) to explain communication behaviors when contending with a problem. The STOPS framework has four antecedents: problem recognition, constraint recognition, involvement recognition, and referent criterion (see Fig. 1). Situational motivation mediates the antecedents' effects on the dependent variables, communicative behaviors. The three communicative behaviors are information acquisition, selection, and transmission. Each of these communicative behaviors has an active and a passive component. In general, STOPS theorizes that when a person acknowledges there is a problem, feels connected to the problem, and perceives they have few constraints to address the problem, they will be motivated to address that problem. They will then consider the problem in terms of their previous experiences, and will exhibit communicative behaviors about that problem (Kim et al., 2011). For this dissertation, the STOPS model was used as an inspiration and as a guide.

The purpose of this dissertation was to develop a grounded theory which described the decision-making process of how nurse managers actively select and transmit information on patient safety concerns. A literature review was conducted to explore the current evidence on the

role of nurse leaders in achieving patient safety (Chapter 2). Findings from this review, especially the brevity of discussions of the communication behaviors of nurse leaders, informed the design of the research in this dissertation. A qualitative constructivist grounded theory study was conducted by interviewing unit level nurse managers in the United States. This resulted in the development of a grounded theory model to describe nurse managers' decision-making process to select and transmit patient safety information (Chapter 3). Additionally, this study explored how nurse managers perceived the impact of COVID-19 on patient safety (Chapter 4) which is a timely example of the role nurse managers play in actively communicating about patient safety issues.

The findings from this research will add to the understanding of the decision-making process of nurse mangers' active communicative behaviors. Findings indicated an opportunity to standardize the triaging of information by nurse managers. These results can be used to develop professional guidelines to help nurse managers streamline that process. This may help prevent medical errors through more consistent communication and improved organizational learning.

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CHAPTER 2: NURSING LEADERSHIP'S ROLE IN ACHIEVING PATIENT SAFETY: THE STATE OF THE SCIENCE

Abstract

Background: Medical errors are a concern in healthcare and can lead to patient harm or death. Despite improvements in patient safety, the occurrence of medical errors continues to be high. Ineffective leadership is one of the frequently cited causes of sentinel events. Nurses and nursing leaders are the last line of defense between patient safety and patient harm.

Aim: The purpose of this article is to determine the state of the science of nursing leadership's role in achieving patient safety.

Method: A literature search was conducted focused on nurse leaders, managers, administrators, or nurse executives and their role in achieving patient safety or preventing medical errors. Databases searched were CINAHL, APA PsycInfo, MEDLINE, Business Source Premier, and Communication and Mass Media Complete. Gray literature websites were also searched. The reference lists of articles were scanned. Articles were published in English between 2000-2022.

Results: The role of nursing leadership in achieving patient safety includes leadership style, visible engagement and respect, communication, and work environment.

Conclusion: Overall patient safety is enhanced with nursing leaders who use relational leadership styles and who are visibly engaged. Nurse leaders must create a work environment that ensures patient safety. Discrepancies were noted between the safety perceptions of frontline nurses and nurse leaders which needs future research. Patient perspectives on the nurse leader's role in patient safety have not been explored. The role of communication was mentioned frequently, but not explored in depth. A knowledge gap exists about nurse leaders' active communicative behaviors concerning patient safety.

Keywords: Nurse leaders, managers, administrators, executives, patient safety, medical errors

Introduction

In 1999 the Institute of Medicine (IOM) published *To Err is Human*, which estimated that up to 98,000 people die every year due to medical errors. Additional estimates suggest the actual number of deaths caused by medical errors may be as high as 250,000, making it the third cause of death in the United States (Makary & Daniel, 2016). In addition to deaths, medical errors contribute to patient harm. Globally medical errors are estimated to cost between $42 billion - $1 trillion (Bajracharya et al., 2019; WHO, 2021). In industrial nations, such as the United States, it is estimated that one in 10 patients experiences preventable harm while hospitalized (World Health Organization [WHO], 2020a). In response to these data, the healthcare industry has worked to improve patient safety. Despite improvements in patient safety, such as a reduction in hospital-acquired conditions (HAC) and medication-related errors, the occurrence of medical errors continues to be alarmingly high (Agency for Healthcare Research and Quality, 2021).

There are multiple reasons for these breaches in patient safety. Ineffective leadership is one of the frequently cited causes of sentinel events (Joint Commission, 2015). Insufficient staff support, lack of feedback, and inconsistent patient safety prioritization are just some of the potential factors of leadership that can compromise patient safety (Joint Commission, 2017). Nurses and nursing leaders are the last line of defense between patient safety and patient harm. Therefore, the purpose of this article is to determine the state of the science of nursing leadership's role in achieving patient safety.

Methods

Constructs

For the purpose of this review, nursing leaders were defined as those who oversaw nursing staff in a formal capacity and held responsibilities for such things as policy development, training, and budgetary oversight (Parand et al., 2012). Literature addressing all levels of leadership, such as senior nurse leaders, middle managers, and frontline managers, were included in this review.

Patient safety was defined as the prevention and reduction of risks, errors, and harm to a patient (WHO, 2020a). Patient safety is often measured by considering the safety climate or the safety culture of an organization. Although similar, the safety climate is a snapshot of employees' current perceptions of safety, whereas the safety culture is a more complex reflection of the shared fundamental values across an organization (Mearns & Flin, 1999). In contrast, medical errors are the antithesis of patient safety. Hence preventing them is key to patient safety. Therefore, articles were included if they viewed patient safety through safety climate, safety culture, or medical error prevention.

Search Strategy

A literature search was conducted using five databases: CINAHL, APA PsycInfo, MEDLINE, Business Source Premier, and Communication and Mass Media Complete. The search was conducted using the terms "nurs* leader*" or "nurs* manager*" or "nurs* management" or "nurs* administrator*" or "nurs* executive*" AND (role* N3 patient safety) or (role* N3 medical error*). The websites for the Agency for Healthcare Research and Quality (AHRQ), the American Organization for Nursing Leadership (AONL), and Google Scholar were also searched. In addition, the reference lists of selected articles were scanned.

To be included in the review, articles had to be published in the English language, between 2000-2022, within the context of an acute care setting, and had to evaluate the relationship between nursing leadership and patient safety. Articles were excluded if they were not specific to the discipline of nursing, were focused on teaching or students, or were solely commentary discussions.

Findings

An initial search of the databases yielded 118 articles, of which 37 were duplicates. The titles and abstracts of the remaining 81 articles were reviewed. The initial review yielded 36 articles that met the inclusion criteria. A search of these articles' reference lists yielded 16 additional articles. The website search added one article. These 53 articles were read in full, of which 23 were included in the literature synthesis. A second search using the same terms and databases was conducted eighteen months following the initial search to locate any new articles published from 2020-2022. Two additional articles were found. A search of these articles' reference lists yielded one additional article for a total of 26 articles (See Figure. 2).

Description of Study Trends

Location

Although the United States (U.S.) conducted the most studies (n=6), multiple countries were represented. This reflects the global concern for patient safety. Countries ranged from several European countries (e.g., United Kingdom, Switzerland, Sweden, Ireland, & The Netherlands) to Canada, China, Iran, Oman, and Australia. Two studies were conducted jointly in two countries (i.e., the U.S. and Canada; the U.S. and The Netherlands). See Table 1 for study details.

Timing and Populations

Most of the studies were from within the last decade with approximately one to three studies published each year. Quantitative studies (n=14) outpaced qualitative (n=4) studies. There was also one mixed-methods study and seven reviews of the literature. The majority of studies examined the nurse leader's role from the perspective of the direct care nurse (n=7) or from the perspectives of both the direct care nurses and the nurse leaders (n=6). Only two studies were solely from the nurse leaders' perspectives. Four studies included other healthcare team members, such as physicians and administrators as well as nurses and nurse leaders. All seven of the studies from the direct care nurses' perspectives were quantitative. Of the two studies solely from the nurse leader perspective, one was quantitative, and one was qualitative. This suggests the science is more developed as to the direct care nurses' perspectives of the leadership role in patient safety.

Level of Leadership

The included studies analyzed nursing leadership at many levels. Six studies investigated the role of senior nursing leadership in patient safety (Auer et al., 2014; Cummings et al., 2010; McFadden et al., 2015; O'Connor & Carlson, 2016; Parand et al., 2014; Routteau et al., 2014). Eleven studies considered middle and frontline nursing leaders (e.g., middle managers, head nurse, nurse managers) (Agnew & Flina, 2014; Alingh et al., 2019; Barkhordari-Sharifabad & Mirjalili, 2020; Feng et al., 2011; Labrague, 2021, Labrague et al., 2021; Lalleman et al., 2016; Merrill, 2015; Poniatowski et al., 2005; Vaismoradi et al., 2014; Vogus & Sutcliffe, 2007). Nine studies considered nursing leaders at any level or did not define a specific position (Disch et al., 2011; Mattson et al., 2015; Murray et al., 2018; O'Donovan et al., 2018; Richardson & Storr, 2010; Ring & Fairchild, 2013; Squires et al., 2010; Wang & Dewing, 2020; Wong et al., 2013).

Research Questions

Although the overall focus was on nursing leadership's role in patient safety, the research aims/ questions were varied. A few of the studies had basic questions concerning the effects of specific leader behaviors on patient safety. For example, Poniatowski et al. (2005) identified how nurse managers used incident reporting data to improve patient safety, and Rotteau et al. (2014) explored how WalkRounds affected safety culture. A few other studies also had straightforward questions, such as how nurse leaders facilitate safe care (Vaismoradi et al., 2014) or how healthcare leadership influences patient safety (Murray et al., 2018).

Several studies worked to understand several relationships on patient safety (n=5). For example, Vogus and Sutcliffe (2007) examined how safety organizing, trust in the nurse manager, and care pathways affected medication errors. Similarly, Squires et al. (2010) examined the relationships between leadership, interactional justice, quality of the nursing work environment, and safety climate on patient and nurse safety. The nature of these questions is reflective of the complexity of healthcare and the multiple interacting parts that play a role in patient safety (WHO, 2011). Understanding these relationships is important to preventing errors, so these lines of questioning are well-founded.

The most frequent research questions investigated the effect of leadership style, communication, and disposition on patient safety. Several styles of leadership were explored, such as comparisons of transformational, transactional, and laissez-faire styles (McFadden et al., 2015; Merrill, 2015) and resonant versus dissonant leadership styles (Cummings et al., 2010). Labrague (2021) considered the effects of toxic leadership and authentic leadership (Labrague et al., 2021) on adverse events. Mattson et al. (2015) considered communication methods on safety outcomes and Lalleman et al. (2016) compared nurse leaders' dispositions and patient safety. This too is reflective of the evolution of leadership styles in healthcare. In recent years,

healthcare organizations have strived to become high reliability organizations (HROs). These are organizations, such as aviation and nuclear power, that operate in complex, high-risk fields for extended periods without serious accidents (Agency for Healthcare Research and Quality, 2019). These HRO's have seen positive evolutions in their leadership styles. In the late 1970's, aviation had several catastrophic accidents due to the authoritarian leadership culture (Federal Aviation Administration [FAA], 2012). Therefore, they began to implement Crew Resource Management which moved away from the authoritarian "commandership" and towards the relational "leadership" (Nance, 2008). This style of leadership encourages respectful participation by all (FAA, 2012). Likewise, nursing is evolving towards more relational leadership styles which will enable the best patient outcomes.

Leadership Role in Achieving Patient Safety

Even though there was a broad range of countries included, populations examined, and questions asked, there were some overarching themes throughout the included studies. The role of nursing leadership in achieving patient safety includes leadership style, visible engagement and respect, communication, and work environment.

Leadership Style

The theme of leadership style was found throughout the literature. This was often researched in the form of a relational leadership style. Relational leaders focus on building relationships and working as a team towards shared visions (Durmus & Kirca, 2019). It includes transformational, emotional intelligence, and resonant leadership styles. Similarly, the effects of authentic leadership, which focuses on ethics, transparency, honesty, authenticity, and developing relationship, were also researched (Labrague et al., 2021). Overall, patient outcomes

were improved with these leadership styles. Authentic, relational, transformational, and resonant leadership styles were associated with improved safety climates and cultures (McFadden et al., 2015; Merrill, 2015; Murray et al., 2018; Ring & Fairchild, 2013; Squires et al., 2010; Wang and Dewing, 2020; and Wong et al., 2013). This led to an improvement in HAC's (McFadden et al. 2015; Wong et al., 2013), medication errors (Squires et al., 2010; Wong et al., 2013), use of restraints, patient falls, length of stay (Wong et al., 2013), but not pressure ulcers (Squires et al., 2010). Similarly, ethical leadership was related to decreased nursing error rates and increased incident reporting (Barkhordari-Sharifabad & Mirjalili, 2020), and adverse events overall were decreased with an authentic leadership style (Labrague et al., 2021). Although it was not labeled as a particular leadership style, Disch et al. (2011) found that patient safety was enhanced by leaders who are collaborative, which is akin to the relational leadership style. Conversely, Labrague (2021) determined that toxic leadership, which is narcissistic, self-promoting, and humiliating, was associated with an increase in adverse events such as nosocomial infections and medication errors. Toxic leadership directly opposes relational and authentic leadership styles and can be destructive to the patient and the organization (Labrague, 2021).

Likewise, Cummings et al. (2010) determined that overall mortality rates were lowest with highly resonant leadership, but paradoxically they found that highly dissonant leadership was related to lower mortality rates than average. They discussed the possibility that this may be due to manager attributes, but this researcher also suggests that the measurement of mortality, in essence, life or death, may lend itself to the dissonant leadership style and its transactional nature. The dissonant style is tailored towards achieving specific, often short-termed, goals, which is vital in an emergent situation such as a code. Agnew & Flina (2014) concurred that charge nurses had to change to a task-oriented style of leadership during more demanding times,

while Alingh et al. (2019) determined that control-based management was associated with a positive safety climate. So, although relational leadership styles may enhance the safety climate, a nurse leader may need to become more transactional in moments of chaos.

But simply invoking a leadership style does not appear to be adequate for patient safety. The nursing leader must sincerely support patient safety. Management support for, and commitment to, patient safety accomplished many things. It improved nurses' trust in the management and perceptions of patient safety (Auer et al., 2014; Feng et al., 2011; Vogus & Sutcliffe, 2007) and lowered infection rates (Auer et al., 2014). Having high levels of trust in management along with safety organization were associated with a reduction of medication errors (Vogus & Sutcliffe, 2007). Although caring is central to the nursing profession, Lalleman et al. (2016) warned that a leader with a caring disposition might be too focused on the nurses rather than patients and their safety. A nurse manager with a caring disposition is there for the "other" and will respond immediately to needs. The "other" may be the patient, but could also be nurses, peers, or higher management within the organization. Instead, they found that a nurse leader with a scientific disposition gathered evidence and asked reflective questions prior to taking action. This enabled the nurse leader to be investigative, collaborative, and evidence-based in their solutions to patient safety concerns (Lalleman et al., 2016).

Visible Engagement and Respect

Another important theme for nursing leadership in achieving patient safety was being visibly engaged with and respectful of direct care nurses. This was seen only in studies of senior leaders or overall nursing leadership (i.e., as opposed to those that studied solely middle managers or frontline managers). Patient safety improved when nursing leaders respectfully engaged and empowered employees with strategies such as clear guidelines, shared vision,

shared goal setting, visibility, rounding, shared governance, shared policy development, transparency, and working alongside frontline staff (Disch et al., 2011; Murray et al., 2018; O'Connor & Carlson, 2016; O'Donovan et al., 2018; Parand et al., 2014; Richardson & Storr, 2010; Vaismoradi et al., 2014; Wang & Dewing, 2020). However, if forced, this engagement may expose disparities and lead to disillusionment (Murray et al., 2018; Rotteau et al., 2014). Compulsory engagement could backfire and impede patient safety as nurse leaders may steer conversations away from the frontline nurses' concerns (Murry et al., 2018; Rotteau et al., 2014). Patient safety is also enhanced when leaders collaborate with other managers, professions, and other departments (Poniatowski et al., 2005; Richardson & Storr, 2010; Vaismoradi et al., 2014). This facilitates a culture of safety throughout the organization.

Communication

Communication was mentioned briefly in many of the articles, with most discussing the importance of "open communication" (Auer et al., 2014; O'Donovan et al., 2018; Richardson & Storr, 2010; Ring & Fairchild, 2013), but without any in-depth discussion of what this means nor how it is accomplished. Miscommunication was frequently cited as one of the most common causes of medical errors (Joint Commission, 2015), so it is concerning that open communication is not elaborated any further. Mattson et al. (2015) determined that both "safety priority communication" and "feedback communication" were associated with increased incident reporting, and the increased incident reporting was associated with improved patient safety. The role of feedback communication is not clear though, as Auer et al. (2014) did not find it to have a mediating effect on the perception of patient safety, yet Parand et al. (2014) found feedback influenced quality and safety. This may be linked to the need for communication to be non-punitive (Auer et al., 2014; Merrill, 2015; O'Donovan et al., 2018; Ring & Fairchild, 2013;

Vaismoradi et al., 2014). Feedback communication that was interpreted as punitive may not have led to patient safety improvements.

Work Environment

Many of the included studies discussed the importance of tangible items in the work environment to improve patient safety. Nurse leaders play a vital role in securing needed resources such as staffing, equipment, and training (Parand et al., 2014; Poniatowski et al., 2005; Richardson & Storr, 2010; Vaismoradi et al., 2014; Wang & Dewing, 2020). These resources help create a quality work environment that enables patient safety (Wang & Dewing, 2020). Management skills, such as creating appropriate patient assignments, and systems-based skills, such as organizational learning, are also important to patient safety (Ring & Fairchild, 2013; Vaismoradi et al., 2014). Yet, an overemphasis on cost controls can undermine a culture of safety (Ring & Fairchild, 2013). Oftentimes patient safety and resources may seem to be in conflict, but it is important for nurse leaders to find ways to address resource barriers and represent nursing issues to the administration (Murray et al., 2018; Richardson & Storr, 2010; Vaismoradi et al., 2014). These fundamental resources are necessary for patient safety.

Gap Analysis and Future Research

The Patient's Voice

To the best of this author's knowledge, the patient's perspective of the role of nursing leadership in achieving patient safety has not been studied. Typically studies of safety culture have focused on healthcare workers' perspectives, and not those of patients (Monaca et al., 2020). The newly developed *Patients' Perceptions of Safety Culture Scale* (Monaca et al., 2020) takes the patient perspective of safety culture into account, but the nursing leader's role in

achieving that culture is not clearly delineated. Two of the six themes of the survey, teamwork and staffing, have implications for leadership, but as the review of the literature has indicated, there is more to leadership than these two items. Future research in this area is needed to describe, based on their experience as a patient, the role of the nursing leader in patient safety. Therefore, a qualitative approach would be appropriate. Since this may be a new area for many patients, a focus group design would allow for brainstorming and the generating of ideas more so than one-on-one interviews.

Nurse – Leader Discrepancy

Several studies examined both direct care nurses' and nurse leaders' perceptions of patient safety. Vaismoradi et al. (2014) and Vogus & Sutcliffe (2007) did not analyze the results separately. On the other hand, Agnew & Flina (2014), Alingh et al. (2019), Feng et al. (2011), and Rotteau et al. (2014) did consider the differences. All found discrepancies in the perceptions of patient safety. The direct care nurses' scores of patient safety were lower than the nurse leaders' scores (Alingh et al., 2019; Feng et al., 2011). The two groups also disagreed on what nurse leader actions affect patient safety (Agnew & Flina, 2014), and nurse leaders described steering conversations with direct care nurses away from what they saw as negative feedback (Rotteau et al., 2014). Future research should investigate why two groups, both with a focus on patient safety and so closely interrelated, have such divergent views. This objective lends itself to a mixed-methods design, such as surveying both groups on the safety climate. This could then be followed up with interviews with a subset of the participants to discuss why there are discrepancies or similarities in the responses.

Active Communicative Behaviors

Lastly, medical errors, near misses, and inadequate patient safety are significant problems. Yet none of the studies specifically investigated the problem-solving behaviors of nurse leaders in relation to these concerns. In 2011 Kim & Grunig outlined the communicative behaviors involved in "problem-solving." Basically, a person is motivated to communicate about a problem when they recognize that there is a problem that involves them, and they believe they can do something about it. They will use passive and active communicative behaviors to acquire, select, and transmit information about that problem (Kim & Grunig, 2011).

When considering the problem of medical errors, incident reporting systems (IRS) are the most widely accepted method for communicating information through an organization (Carlfjord et al., 2018). Yet it is estimated that only 7-15% of adverse events are reported (WHO, 2020b). This system is not currently capturing the totality of patient safety concerns. Since nurse leaders are compulsorily included in the IRS information, it is considered a passive communicative behavior (Kim & Grunig, 2011). But an IRS should not be viewed as a stand-alone mechanism to facilitate patient safety. Instead, it should be paired with an overall culture and behaviors that lead to improved patient safety (WHO, 2020b).

Nurse leaders likely engage in more than passive communicative behaviors. Therefore, understanding the active communicative behaviors of nurse leaders is important for patient safety. Active communicative behaviors would include how nurse leaders seek information on patient safety concerns, select what information to follow up on, and transmit information into the organization (Kim & Grunig, 2011). These problem-solving behaviors are important for organizational learning and imperative for achieving patient safety. As this line of future research would seek to understand the nurse leaders' experiences with this process, a qualitative approach would be appropriate. One-on-one interviews with nursing leaders delving into what active

processes they are already using, or would like to use, would help better understand those experiences.

Discussion

The findings from this review suggest that nurse leaders play a significant role in patient safety, although very few articles focused solely on the perspective of the nurse leader. This may be because nurse leaders can be viewed as not directly affecting patient safety, but instead having an indirect effect through mediating factors (Wang & Dewing, 2020). It is notable that the studies included were from countries around the world, indicating the global nature of the role nurse leaders play in patient safety. The research designs were reflective of the complexity of healthcare and the role nurse leaders play. Higher-level analyses such as hierarchical regression analysis and structural equation modeling were used in multiple studies to understand the multiple interacting parts that play a role in patient safety, although the inclusion of multiple qualitative studies indicates the nurse leaders' perspectives are still not fully understood.

Of greatest concern is that communication was mentioned only briefly in many of the articles. Most preventable medical errors are due to a break in communication (Joint Commission, 2015). Nurse leaders play an essential role in the flow of information between frontline staff and organizational administration and across organizational departments (AONL, 2015). Their communicative behaviors could have a substantial impact on patient safety. Communication is vital to problem-solving and organizational learning. This is an area in need of significant research.

Limitations

There were several limitations to this review pertaining to the search strategy. Specifically, there are numerous terms related to medical errors and patient safety such as adverse event, sentinel event, patient harm, near miss, incident, and never event. It is possible that, by focusing on the two most commonly used concepts, studies were missed. The same can be said for the search term "role" of the nurse leader, which has multiple synonyms. By limiting the studies to those only in the English language, findings may not represent a global view, although a wide range of countries were represented in this literature review.

The studies included in this review had a great variety in concepts measured which may limit the validity and generalizability of the findings. The articles examined various levels of nurse leaders, ranging from senior nurse administrators to middle and frontline managers. Some studies did not even clarify what level of nurse leader they were including. The studies measured a wide range of patient outcomes such as hospital-acquired conditions, falls, pressure ulcers, and infections. The studies also had multiple measures of patient safety, such as safety attitudes, safety culture, safety climate, and mortality. There are mixed findings as to whether there is a link between attitudinal concepts such as safety culture and actual patient outcomes (DiCuccio, 2018; The Health Foundation, 2011; Odell et al., 2019), which may limit implications for practice.

Conclusion

This review found that overall patient safety is typically enhanced with nursing leaders who use relational leadership styles. This may lead to improved perceptions of safety and patient outcomes such as HACs, infection rates, and mortality rates. But it is important to realize that this style may not work in all situations. It is also important for nursing leaders to be visibly

engaged and sincerely dedicated to patient safety and to communicate this in a non-punitive way. True dedication to patient safety leads to increased levels of trust in the management and an improvement in safety climate. In addition to this, senior nursing leaders must focus on being visibly engaged via rounding, involving others in goal setting, and sharing safety visons and decisions. But if this participation is forced, there is the potential for it to backfire and cause disillusionment in direct care nurses. Before any of this can be accomplished, nurses and patients must be provided with the tangible resources they need for patient safety, such as staffing, equipment, organizational learning, and training. Without these basic necessities, no amount of pretense or style will achieve patient safety. To achieve patient safety, future research needs to consider patient perspectives, determine the reasons for discrepancies in safety perceptions, and investigate nurse leaders' active communicative behaviors concerning patient safety.

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CHAPTER 3: NURSE MANAGERS' DECISION-MAKING PROCESS TO FORWARD PATIENT SAFETY INFORMATION: A GROUNDED THEORY STUDY

Abstract

Background: Medical errors can lead to patient harm or death. To bring about organizational learning and therefore reduce medical errors, information must successfully flow through an organization. Nurse managers play an essential role as the conduit of information between frontline staff and the organization.

Aim: The primary purpose of this study is to describe the decision-making process of how nurse managers actively select and transmit information on patient safety concerns.

Method: A qualitative constructivist grounded theory approach was used. Nineteen unit-level nurse managers, working full-time in an acute care hospital with a minimum of one-year experience were recruited through professional nursing organizations and snowball recruitment. Semi-structured, conversational, one-on-one interviews were conducted via Zoom or phone call, per the participant's preference. An initial interview guide based on the STOPS framework was used.

Results: After nurse managers acquired patient safety information, they quickly assessed whether or not the issue was severe and relevant. Then they prioritized the information based on the degree of the severity and relevance, the information source and type, and whether they needed feedback, guidance, or support. The prioritization step determined what mode and how frequently the message was forwarded.

Conclusion: Although severity was a consistent consideration on whether to forward information, nurse managers struggled to define the concept. This study suggests that when a patient safety issue was on the extremes of the severity and relevance spectrum the decision-making process was clear. Whether to forward the information that was not on the extremes was

less clear and more varied among nurse managers. This part of the decision-making process was inconsistent among nurse managers and had the potential for information to get lost. This highlights the need for further research and the development of a simple decision-making tool to help nurse managers triage information which would improve the information flow and ultimately improve patient safety.

Keywords: Nurse managers, medical errors, patient safety, communicative behaviors, information forwarding

Introduction

In 1999 the Institute of Medicine (IOM) published *To Err is Human*, which estimated up to 98,000 people die every year due to medical errors. This was a pivotal moment in healthcare and spawned efforts to improve patient safety (Bates & Singh, 2018). In 2016, Makary & Daniel further estimated the actual number of deaths caused by medical errors may be as high as 250,000, making it the third leading cause of death in the United States. Additionally reported harms resulting from medical errors include patient injury, psychological distress, and financial loss (World Health Organization [WHO], 2021). In wealthy nations, such as the United States, it is estimated that one in 10 patients experiences preventable harm while hospitalized (WHO, 2021). Globally medical errors are estimated to cost between $42 billion - $1 trillion (Bajracharya et al., 2019; WHO, 2021). Research has indicated that 10.5% of physician reported a major medical error in the prior three months, (Tawfik et al., 2018), 60.9% of critical care nurses reported making a medical error in the last five years (Melnyk et al., 2021), and 67% of oncology nurses reported experience with an error in the previous six months (Waller et al., 2020) indicating that the problem persists. In response to these data, the healthcare industry has worked to improve patient safety. Although there have been improvements, the occurrence of

medical errors continues to be high and needs to be addressed (Agency for Healthcare Research and Quality, 2021).

When there is a failure, such as a medical error, it is important to learn from it. However, it is not enough for the one practitioner directly involved with the medical error to gain insight. Instead, it is beneficial for everyone in the organization to learn the same lessons and address any system issues that contributed to the error. An organization's ability to acquire insight, transfer knowledge, and modify behavior is termed organizational learning (Garvin, 1993). Instead of fixating on one event, organizational learning occurs when structural explanations are sought to generate new patterns of behavior throughout the entire system (Senge, 1990). To bring about organizational learning and therefore reduce medical errors, information must successfully flow through an organization.

A hindrance to the flow of information is miscommunication. Breakdowns in communication are the cause of most preventable medical errors (Joint Commission, 2015). Communication is vital to problem-solving and organizational learning. When there is quality communication among healthcare providers, the safety and quality of care improves (Cvetic, 2011). Among healthcare providers, nurse leaders play an essential role in the communication flow between frontline staff and the organization (AONL, 2015). Specifically, nurse managers are the conduit of information between frontline staff and organizational leadership (Islam et al., 2018). Not only are nurse managers the link between the two, but they must synthesize information and communicate it as "knowledge brokers" (Beliveau, 2013; Boutcher et al., 2022). Their communicative behaviors have a substantial impact on patient safety.

Theoretical Framework

To address the problem of medical errors, information must successfully flow through an organization to bring about organizational learning. Theoretical frameworks are important as they enable researchers to interpret, explain, and solve problems (Hayden, 2014; Littlejohn & Foss, 2008). To gain insight into the communicative behaviors of nurse managers as they address a problem, such as medical errors, the Situational Theory of Problem Solving is appropriate.

Kim & Grunig (2011) developed the Situational Theory of Problem Solving (STOPS) as an extension of the Situational Theory of Publics developed in 1966 by Grunig. The STOPS framework has four framing antecedents: problem recognition, constraint recognition, involvement recognition, and referent criterion (see Figure 1). Situational motivation mediates the antecedents' effects on the dependent variable, communicative behaviors. The three communicative behaviors are information acquisition, selection, and transmission. Each of these communicative behaviors has a passive and an active component. Passive behaviors are reactive (e.g., "information sharing" is transmitting information about a problem only when asked) and active behaviors are proactive (e.g., "information forwarding" is the eager, voluntary, and self-directed transmitting of information even though no one asked) (Kim & Grunig, 2011). In general, the STOPS theorizes that when a person acknowledges there is a problem, feels connected to the problem, and perceives they have few constraints to address the problem, they will then be motivated to address that problem. They then consider the problem in terms of their previous experiences, and will communicate about that problem (Kim et al., 2011). The STOPS model has previously been used for research into several public health issues such as seeking cancer information, making online health choices, and communicating during public health crises (Chon & Park, 2021; Shen et al., 2019; Xu et al., 2021). But the STOPS has not been used

in nursing. This study will begin to establish the usefulness of STOPS in understanding nurse managers' communicative behaviors concerning patient safety and medical errors.

It is important to understand the process of nurse mangers' active communicative behaviors and how this enhances organizational learning. As the conduit of information flow among organizational agents, nurse managers are in a position to be the megaphone or the mute button of communication. Therefore, understanding the nurse manager's decision-making process to forward patient safety information both into the organization and to their staff will improve both provider and organization learning. Approaching medical errors in this way will further the understanding of how nurse managers' perceptual and cognitive framings influence how they communicate about patient safety.

Specific Aims

The primary purpose of this study is to describe the decision-making process of how unit level nurse managers actively select and transmit information on patient safety concerns. The long-term goal of this research is to prevent medical errors through improved organizational learning. By understanding nurse managers' communicative behaviors concerning patient safety, systems could be designed to streamline the decision-making process, make the communication more consistent throughout the organization, and ensure that organizational learning occurs.

Specifically, the research questions are:

1) What factors influence nurse managers' decisions to actively select information?
2) How do nurse managers prioritize the information to actively transmit (i.e. information forwarding)?

Methods

Design

Little is known about the usefulness of the STOPS model in nursing nor the active communicative behavior of nurse manager. Therefore, a qualitative research design was appropriate, as it allows for the exploration of behaviors, perspectives, and experiences (Creswell & Creswell, 2018; Wertz et al., 2011). Since little is known about the specific processes of active communication related to patient safety, we chose a constructivist Grounded Theory to develop a theory about the decision-making process experienced by nurse managers (Creswell & Creswell, 2018; Morse & Richards, 2002). Grounded Theory studies learn from the participants about the process (Morse & Richards, 2002). A constructivist epistemology perspective moves away from positivism and posits that reality is constructed by the subject (Charmaz, 2014). Therefore, the constructivist Grounded Theory approach is inductive, comparative, and open-ended and assumes that meaning is created by the participant while recognizing the subjectivity of the researcher (Charmaz & Thornberg, 2021; Wertz et al., 2011). Constructivist Grounded Theorists employ an iterative open coding process initially and perform constant comparative analysis throughout data collection (Wertz et al., 2011). Constructivist Grounded Theorists acknowledge that the researcher, as the data collection instrument, is unable to be a neutral observer (Charmaz, 2014; Charmaz & Thornberg, 2021). Instead, the researcher examines how their interpretation of the data may be influenced by their own biases, values, and background through the reflexivity process (Creswell & Creswell, 2018). As the process of nurse managers' active communicative behavior is not well understood, and can be best described by the participants, a qualitative constructivist Ground Theory approach was applied in this research while incorporating the flexible guidelines advised by Charmaz and Thornberg (2021).

Sampling Plan and Recruitment

A recruitment flyer was developed with study information (see Appendix C). Nurse managers were recruited via posting the flyer on various professional nursing organizations' listservs, websites, and social media per the organization's discretion. The participants replied to the primary investigator if interested in being part of the study. Snowball recruitment was also used as participants were asked to forward the study information to any other nurse managers whom they thought might be interested in participating. Inclusion criteria were nurse managers at the unit level, working full-time in an acute care hospital with one-year minimum experience. No exclusion criteria were applied.

Of the 22 participants interviewed, three transcripts were excluded due to participants not meeting inclusion criteria (i.e., two worked in ambulatory care; one did not oversee a patient care unit). Therefore 19 interviews were analyzed. A $25 Amazon gift card was provided to the participants who completed the interview in appreciation for their valuable time. The study was self-funded.

Patient safety was defined as the prevention and reduction of risks, errors, and harm to a patient (WHO, 2020). Social identities, such as cultural background and gender, can influence a person's communication skills (Giri, 2006; Tenenbaum et al., 2011). Therefore, demographic data was collected during the interview anticipating characteristics that can influence communication, such as age, gender, education, and organization size.

Ethical Considerations

The study was approved by the University of Central Florida Institutional Review Board. The participants were provided with an explanation of research which elaborated that by completing the interview, they were consenting that the information be used in the study.

Participants chose a self-generated five-digit identification code which was used as their transcript identification. They were asked for permission to audio record the interviews.

Data Collection

Semi-structured, conversational, one-on-one interviews were conducted with the primary investigator either via Zoom or phone call, per the participant's preference. An initial interview guide based on the STOPS framework was used based on the framing antecedents and the dependent communicative behaviors (See Appendix B).

As themes began to emerge, the interview questions were adapted to address emerging themes and theoretical constructs. The interviews lasted from 25-75 minutes and were audio recorded using two digital voice recorders. Memos were taken during and immediately following each interview. Participants were recruited until data saturation was reached.

Data Analysis

The audio recordings were manually transcribed by the primary investigator throughout the data collection process. Transcripts were loaded to NVivo software (March 2020 version) for data management, analysis, and memoing. Open coding of the initial interviews, in which data were examined line by line, allowing for patterns to emerge. Memos were made throughout the analysis to determine areas that needed to be explored in subsequent interviews. Iterative constant comparative analysis was conducted throughout data collection (Charmaz, 2014). Transcripts were read and re-read multiple times. Card sorting was used to group initial codes, develop the theoretical constructs of the grounded theory, and identify relationships among the constructs. Individual models of each participant's description of their decision-making process were drawn out and compared as a method to further clarify each construct.

Rigor

To improve the rigor of the study, member checking was conducted with the final five participants who, following the interview, were presented with the study findings to date, and asked for their thoughts and to fill in any gaps. Also, peer review of de-identified data was conducted with the PhD Committee which includes experts in nursing leadership, communication, and qualitative inquiry. Peer review of de-identified data was also conducted with the UCF College of Nursing Qualitative Consortium throughout the process of data analysis.

Reflexivity

Reflexivity is the process of self-analysis by the researcher to determine what effects their own position, beliefs, and values have on the research process (Mruck & Mey, 2019). It is critical to the rigor of the study for the researcher to take a reflective stance since the researcher him/ herself is the data collection instrument (Engward & Davis, 2015; Morse, 1989). Researchers must consider how their interactions influence the entire research process from posing a research question to writing the findings (Mruck & Mey, 2019). They can implement several strategies to genuinely reflect such as debriefing, memo writing, and collaborating (Mruck & Mey, 2019). Therefore, I examined my own experiences and reflected on how they influenced the research process.

My experiences led me to my research question. Medical errors were not my original area of interest. During my early doctoral coursework, I was also teaching nursing students in their final semester. During practicum, they were struggling with handoff communication during shift change. I turned to the research to identify the best practices for handoff communication. It was at that point that I discovered that miscommunication is the leading cause of medical errors. This

really struck a chord with me. Through reflexivity, I realized this was because I am a survivor of a near miss due to miscommunication.

When I was 19 years old (1989), my father took me to the hospital with abdominal pain, nausea, and vomiting. I was admitted. After three days in the hospital, with multiple tests, and several possible diagnoses, my pain was suddenly gone. About four hours later, the pain and vomiting returned worse than it had ever been. Hour after hour, the nurses assured my father and me that they had called the doctor and had not heard back. Finally, my father, in desperation, went out and called the doctor himself. The doctor's office informed him they had never received a call from the hospital. Once my father explained what was going on, the doctor was at the hospital immediately. He walked into my room, touched my abdomen, and said, "I don't know what's going on, but we're taking her to surgery right now." There was a flurry of activity. Just before they were to take me down to surgery, my father sat down and laid his head on the side of my bed. It was the first time I ever saw him cry.

The doctor later explained that I had a "surgical abdomen," which I now, as a nurse, understand was peritonitis setting in. It turned out that my appendix had ruptured. The doctor was able to save my life, but he informed me that I may not be able to have children. Luckily, those possible predictions did not come true. I healed well, although it was with an ugly scar, and I was able to have a child many years later.

Subsequently, we figured out that the nurses had been calling the wrong doctor. Due to this experience, I developed a deep understanding of the effect miscommunication, a medical error, and even a near miss can have on the patient and their family.

Many years later, while in nursing school, I was preparing to give my very first injection, a subcutaneous injection of heparin. I was very nervous about the "skill;" poking someone with a

sharp object does not come naturally to people. It was a semi-private room with two elderly women who could have been twins. As I walked into the room with my clinical instructor, the patient started to chit chat with me. I let it throw me off my game and I completely forgot the "script" I had practiced so many times. I correctly performed the skill of giving the injection and properly disposed of my syringe. As my clinical instructor and I walked out of the room, she asked me, "What did you do wrong?" I paused. I couldn't think of a thing. She said, you never identified the patient. My heart sunk. I broke down in tears. My instructor reassured me that she had checked the patient identification. But I knew how dangerous heparin can be and was ashamed of how easily I had been distracted. Due to that experience, I realized how easily and quickly an error could happen. These experiences drew me to the research areas of communication and medical errors.

When performing data collection, I reflected on the positional differences. I have never been a nurse manager. Prior to becoming a nurse, I was an NCAA Division I Rowing Coach. There are some slight similarities that enabled me to relate to what the nurse managers were experiencing. As a coach, I was in the middle between administration (i.e., Athletic Directors) and the frontline (i.e., student-athletes). But if I failed as a coach, boats didn't go fast. If a nurse manager fails, patients can get harmed. So, although I could empathize, it is not possible for me to truly understand their experiences.

I was required to take two Electives for my doctoral coursework. My experiences in these classes and exposure to various Communication Theories came to light as I was analyzing the data. As the code for the decision point of whether to forward information continued to emerge, I could see similarities to the Threat Appraisal part of the Protection Motivation Theory. Although

similar, it was not the same, as Coping Appraisal was not something found in the data. I had to recognize my inclination to try to "make it fit" and instead allow the data to speak for itself.

I utilized several strategies to recognize and mitigate biases. These included using extensive memo-writing and collaborating with others. Immediately following every interview, I sat quietly and wrote my thoughts. I analyzed anything that puzzled me, whether certain questions elicited a greater response, what could this response mean, any "a-ha!" moments, and how I could improve my interview skills. I used thick description by using direct quotes to stay focused on the participant's voice, and not my own. I also collaborated with my PhD Committee Chairs weekly and Committee Members intermittently. The research process and results were also discussed in the UCF College of Nursing Qualitative Consortium which met bi-weekly. Collaborating with others enables the researcher to see any blind spots (Mruck & Mey, 2019).

Findings

Participants were 19 nurse managers who were predominantly Caucasian females with a BSN or MSN degree. Ages ranged from 29 to 63 years old with six to 42 years of experience as a nurse, and one to 34 years of experience as a nurse manager. Participants were from 13 different states across the nation, with the majority being from the western and southern U.S. The nurse managers oversaw 18 to over 100 staff members, and most were from large (>300 beds) hospitals. The types of units included ICUs, EDs, Stepdown units, and various types of med/ surg units. Participants' personal and organizational characteristics are outlined in Table 2.

A theoretical model of the decision-making process was developed. The decision-making process consisted of the steps (a) acquiring, (b) assessing, (c) prioritizing, and (d) forwarding. After nurse managers acquired patient safety information, they quickly assessed simply whether or not the issue was severe and relevant to their unit or other units in the organization. Then they

prioritized the information based on the degree of the severity and relevance. They also prioritized based on the information source and type and whether they needed feedback, guidance, or support. The prioritization step determined what mode and how frequently the message was forwarded. Nurse managers expressed the need to support both the organization and frontline staff, but also the need to not overwhelm the staff or the system. See Figure 3.

Assessing

When asked how they decided what information to share with their frontline staff or what information to escalate into the organization, nurse managers described assessing if the issue was severe and if it was relevant. Determining the severity and relevance of the issue was a consistent theme across all the participants.

Severity

Nurse managers reported that the severity of the patient safety issue was a significant part of their decision to forward information. They used words such as "big," "serious," "major," and "severe" to describe the type of events they definitely forwarded. One nurse manager stated, "Safety things, I mean, those are big for me. I mean, that's when I really start barking about things" (Int #32918). When asked how they defined "severe," they often paused or said something like, "Wow. That's a good question." They explained that a "severe" or "major" event was one that "reached the patient" or resulted in "patient harm," "injury," or a "potential for a big injury." These types of patient safety issues were always forwarded to their staff or into the organization. They did not clarify if this was only physical injuries or if psychological injuries were considered severe also.

Relevance

Relevance was also a key determinant of whether nurse managers forwarded patient safety information. When an issue was obviously relevant to the unit, their nursing practice, or to the organization, nurse managers definitely forwarded the information. In this decision-making process, they considered whether it was relevant to their staff's "workflow" and "practice." One nurse manager shared the process of deciding to forward information by stating, "I think we [i.e., she and her management team] look at our population, and see if it pertains to our population. And then that's, you know, if we think, 'Yes, that could happen down here'" (Int #12301).

Nurse managers decided to forward information into the organization based on if the patient safety issue could "happen on another floor," "affected everyone," or pertained to an organizational goal. One participant shared, "And then if it's something that I felt like was more than just my unit issue, bringing that to the daily safety briefing, so that that they know and other people that might be, that can learn from it as well" (Int #11185). This is imperative to organizational learning.

Prioritizing

Once nurse managers completed the step of assessing simply whether or not patient safety information was severe and relevant, they then moved on to the step of prioritizing the information. The decision-making process of prioritizing the information varied among the participants. In this step nurse managers considered several things. They delved deeper into the degree of the severity and relevance, not just whether or not it was severe and relevant. They also considered the information source and type and whether they needed feedback, guidance, or support.

Severity Level

In the assessing stage, nurse managers determined if the patient safety issue was severe or not. In the prioritizing stage, there was a continued evaluation of the degree of severity. Whether they forwarded less severe issues was less clear to them. A newer nurse manager reported, "So I usually bring everything, most things, to my director… so I kind of bring up everything except my staff issues, I guess" (Int #96042). One nurse manager described herself as an "constant escalator" and an "overcommunicator" (Int #32918) whereas another shared that she was "frequently calling, emailing people that are way above…my chain of command" (Int #98741).

On the other hand, many nurse managers reported they individually handled issues they determined were "minor," "not a big deal," "isolated," or "just a onesy" noting that "coaching in the moment is SO much easier" (Int #86753). One nurse manager shared, "I deal with things a lot more on my level then a lot of my colleagues do. Some of what they bring to the director is like, you know, like come on guys" (Int #41619). For example, if the patient safety issue involved another department, she reported she simply contacted that department herself citing, "It's silly to go up the chain to get over it type thing, but I can just use the use the diagonal" (Int #41619). Other participants clarified that it's not possible to address "every little thing" (Int #10207) as they simply do not have the time.

Relevance Level

In the assessing stage, nurse managers determined if the patient safety issue was relevant or not. In the prioritizing stage, they determined the magnitude and timing of the relevance.

If the patient safety information was not obviously relevant, it was less clear whether the information would be forwarded. Many nurse mangers reported they might include a "blip" or a "tidbit" about issues not relevant to their practice, simply so their staff was aware of the issue.

Other managers shared that they make their directors aware of all issues because that is what their directors prefer. One nurse manager reported, “My director isn’t a big, like, micromanager, but she wants to know what’s happening…she always wants to be in the know” (Int #55145). The timing of the information also determined whether they forwarded the information. For example, one participant clarified, “I verbally go out if it’s something that’s affecting them TODAY” (Int #11185).

This was also the step when nurse managers looked for trends. They tracked issues to determine if something was a “one off” as one nurse manager said, or something that needed to be communicated out to the staff. One nurse manager worked with her unit leadership team and shared, “anything we see several times in a short period of time, we’ll address with everybody” (Int #12301). And when deciding whether to forward information into the organization, nurse managers will compare notes with other unit managers to see if there is a trend developing. They will also track trends to initiate systemwide change. For example, one nurse manager tracked patient safety issues to make sure that “we have enough data so that we can build a case, if we have an issue with something, because sometimes that’s how you have to move the dial is, you know, we have had X amount of times…” (Int #32918). And several nurse managers shared that they considered the relevance of organizational goals, “strategic imperatives” (Int #11185), “benchmarks,” and “regulatory standards” (Int #12118) as part of the decision-making process.

Many nurse managers also had specific event types for which they always forwarded information. Falls were continually repeated by nurse managers as patient safety issues that were relevant to most of them. One participant shared, “Falls is forever an issue here, so we don’t take our eyes off of it” (Int #11185). Nurse managers described that they also have a few other specific medical errors that they always forward to their staff and into the organization such as

catheter-associated urinary tract infections (CAUTIs) and central line-associated bloodstream infections (CLABSIs).

Information Source and Type

Some nurse managers prioritized information to forward based on who sent the original message. For example, if it was communication that was "coming directly from our CNE, that's our Chief Nurse, we, those directives are important" (Int #91710) or if they were "pushed from leadership" (Int #11185), they forwarded that information. Nurse managers also considered partnerships, such as if they worked on a surgical floor, stating "my surgeons are telling me this needs to be done… I say 'OK'" (Int #91710). And the type of information helped nurse managers determine whether to forward the message. If the information was about "mandated" policies and procedures (Int #45658) or a "clinical update," those were always forwarded to staff (Int #92882).

Need Feedback, Guidance, or Support

Nurse managers described deciding to forward information to their staff, other managers, and to leadership to seek feedback and guidance, because "I can't always figure everything out myself" (Int #24687). Participants described starting their shift early to reach night shift, the importance of being connected with their staff, and the positive effects of collaboration and shared governance. These strategies enabled them to forward information to their staff to get feedback on the best solutions to patient safety issues. One participant described the best way to help prevent errors was, "Getting feedback from the staff. They certainly know what's going on out there. So really leveraging them, and having a dialogue, for them to bring ideas" (Int #24687).

Participants also described how important it was to forward information to other nurse managers to seek guidance and support. They described nurse manager meetings that allowed them to share "ideas and best practices" (Int #11185) and even "concerns" (Int #98741). They also used each other as a "sounding board" to determine if it's a "one off" or if it needs to be elevated (Int #24687). Not only did meeting with other nurse managers allow for sharing, but it was a place of support. One participant described the meetings and shared, "We vent out in there. So, we kind of share our emotional therapy too" (Int #96042). Most participants described having very supportive colleagues, yet one nurse manager shared her concerns for "psychological safety" because, "I'm more comfortable, maybe with sharing information, or seeking information, from some of my colleagues compared to others" (Int #86753).

Nurse managers also decided to forward information to their administration to seek support and guidance. This was especially true when the patient safety information involved possible discipline of a staff member. One participant shared that he had a human resources (HR) partner assigned to him. When there were any patient safety concerns that involved staff discipline, he described that, "I would loop them all in saying 'Here, here's an event,' you know? Basically, please please give me your consultations and recommendations" (Int #36641). Nurse managers also reported turning to their director for guidance on patient safety issues for which they were unsure what to do. One nurse described calling her director and saying, "Hey I need some assistance, you know. What should, who should I take this to?" (Int #92882).

Forwarding

Once nurse managers had assessed and prioritized the patient safety information, they then forwarded the information. When forwarding information, nurse managers took several things into consideration. They expressed that they wanted to make sure their staff understood

the rationale or "the why." Many participants reported less resistance and increased buy in when the staff understood what happened to cause a change to their practice. "You have to have buy in from your staff, because they have to know, they have to have buy in on why are we doing this change, and why is this important" (Int #45658).

Nurse managers also utilized several strategies to increase their staff's engagement with the information that was forwarded via email. Most participants had a periodic (typically weekly) newsletter or email with the week's pertinent information. Some participants would hold their staff accountable for the information, requiring a "read response" or following up face to face. Several participants reported that they added games, congratulations, memes, and pictures to "jazz up" the newsletter and thereby increase engagement.

Nurse managers were also cognizant of not wanting their staff to be overwhelmed with too much information at once. They reported that they "sifted" through all the information, and "streamlined" it for their staff into one place, such as a newsletter. Yet they wanted to ensure that everyone received important messages. So, they used multiple, and oftentimes overlapping, modalities such as shift huddle, informal face to face, encrypted messaging systems, bulletin boards, staff meetings, delegating to unit leaders, newsletters (printed and electronic), texting (while observing HIPAA), and email. The mode and frequency of the forwarded information varied depending on the nurse manager's prioritization considerations.

Modality

Prioritizing the patient safety information determined what mode and how many modes of communication were used. More urgent matters were forwarded in multiple modes, such as huddle, text, and email. If the issue was pushed from leadership, but was not relevant to their unit practice, they included it in their weekly email only. When forwarding clinical updates and

policies and procedures, one participant shared that she did so via emails, stating, “I would just put like little memos, reminders that I think are important. I can’t send them everything” (Int #92882).

Nurse managers recognized that their staff have varied communication styles, so they used multiple modes. “Some of my staff really like emails, some of them want you to, like, say it verbally… they all have their preferred methods and communication methods” (Int #12118). But they also recognized that when they assessed patient safety information to be very severe and relevant, that multiple modes of communication would increase the speed and likelihood of it being received by their staff. “And if there is something that is critical information, then we do all of those information, like huddle and then email. But then I will print it out and have a sign out sheet for very critical ones” (Int #45658).

Frequency

Prioritizing the patient safety information also determined how frequently the nurse managers forwarded the information. One nurse manager joked that her staff “loved it” that she shared information repeatedly. She laughed saying, “But I tell them, ‘You guys gotta hear it 14 times before you process it’” (Int #11185). Several participants shared that they repeated important messages multiple times as a way to stress the importance. “So, if it’s an issue that really needs to be talked about, I’m going to talk about it for a couple weeks in huddles, especially if it’s a patient safety issue. That’s something that we are going to, that kind of, beat the dead horse” (Int #55145). Nurse managers also recognized that patient safety information must be shared multiple times to capture everyone because of various schedules and vacations. “You know I give them the same topic for the whole week, so, because people don’t work every day… so I will have the same topic for the whole week” (Int #10207).

Discussion

The STOPS theoretical framework was used in the data collection to develop a grounded theory of the decision-making process of how nurse managers actively select and transmit patient safety information (See Figure 1). Although nursing leaders do not typically have a direct impact on patient safety (Wang et al., 2021), they do have a direct impact on the flow of information through an organization. Sharing information with frontline nurses creates and sustains a culture of safety, empowers nurses, and improves patient safety (O'Brien et al., 2019; Wang et al., 2021). And transmitting information into the organization, such as adverse events, should be discussed with all stakeholders so solutions can be developed (Liukka et al., 2018). These impact both patient safety and organizational learning.

Nurse managers serve as a filter and a translator between the system and frontline nurses (French-Bravo et al., 2020). Consistent with that view, participants described themselves as gatekeepers, filters, and a double-sided funnel. Yet, they described that process as being based on varied personal perceptions, instead of on methodical, analytical, and reproducible practices.

After acquiring the patient safety information, nurse managers began the filtration process and decided what to forward, when to forward, and how to forward it. Overwhelmingly, nurse managers described the step of assessing the patient safety information for severity and relevance, but they hesitated and oftentimes struggled when asked to define "severe." And when discussing relevance, they often reported that they "know their team" and what they need to practice, as opposed to being based on empirical criteria. How nurses, much less nurse managers, perceive the severity of medical errors has very little research, but these findings are consistent with Tamuz et al. (2004) who determined that different providers categorized errors differently. Mayo & Duncan (2004) determined that there were differences in the perceptions of nurses about medication errors, and Khan and Arsanious (2018) found that physicians varied in their

perception of what was patient harm versus inconvenience. Likewise, the step of assessing varied somewhat depending on personal perceptions.

After making this initial judgment, nurse managers then prioritized based on several factors, which varied among the participants. There is very little research into how nurse managers prioritize, but studies have reported that it is frequently a balancing act between managerial practice and care practices (Costa Fernandes et al., 2016) and between cost and care, what is fair, and maintaining trust (Harvey, 1997). Similarly, participants reported a sort of balancing as they prioritized the information based on the degree of the severity and relevance, the information source and type, and whether they needed feedback, guidance, or support.

When forwarding information, nurse managers worked to balance keeping their staff informed, yet not overloading them with information. The prioritization step determined what mode and how frequently the message was forwarded. Collins (2020) determined that cognitive overload can have negative consequence. Likewise, participants streamlined and filtered information they deemed important as a method to protect not only patients, but also their staff.

Nurse managers also recognized the importance of explaining the rationale for policies and procedures when forwarding information. Similarly French-Bravo et al. (2020) determined that providing the rationale for why nurses must do things a certain way and citing examples (Fowler et al., 2021) is integral to achieving buy in from the frontline staff. It is also important to have multiple modes of communication as it is what most frontline nurses prefer (Hartung & Miller, 2018).

Although nurse managers should be empowered to make judgments for their teams, the wide range of experience, work environments, and personal perceptions could allow for inconsistent information forwarding throughout an organization.

Future Research

Findings from this study have important implications for nurse managers' decision-making processes. First, it is important to clarify nurse managers' perceptions of what qualifies as "severe." This is one of the primary factors that determines whether to forward information. Understanding their viewpoint and developing a consistent definition will clarify what should be forwarded to staff and to the organization. Having a clear first step to identify patient safety issues will advance problem analysis and lead to solutions. This would improve efficiency and patient safety.

During the interviews, several participants reported using the "just culture" algorithm when there was a medical error on their unit. They appreciated the guidance it provided. The "just culture" algorithm is relatively new to healthcare and attempts to move away from the "blame and shame" culture following an error that has previously existed (Paradiso & Sweeney, 2019). The algorithm guides the nurse managers through counseling a nurse after an error. It considers behaviors such as if there were prior counseling sessions, if there was intentionality, and whether the error was reported or actively concealed (Paradiso & Sweeney, 2019). Although the algorithm was mentioned by many participants, it was not identified by the nurse managers as a consideration in their decision to forward information. Future research could delve further to determine how the just culture algorithm influences that decision point.

Moody et al. (2006) found that nurses prefer sequenced methodical styles of clinical decision-making and problem-solving. It is reasonable to conclude that nurse managers would prefer a similar style when deciding to forward information. Rasmussen (2017) also found that the use of a decision tree for incident reporting led to an increase in communication and error reporting. And many Emergency Departments use some type of tool, such as the Emergency Services Index, to consistently triage their patients (Gilboy et al., 2020). Therefore, future

research should consider the development of an information forwarding decision-making tool that would facilitate the prioritization of information. Instead of triaging patients, nurse managers would be triaging information. It would need to be simple to use and would need to be developed with significant input from nurse managers. This would create a standardized information flow throughout the organization.

Limitations

The nature of the concept of patient safety is indistinct. The participants had varied ways of defining medical errors. To ensure commonality of thought, concepts were defined in the interview. Also, due to the sensitive nature of the topic (i.e., patient safety), participants may not have been completely frank in their discussions. And since the interviews were conducted via phone or video conference, subtle non-verbal communications may not have been noted by the researcher. To overcome these limitations, the first part of the interview was spent building a rapport with the participants, using a conversational tone, and presenting a pleasant demeanor, and the recordings were listened to carefully to note vocal inflections, tone, or pauses which could indicate a non-verbal message.

Another concern is that the participants were mostly white females. The gender representation was similar to the limited number of males in the nursing profession with only 15.3% of nurse managers being male (Zippia, 2021). Deliberate attempts were made to include nurse managers of color. One African American was interviewed, but the transcript was not included as she oversaw an outpatient area. One nurse manager identified herself as Hispanic. Although Hispanic and African Americans are underrepresented in nurse management, this study was not able to fully capture their experiences. Also, the interviews were conducted only in the

United States. The experiences of American nurse managers may not reflect the experiences of nurse managers worldwide.

Conclusions

When deciding what patient safety information to forward to their staff or into their organization, nurse managers quickly assessed if the issue was severe and relevant to their unit and then prioritized the information based on the degree of the severity and relevance, the information source and type, and whether they needed feedback, guidance, or support. Although severity was a consistent consideration on whether to forward information, nurse managers struggled to define the concept. This study suggests that when a patient safety issue was very severe and relevant, the decision to forward the information was easy. It also suggests that if the issue was not severe at all and not relevant in any way, the decision to not forward the information was easy, although slightly less clear. Whether to forward the information that was not on the extremes of the severity and relevance spectrum was less clear and more varied among nurse managers. This part of the decision-making process was inconsistent and had the potential for information to get lost.

This study aligns with previous research that determined that nurse managers have a direct impact on the flow of information through an organization which affects patient safety and organizational learning. This research adds a new insight into the decision-making process of how nurse managers determined what was or was not forwarded into the information flow, both to their staff and into the organization.

This highlighted the need for further research and discussions with nurse managers on how best to define severity and relevance. This could lead to the development of a simple decision-making tool to help nurse managers triage information. This would enable nurse

managers to support both the organization and frontline staff, without overwhelming the staff or the system, and would improve the information flow and ultimately could improve patient safety.

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CHAPTER 4: NURSE MANAGERS' PERSPECTIVES OF THE EFFECTS OF COVID-19 ON PATIENT SAFETY

Abstract

Background: COVID-19 created an influx of patients into hospitals, which has strained healthcare systems and providers. It is unclear how the increase in patient numbers and pressures of dealing with a pandemic has affected patient safety. Nurse managers are the vital link between the administration and the frontline, and they are critical to enabling optimal patient outcomes.

Aim: The purpose of this study was to understand the nurse managers' perceptions of the effects of COVID-19 on patient safety.

Method: The study is a secondary analysis of data originally collected in a qualitative constructivist ground theory study examining communicative behaviors of nurse managers concerning patient safety. Although COVID-19 was not included in the original interview questions, participants continued to discuss its effects, so the question was investigated.

Results: Nurse managers described how staffing shortages have negatively affected staff psychological well-being, compelled nurses to work beyond their skill set, and necessitated providing only the mere essentials of nursing care. Emotions and confusion have resulted in burnout, causing nurses to leave, further exacerbating the shortage. Safety measures have reduced the patient contact, leading to patient isolation. All of these can impact patient safety. Nurse managers also struggled to find ways to support their staff and the organization, while sometimes feeling conflicted on not being able to support both. But in the chaos and confusion, nurse managers were able to see some positives that have resulted from the pandemic, which may improve patient safety.

Conclusions: Nurse managers identified several risks to patient safety that were exacerbated and created by COVID-19, but also some positives. Effective leadership has a direct

positive influence on the staff and patient safety. Organizations and nurse managers can develop ways to highlight the positives and mitigate the threats to patient safety in preparation for the next pandemic.

Keywords: COVID-19, pandemic, nurse managers, patient safety

Introduction

In March 2020, the World Health Organization (WHO) officially declared COVID-19 as a pandemic (WHO, 2021). COVID-19 created an influx of patients into hospitals, which strained healthcare systems and providers around the globe. Nurses are on the frontline of caring for these patients under these stressful conditions.

Not only are nurses concerned with helping patients recover from COVID-19, but they are also charged with keeping patients safe. Patient safety came into the public eye in 1999 with the publication of *To Err is Human*, which estimated the high number of patients who die from medical errors every year (IOM, 2000; Lark et al., 2018). Since then, some targeted medical errors have improved, although overall progress in patient safety has been slow (Lark et al., 2018).

It is unclear how the increase in patient numbers and pressures of dealing with a pandemic has affected patient safety. Several studies have explored the impact of COVID-19 on specific medical errors, such as hospital acquired infections (Baker et al., 2021; Grasselli et al., 2021; Ong et al., 2021; Polancich et al., 2021), catheter-associated urinary tract infections (CAUTIs) and central-line-associated bloodstream infections (CLABSIs) (Fakih et al., 2022; Mitra et al., 2021; Perez-Granda et al., 2022), ventilator-associated pneumonia (VAP) (Maes et al., 2021), and pressure injuries of both patients and staff due to personal protective equipment (PPE) use (Yu et al., 2021). Results across studies are mixed with some studies reporting

reductions in medical errors and others reporting increases. These mixed results may reflect the various regions around the world where the studies took place, variable organizational responses, and ever evolving COVID-19 treatment standards.

To date, no studies have explored the impact of COVID-19 on patient safety from the perspective of the nurse manager. Nurse managers are the vital link between the administration and the frontline (American Organization for Nursing Leadership, 2015). They are critical to creating an environment that enables optimal patient outcomes. Given the role of the nurse manager in ensuring the delivery of safe patient care, understanding their insights and perspectives is critical to enabling optimal patient outcomes, especially during demanding conditions, such as a pandemic.

Therefore, the purpose of this study was to understand the nurse managers' perceptions of the effects of COVID-19 on patient safety.

Methods

Design

As a new virus, many of the effects of COVID-19 are unexplored. Therefore, a qualitative design was appropriate to allow for the participants' perceptions to be understood and to reflect the complexity of the phenomenon (Creswell & Creswell, 2018). The study is a secondary analysis of qualitative data originally collected to determine what active communicative behaviors nurse managers use in relation to patient safety and medical errors. A thematic analysis was performed following the methods outlined by Braun & Clarke (2006). Thematic analysis is a method used to identify, analyze, and describe data in rich detail. The steps include becoming familiar with the data, generating codes, developing themes, reviewing themes, naming themes, and producing the report (Braun & Clarke, 2006). An inductive

approach was used as previous research was not reviewed until after the data collection was complete.

COVID-19 was not included in the original study's interview questions. By the fourth interview, it was noted that every participant to that point had spontaneously discussed the effects of COVID-19 on patient safety, oftentimes citing examples of their COVID-19 communicative behaviors. Although most participants brought up the subject of the effects of COVID-19 without being asked, the question was added to the end of the interview to ensure it was discussed. During the seventh interview, the participant discussed some of the positives that have come from COVID-19, which was an intriguing concept. Therefore, the question of what positives have come from COVID-19 was included from the eighth interview forward.

Recruitment

A recruitment flyer was developed with study information for the original study. Nurse managers were recruited via posting the flyer on various professional nursing organizations' listservs, websites, and social media per the organization's discretion. The participants replied to the primary investigator if interested in being part of the study. Snowball recruitment was also used as participants were asked to forward the study information to any other nurse managers whom they thought might be interested in participating in the parent study. Inclusion criteria were nurse managers at the unit level, working full-time in an acute care hospital with one-year minimum experience. No exclusion criteria were applied.

Of the 22 participants interviewed, three transcripts were excluded due to participants not meeting inclusion criteria (i.e., two worked in ambulatory care; one did not oversee a patient care unit). Therefore 19 interviews were analyzed. A $25 Amazon gift card was provided to the

participants who completed the interview in appreciation for their valuable time. The study was self-funded.

Ethical Considerations

The original study was approved by the University of Central Florida Institutional Review Board. As a secondary analysis, no further approval was required. The participants were provided with an explanation of research which elaborated that by completing the interview, they were consenting that the information be used in the study. Participants chose a self-generated five-digit identification code which was used as their transcript identification. They were asked for permission to audio record the interviews.

Data Collection

Semi-structured, conversational, one-on-one interviews were conducted with the primary investigator either via Zoom or phone call, per the participant's preference. The interviews lasted from 25-75 minutes and were audio recorded using two digital voice recorders. Memos were taken during and immediately following each interview. Participants were recruited until data saturation was reached.

Data Analysis

The audio recordings were manually transcribed by the primary investigator. Transcripts were de-identified and then loaded to NVivo for data analysis and coding. Data pertaining to the effects of COVID-19 on patient safety were coded separately from the original study. To become familiar with the data, the primary investigator read through the transcripts multiple times to identify preliminary codes. Codes were then collated to initial themes which were reviewed, defined, and mapped (See Figure 4).

Findings

Participants were 19 nurse managers who were recruited through various professional nursing organizations. Patient safety was defined as the prevention and reduction of risks, errors, and harm to a patient (WHO, 2020). Due to the original purpose of the interview, demographic data was collected anticipating characteristics that influence communication, such as age, gender, education, and organization size. Participants were predominantly Caucasian females with a BSN or MSN degree. Ages ranged from 29 to 63 years old with six to 42 years of experience as a nurse, and one to 34 years of experience as a nurse manager. Participants were from 13 different states across the nation, with the majority being from the western and southern U.S. The nurse managers oversaw 18 to over 100 staff members, and most were from large (>300 beds) hospitals. The types of units included ICUs, EDs, Stepdown units, and various types of med/ surg units. Participants' personal and organizational characteristics are outlined in Table 2.

Themes

Of the 19 nurses interviewed, there was only one participant who expressed that they did not think COVID-19 affected patient safety (Int #15301). Otherwise, the participants expressed serious concerns. The primary challenge nurse managers described was the negative effect COVID-19 had on staffing, which had ripple effects on patient safety. Nurse managers described how difficult it has been to staff their units during COVID-19 and how this has the potential to impact patient safety. Staff shortages have negatively affected staff psychological well-being, compelled nurses to work beyond their skill set, and necessitated providing only the mere essentials of nursing care. Emotions and confusion have resulted in burnout, causing nurses to leave, further exacerbating the shortage, and compounding the challenges. Safety measures and self-protection have altered traditional patient contact, leading to patient isolation. All of these

can impact patient safety. Nurse managers also faced struggles such as finding ways to support their staff and the organization, while sometimes feeling conflicted on not being able to support both at the same time. But in the chaos and confusion, nurse managers were able to see some positives that have resulted from the pandemic, which may improve patient safety.

Staffing

Appropriate nurse staffing is a match of nursing expertise with patient needs according to the setting and situation (American Nurses Association, 2020). It is critical to produce patient safety and quality outcomes. Overwhelmingly, the first thing nurse managers discussed when asked about how COVID-19 has affected patient safety was the nursing shortage.

> I think it's [staffing] had some negative effects on patient safety. We are spread quite thin, where, like I said today, sitting at 117% capacity, that 17% makes a huge difference. We're doubling rooms that have never been doubled. We have a lot of patients (Int #55145).

They acknowledged that they have dealt with shortages before COVID-19, but that now the challenge is even greater.

> And like it's a phase. It will pass. Has all five years been like this? No. I mean it'll it'll pass. I mean hopefully it'll pass (Int #32918).

Many nurse managers discussed their aggressive hiring tactics to ensure that their units were staffed but acknowledged that COVID-19 has strained staffing on other units within their hospital. Therefore, it affects all units within the organization as nurses are floated throughout the hospital to meet demand. One participant noted, "I look very staffed if you look at my

numbers. But they get floated to the other ICUs because they're so short, and so then that's frustrating for my team" (Int #11185).

Nurse managers also recognized that not only was the patient census high, but many nurses left, further exacerbating the staffing challenges. A participant noted that some nurses were retiring early because they did not want to care for COVID-19 patients (Int #11185). Another noted that some nurses were moving away from the bedside and into other nursing roles (Int #55335), while another noted that some were leaving to do travel nursing stating, "A lot of our nurses are going to travel to, you know, make the bajillion dollars and and so I think just staff are tired and frustrated" (Int #12301).

Staff Psychological Well-Being

Psychological well-being involves having a balance between personal resources and challenges (Jarden et al., 2020). It also includes feeling good and functioning effectively. Suboptimal psychological well-being of nursing staff is associated with poor patient care, unprofessional conduct, and medical leave (Jarden et al., 2020). Nurse managers discussed the effects of COVID-19 and the subsequent staff shortages on the staff's psychological well-being. COVID-19 has generated strong emotions and accelerated nursing burnout. These emotions can put patient safety in jeopardy. When COVID-19 first hit, the confusion over a new and novel virus was challenging and stressful.

> Some days, before I could even communicate out a change to staff, it had changed again. And so that created a lot of, you know, mental stress as well on staff that then turns around and increases that risk of a patient safety error happening (Int #12118).

Nurse managers shared that the strain on the psychological well-being of the staff was not only due to confusion, but that personal fears and emotions were tough to handle.

> And so we had, you know, several of our staff members have, you know are now COVID positive. And we just had one of our beloved housekeepers, actually, we're going to his funeral today. He came in actually, came in coding and, you know, so our staff had to work on him. And, I mean, it's just they're beat down. They just, you know, they're tired of it. It's been a year and a half now (Int #12301).

Participants added that the surge from the delta variant created new emotional stressors for the staff. Not only were the staff tired from over a year of COVID-19, but the delta variant affected so many younger patients. Although nurses are trained to deal with emotional issues, many of the situations were more difficult to handle than others.

> Medical ICUs are struggling because they're never had to deal with this many young people dying, you know? … it's different when you have a 32- or 27-year-old mom that just had a baby or, you know, so [long pause]. They're just leaving [starts crying] because they don't want to deal with it so, and so what that does is just affects all of us, all the time (Int #11185).

Participants recognized that burnout was present prior to COVID-19, but nurse managers shared that the pandemic only made it worse.

> Right now, our biggest challenge is just kind of this feeling of burnout, so of "I I can't do everything I want to do in my given day." I think it's always been there, but COVID REALLY amped that up (Int #55145).

They shared that burnout causes patients to suffer. They also shared that not only were the nurses burned out, but that the families and community were weary too, stating, “We’re tired. Our community is tired. Our families are tired” (Int #86753).

Decreased Patient Contact

Frequent patient contact, such as hourly rounding, has been found to improve patient satisfaction, reduce call bells, and reduce medical errors such as falls (Woodard, 2009). One of the challenges to entering a patient’s room who has COVID-19 is the need to don Personal Protective Equipment (PPE). Nurse managers reflected that the need for PPE and the need to minimize exposure to protect staff and patients, led to a decrease in patient contact by the bedside staff. Several participants shared that nurse managers also performed less scheduled rounding than they used to do (Int #12301). This further decreased the number of healthcare providers who were in contact with the patients. They expressed their concern that this could lead to the patient feeling isolated and could be a risk factor for decreased patient safety.

> Part of it is the challenge of wearing all the PPE and going into the room. So, and trying to cluster care so that they aren’t having to go in so much to expose themselves… So, I think THAT has a factor on safety. I think that patients have felt, uh felt that impact of not as many people going in and out of the room. Not feeling like they’re being checked on and feeling more isolated for sure (Int #11185).

Only Able to Provide Minimal Care

Although there is no set definition of a minimum standard of nursing care, Tonnessen et al. (2020) suggested it should include meeting fundamental physiological, psychological, social, and spiritual needs. This can be challenging when nurses must prioritize or even ration care due

to an increased workload. Some nursing care may even have to be delayed or omitted. The staffing challenge created by COVID-19 has increased the workload for the nursing staff who remain. Nurse managers described instances when bedside nurses were only able to provide minimal nursing care, and just simply didn't have the time or energy to do more. This can lead to missed care and missed signs of threats to patient safety. One nurse manager shared that she had recently taken over the dedicated COVID unit. She described the feeling on the unit as, "They are tired. They don't want to do anything more than what they need to do. You know, they're burned out" (Int #91710). Another participant shared that he realized things may get missed, but that the staff were doing the best they could in extraordinary circumstances.

> It [the staffing shortage] makes it a whole lot harder and so things get missed. And I think at this point, our shift has been, "OK we have to do the best we can do."… we've had to make this shift of, we just have to do the best we can (Int #55145).

Challenge to the Nurse's Skill Set

All nurses have successfully completed core educational content and passed a licensure exam. But as nurses specialize, they complete further education, participate in hands on training, earn certifications, and become experts in their field (Lovelady & Blair, 2014). Therefore, they are comfortable and knowledgeable about the various machines, procedures, and needs for that specialized patient population. With the increased staffing demands brought on by COVID-19, getting more nurses onto the units was a priority for hospitals. They turned to traveling nurses, but to get them onto the units, they sped up the onboarding process. The participants expressed concern whether traveling nurses would therefore be familiar with organizational and unit protocols and procedures necessary for patient safety (Int #91710). Also, in an effort to get more

nurses on the units, the orientation process for new nurses was accelerated. Nurse managers reflected on the potential risks to patient safety this created.

> I feel like we're moving new graduates through the system faster than we ever had, because we need to get HANDS out there to help. And so, do they have, you know, the same orientation that everyone else has? No, they don't (Int #32918).

And because of the demands of COVID-19, some units had "off service" patients assigned to them. That is when a unit receives a patient with a diagnosis that is not typical of their patient population. This created a new challenge for the nurses as they were not familiar with the intricacies of that diagnosis. And when nurses had to float from their usual unit to another unit, they were often faced with a patient population with which they were not familiar. This created a scenario in which nurses needed to learn in the heat of the moment.

> And these nurses, who are typically on, you know, a regular med/surg unit, who typically have walkie talkies, they're the ones caring for these patients all the sudden. And they might not know anything about it. So, it has created this like "learn as you go" phenomenon. That, while I don't think has killed anyone,…I think put you at a greater risk of hurting patients (Int #41619).

But not only were nurses challenged by caring for new patient populations, the nurses who were on COVID-19 dedicated units lost some of their previous nursing skills. One nurse manager, who oversaw a COVID-19 ICU unit, reflected on the loss of skills his nurses experienced by caring for only COVID patients.

> We've onboarded some new staff during COVID, and they get very proficient in caring for COVID patients from, that's all we had. And then as we saw regular medical patients get back into our unit, there were big knowledge gaps there (Int #55335).

Rural Hospitals

There were a few participants from rural and Critical Access Hospitals (CAH). Rural hospitals are those not located with a metropolitan area, and CAH is a designation by the Centers for Medicare and Medicaid Services (Rural Health Information Hub, 2021). To be designated a CAH, they must have 25 or fewer inpatient beds, be located greater than 35 miles from another hospital, and provide 24/7 emergency care services. These types of hospitals have experienced unique concerns. Due to their location and size, they were especially limited on staffing. One participant shared, "I sit about 140 miles [away] from those [sister] hospitals. So, where they may have you know, staff sharing…I don't have that capability here" (Int #32918). Rural hospitals and CAHs also experienced transportation issues, which affected patient safety. One participant from a CAH reflected that, in the early days of COVID-19, she struggled to transport critically ill patients, to the larger hospitals as EMS crews were overwhelmed and unavailable.

> We've not been able to get critical patients out to metro facilities in the city… it's [COVID-19] caused issues with even transportation for those patients to the metro, some EMS delays, because we only have a limited amount of EMS crews in the local area (Int #12118).

Nurse Managers' Struggles

Nurse managers shared their own challenges that COVID-19 created. When the pandemic first hit, nurse managers struggled with supporting the evolving organizational policies while still advocating for their staff. According to one participant, they sometimes had to choose between driving policy or advocating for their staff (Int #36641). This created conflict and doubt for some nurse managers.

> And my unit was the first COVID unit. And there's so much resistance. Why we had to be the first unit, right, on the staff side. And I was middle. They decide, "OK, you're going to be the first one." But there's no, for me to speak out WHY we are the first one… So, it was really hard. And I felt like I wasn't good enough to support my staff. I wasn't good advocator for them because it was very like strong policy coming from higher up (Int #96042).

Nurse managers described that recruiting and staffing has taken up a lot their time (Int #15301). They have taken painstaking efforts to keep their units well-staffed and it sometimes still isn't enough. They shared how frustrating it could be.

> The only thing that worries me is staffing. That's probably, that's probably the biggest stressor for me is staffing. Because I can't. I cannot help them. I can't help them, so that's the hard part [starts crying]. I'm sorry (Int #11185).

The participants also described their efforts to support their staff who have remained on the units. Nurse managers have devoted personal time. Most of the participants described coming in early, staying late, and working on weekends during the pandemic. They wanted to show their staff that "I'm here for you" (Int #96042). Nurse managers have also developed creative ways to show their team their appreciation. One nurse manager shared how her team developed a

"Dumpster Fire Award" (Int #11185). This acknowledged that the team pulled together even during a tough day. Some managers shared that they struggled with finding ways to support their staff through COVID-19.

> And especially my staff, with the COVID unit, are very frequently asking for more. They want more and more and more and they think that more money, more stuff, more tangible things are going to help them get through it. And we give, and we give, and we give, and we're not really seeing where they're getting happier from it (Int #55145).

Not only have nurse managers struggled to support their team, but they also have needed support, which has varied. When there has been strong organizational and peer support, the managers appreciated it. One participant reflected, "I think, because this organization has put a manager group that is pretty close, and we have all these meetings together, is that we can ALL rely on each other…" (Int #11185). But other nurse managers have not felt the same.

> I won't lie. Nothing in this building has been helpful to me as far as kind of [pause] keeping a good spirit. I mean it's it's not great here, right now. It's not great anywhere right now. Our manager group is in a lot of turmoil. We have just manager burnout (Int #32918).

Positives from COVID-19

COVID-19 has also yielded some positives which could improve patient safety. Nurse managers shared that the staffing shortages has compelled nurse managers to get out of the office, onto the unit, and even to take patient teams. This engenders respect from the staff and helps the nurse manager stay connected to the needs of the patients and staff.

> I'll tell you, managers and directors are out there getting their hands dirty more than I've ever seen them do, and that's throughout the house… so yes, I see good things because I think that there's that awareness that like, bottom line, we're all nurses, and so we are all here for the patients, whether you're a manager, you're a director, you are just a frontline staff nurse, we're all trying to be here to do the same things (Int #32918).

And not only did the nurse managers band together, but the frontline staff showed more teamwork and support of each other.

> I think it brought people together, right? I think there's teamwork that comes because you have to get through those shifts (Int #36641).

And having to care for unfamiliar patient populations and dealing with unfamiliar situations, enabled nurses and nurse managers to gain new skills. One nurse manager shared that being presented with new situations was helpful and caused her to grow (Int #32918). Although the learning may not have been in the traditional manner, new skills were still learned.

> The good thing about my step-down nurses coming down here [to the ICU] and helping is that they are gaining a new insight to things that they never realized before. They're thinking about things in new ways… So that has been eye opening for them. And they told me they go back to step down and they feel so much smarter (Int #11185).

Not only were nurses learning new nursing skills, but they were also learning to be more aware of their personal safety and infection prevention protocols. Dealing with a highly contagious, unknown pathogen, elevated nurses' vigilance.

> I would say be more vigilant of our surroundings, and our own needs, our own health, and the safety protocols. Like, you know, nurses knowing that the PPEs, that they need to learn the right way to wear them. That they know to go get their mask FIT testing, you know, how important those kind of things are (Int #92882).

One other positive outcome from COVID-19 that nurse managers shared was that system-wide, the decision-making process was streamlined. As organizations learned things about this new and evolving disease, it was important to be able to move quickly. One participant shared, "We are able to make decisions quicker (chuckles). We don't beat things down or like, 'Oh how do we make this work?' Nope, we're just going to make it work" (Int #55145).

Discussion

The purpose of this study was to understand the nurse managers' perceptions of the effects of COVID-19 on patient safety. According to nurse managers, the staffing shortages, which were exacerbated by COVID-19, are the primary threat to patient safety. Prior to the pandemic, low staffing was an issue for nurses which impacted patient safety and the quality of care (Yanchus et al., 2017). But the pandemic only exacerbated an already tenuous situation. Currently over 50% of nurses report insufficient staffing, and as of January 2022, 12% of hospitals report critical staffing shortages, with 23% of hospitals anticipating shortages in the upcoming weeks (Labrague et al., 2021; Plescia & Gooch, 2022). COVID-19 created extraordinary demands for more staff and equipment, which nurse managers had to handle (Abu Mansour and Abu Shosha, 2021). Staffing shortages has created a ripple effect that has impacted staff psychological well-being, compelled nurses to work beyond their skill set, and necessitated providing only the mere essentials of nursing care. These can all negatively impact patient safety.

Findings from this analysis were consistent with existing literature on COVID-19. During COVID-19, all healthcare professionals experienced threats to their psychological well-being. But nurses experienced emotional exhaustion and higher levels of psychological distress than other professions (Gomez-Salgado et al., 2021; Kakemam et al., 2021). The unknown nature of COVID-19 created fear. Nurses were fearful of contracting the disease, taking it home to family members, and not being able to provide effective care for such a novel disease (Deldar et al., 2021; Gomez-Salgado et al., 2021). This psychological distress accelerated high levels of nursing burnout and led to an increase in perceived adverse events (Deldar et al., 2021; Kakemam et al., 2021).

Deldar et al. (2021) also found that nurse managers struggled with balancing skill sets of nurses who were not experienced with that unit's patient population. To accommodate, nurse managers would blend inexperienced staff with experienced staff to be monitors and resources. They would also hold training sessions virtually to train staff on new procedures, equipment, and infection control policies (Abu Mansour and Abu Shosha, 2021). Hay-David et al. (2020) encouraged the use of pre-existing teams and committees to help shore up patient safety and reduce common medical errors.

Nurse managers expressed concern about nurses being able to provide only the required minimal care. Vazquez-Calatayud et al. (2022) also found that nurse managers were concerned that frontline nurses may not always be able to provide holistic care during the pandemic. There are some discrepancies in the literature though. Nurses who worked in smaller hospitals and those who perceived adequate staffing reported less missed nursing care during COVID-19 (Labrague et al., 2021). And although Fernandez-Castro et al. (2021) determined that there was a decrease in nurses' charting of assessments for risk of pressure ulcers, falls, and social

vulnerability, that did not correlate with an increase in those events occurring. Some areas of nursing care improved during the pandemic, such as setting up meals and administering medications on time (Nymark et al., 2022). Yet some nursing care declined during COVID-19, such as ambulating, repositioning, responding to call bells, providing wound care/ skin care, comforting, and adequate patient surveillance (Labrague et al,, 2021; Nymark et al., 2022). These nursing interventions are important for the prevention and detection of patient safety events.

Uncertainty, confusion, fear, an increased workload, and required PPE for COVID-19 reduced patient contact. In the beginning of COVID-19, nurses were also concerned about conserving PPE, so they would cluster their care, which led to a decrease in patient repositioning (Stifter et al., 2021). The mental workload for nurses has increased during COVID-19, with over half of nurses reporting they do not have time for their patients (Kakemam et al., 2021; Pourteimour et al., 2020). Therefore, nurse managers have attempted to compensate for the isolation the patients were experiencing in several ways, such as helping the patient make a phone call to family members (Vazquez-Calatayud et al., 2022). Although they would attempt to compensate, there is still a concern that the decreased patient contact could affect patient safety.

Rural nurse managers reported their own unique threats to patient safety such as a lack of staffing options and resources. There is little research into rural nurses' perceptions of the pandemic, but even pre-pandemic rural hospitals struggled with staffing and resources (Newhouse, 2005). The physical isolation of a rural hospital reduced staff networking and created transportation issues, as was seen in this study. Ohta et al. (2020) also found that rural hospitals' lack of resources during COVID-19 negatively affected working conditions. This is important to patient safety as the practice environment can directly affect patient outcomes such

as patient mortality (Al-ghraiybah et al., 2021). As rural hospitals make up nearly 20% of all hospitals in the U.S., this area merits further research (American Hospital Association, 2019).

Nurse managers also faced their own unique struggles such as supporting their staff, organization, and balancing those demands. Although the struggles of nurse managers may not directly affect patient safety, the practice environment they create influences the quality of care provided. Jackson & Nowell (2021) found that nurse managers were committed to their staff and safe patient care, yet they were experiencing exhaustion themselves. Instability in the nurse manager position can lead to an increase in medical errors such as falls and pressure ulcers (Warshawsky et al., 2013). Consistent with previous research, nurse managers worked to support their staff as individuals. This included comforting nurses who felt defeated or encouraging new nurses who doubted their abilities (Arakelian & Rudolfsson, 2021; White, 2021). They devoted personal time, tangible items, and creative awards to appreciate their staff's dedication. They worked to nurture and unite staff, even in the face of enormous challenges (Arakelian & Rudolfsson, 2021). Recruitment and staffing were the primary focus and could oftentimes become overwhelming (Arakelian & Rudolfsson, 2021). But supporting their staff was sometimes made difficult by organizational policies. Nurse managers reported feeling as if they had failed their staff by not being able to advocate for them. White (2021) also found that nurse managers felt as if their hands were tied. Nurse managers were better able to cope with the pandemic when they had clear communication and guidelines from the organization, felt appreciated by their organization, were part of shared decision-making, had administrative support, had helpful team members, and received support from other nurse managers (Abu Mansour & Abu Shosha, 2021; Jackson & Nowell, 2021; White, 2021).

Nurse managers were able to identify positives which may enable patient safety such as improved teamwork, learning new skills, increased vigilance, and the streamlining of processes. Deldar et al. (2021) found that nurse managers promoted sympathy and solidarity as a way to manage the frustration and exhaustion caused by COVID-19. The teamwork and "one for all" attitude supported the nursing staff, preserved patient safety, and was seen as an antidote to the high workload and low staffing (Vazquez-Calatayud et al., 2022; Yanchus et al., 2017). Nurse managers also experienced uncertainty and fear for themselves and their colleagues, which, when shared with staff, let them know they were not alone (Jackson & Nowell, 2021). And nurse managers were taking patient teams themselves as a way to help support the staff (White, 2021). There were also innovations and streamlining of processes. Stifter et al. (2021) reported that COVID-19 brought about new innovations such as prone positioning teams, virtual communication facilitators, and a team nursing model. These could all have positive impacts on patient safety.

Limitations

The nature of the concept of patient safety is indistinct. The participants had varied ways of defining medical errors. To ensure commonality of thought, concepts were defined in the interview. Another concern is that the participants were mostly white females. The gender representation was similar to the limited number of males in the nursing profession with only 15.3% of nurse managers being male (Zippia, 2021). Deliberate attempts were made to include nurse managers of color. One African American was interviewed, but the transcript was not included as she oversaw an outpatient area. One nurse manager identified herself as Hispanic. Although Hispanic and African Americans are underrepresented in nurse management, this study was not able to fully capture their experiences. Also, the interviews were conducted only in the

United States. The experiences of American nurse managers may not reflect the experiences of nurse managers worldwide. COVID-19 has had different responses around the globe, so these findings may not be applicable to all countries.

Nursing Implications

Findings from this study have important implications for the next COVID-19 surge and the next pandemic. Organizations can learn from what nurse managers have experienced. Organizations must design strategies to prepare for a large number of patients and staff affected over such a long period of time. It is important for policy makers to have clear communication and transparency. They must welcome open discussion from nurse managers and frontline staff. This will enable nurse managers to be able to explain "the why" of decisions and create psychological safety and well-being for their staff. Doing so will engender trust and allay fears and resistance. Even though decisions may need to be streamlined, they should not be made without collaboration with all stakeholders.

Organizations should also consider cross training their care givers. This will enable them to redeploy to other units without going beyond their skill set. Nurse managers also need to be trained to staff their unit with an adequate skill mix so there is support available for new and travel nurses. It is also important for nurse managers to have help with staffing, as this is their primary struggle.

Organizations can also develop technical solutions to reduce the isolation of patients while still protecting frontline staff. And existing teams and committees, such as CAUTI or Skin Care Teams, can be utilized to keep common medical errors mitigated during the next pandemic. Systems need to be designed to offer support for nurse managers such as peer networks, counseling, recognition, shared decision-making, and logistical support. Having regular visits

from directors and administrators can help buoy the spirits of nurse managers and their units during challenging times.

Nurse managers can also learn from these findings. It is important to connect with staff members personally as this helps staff feel supported and engenders teamwork. It is also important for nurse managers to help the staff stay focused on providing excellent care and maintain the safety culture of the unit. Nurse managers must also support each other through peer networks. Simply talking and sharing experiences with someone who understands can relieve pressures. It is also important for nurse managers to partake in self-care such as in counseling, asking for help, and taking regular time off.

Conclusion

Nurse managers identified several risks to patient safety that were exacerbated and created by COVID-19. Effective leadership has a direct positive influence on the staff and patient safety. As the link between the organization and the frontline staff, nurse managers are able to see patient safety concerns at both an organizational and an individual level. Nurse managers overwhelmingly described the challenges of staffing their units during COVID-19 as a threat to patient safety. Staff shortages negatively affected staff psychological well-being, compelled nurses to work beyond their skill set, and necessitated providing only the mere essentials of nursing care. Burnout was exacerbated by confusion and fear. Nurses left to retire, take on other roles, or work as a travel nurse. This further exacerbated the shortage. The process of donning PPE, attempts to limit the spread of the disease, and fear of contracting the disease reduced the patient contact, leading to patient isolation. Nurse managers also struggled to find ways to support their staff and the organization, while sometimes feeling conflicted on not being able to support both. Nurse managers were able to see some positives such as improved

teamwork, learning new skills, increased vigilance, and processes being streamlined. Organizations and nurse managers can develop ways to highlight the positives and mitigate the threats to patient safety in preparation for the next pandemic.

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CHAPTER 5: CONCLUSION

The literature review revealed that the role of nursing leadership in achieving patient safety includes leadership style, visible engagement and respect, communication, and work environment. The role of communication was mentioned frequently, but not described in depth. Terms such as "open communication" and "feedback communication" were explored without clearly defining those concepts or explaining how they are achieved. Miscommunication is one of the most common causes of medical errors, so it was concerning that communication was not elaborated any further. In a general business poll, 91% of employees reported that their leaders and managers lacked communication skills (Solomon, 2015) and another poll found two-thirds of business managers are uncomfortable communicating with employees (Solomon, 2016). A lack of communication in the healthcare setting could lead to medical errors, near misses, and overall inadequate patient safety. Therefore, it needs to be explored.

As the conduit of information flow among organizational agents, nurse managers are in a position to be the megaphone or the mute button of communication. None of the studies in the literature review specifically investigated the communicative behaviors of nurse leaders in relation to the problem of medical errors and patient safety concerns. Therefore, a study was developed to investigate the active communicative behaviors of nurse managers, specifically how they decide what information to select and forward. These problem-solving behaviors are important for organizational learning and imperative for achieving patient safety.

The primary research revealed that when deciding what information to forward, nurse managers quickly assessed whether or not the issue was severe and relevant. Then they prioritized the information based on the degree of the severity and relevance, the information

source and type, and whether they needed feedback, guidance, or support. The prioritization step determined what mode and how frequently the message was forwarded.

Although severity was a consistent consideration on whether to forward information, nurse managers struggled to define the concept. This study suggested that when a patient safety issue was on the extremes of the severity and relevance spectrum, the decision-making process was clear. Whether to forward the information that was not on the extremes was less clear and more varied among nurse managers. This part of the decision-making process was inconsistent among nurse managers and had the potential for information to get lost.

Finally, a secondary analysis of the data from the primary research was performed investigating nurse managers' perspectives of the effects of COVID-19 on patient safety. Throughout the primary research, participants frequently brought up COVID-19 and its effects on patient safety without being asked. They often answered interview questions with examples from the pandemic illustrating how they decided what to communicate. During the initial days of the pandemic, there was a lot of new information, and protocols and policies changed rapidly. The participants shared how they communicated about the additional patient safety concerns COVID-19 created and exacerbated. Primarily nurse managers described that COVID-19 exacerbated staffing shortages, affected staff psychological well-being, compelled nurses to work beyond their skill set, and necessitated providing only the mere essentials of nursing care. Burnout and patient isolation were also compounded by the staffing concerns. All of these can impact patient safety. Nurse managers also struggled to balance supporting their staff and the organization, while sometimes feeling conflicted on not being able to support both. But in the chaos and confusion, nurse managers were able to see some positives that resulted from the pandemic, such as teamwork, vigilance, and learning new skills.

Effective nursing leadership has a direct positive influence on the staff and patient safety. Nurse managers are a critical link between the frontline and the organization. As the filter of information, they have a profound effect on individual practitioner and organizational learning. This research is a good first step into understanding the decision-making process nurse managers use as the gatekeepers. It recognizes the essential position they are in and important decisions they make. When considering ways to improve patient safety, the role of nurse managers must be considered. The pandemic was a prime example. In the future, organizations and nurse managers can develop ways to highlight the positives and mitigate the threats to patient safety in preparation for the next pandemic.

Future research would include working with nurse managers to explore the development of an information triage tool. This would be a scientifically sound tool that allows for stratification of communication. The benefits would include a standardized information metric. Over-sharing of information can result in staff and systems being overwhelmed. Yet under-sharing of information can result in unawareness, distrust, and job dissatisfaction, which can all negatively affect patient safety. Therefore, a tool that is a simple algorithm will allow for a brief focused assessment of information and will standardize communication throughout an organization. This will improve organizational learning and ultimately, could improve patient safety.

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APPENDIX A: TABLES AND FIGURES

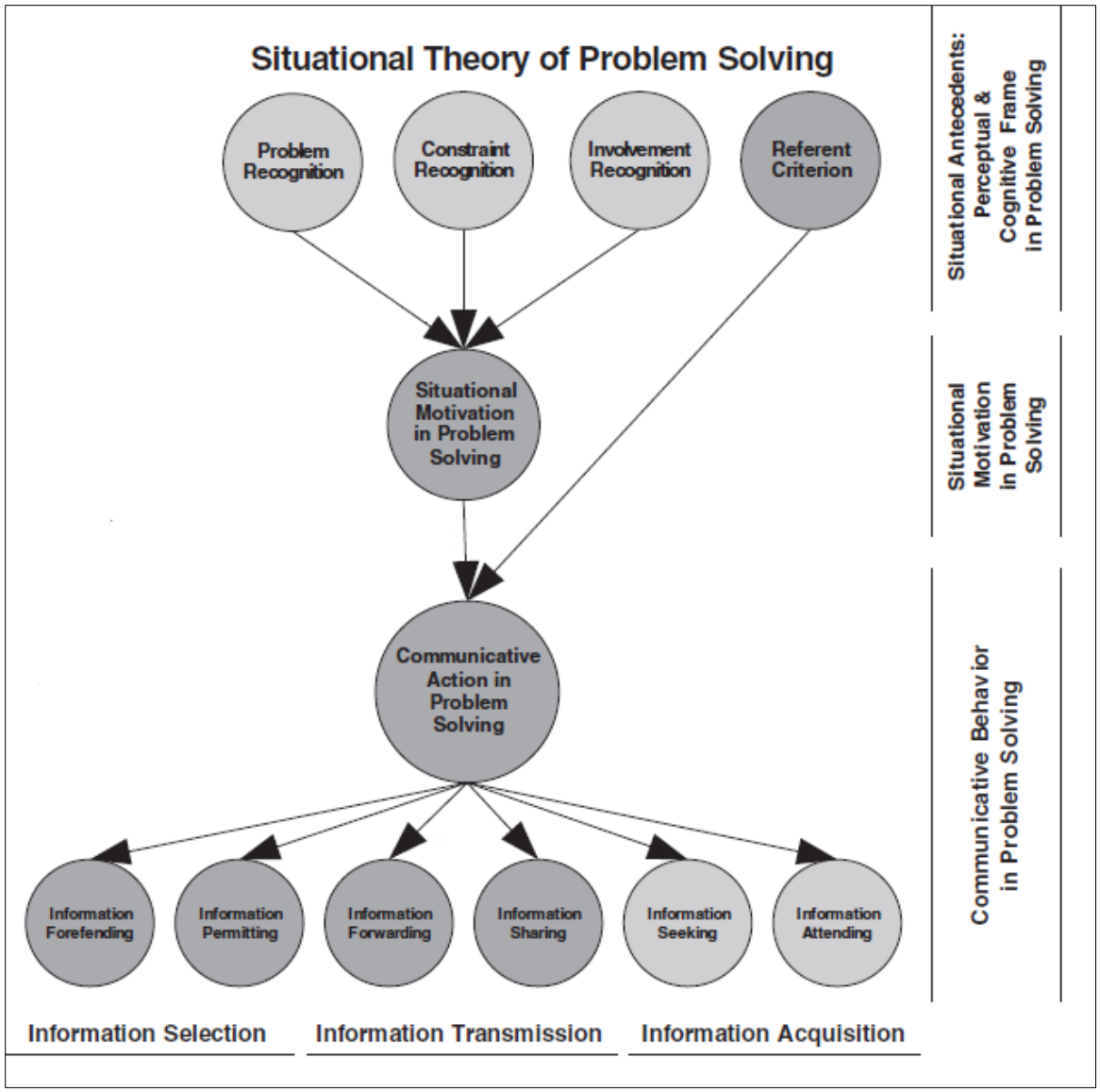


Figure 1: Situational Theory of Problem Solving

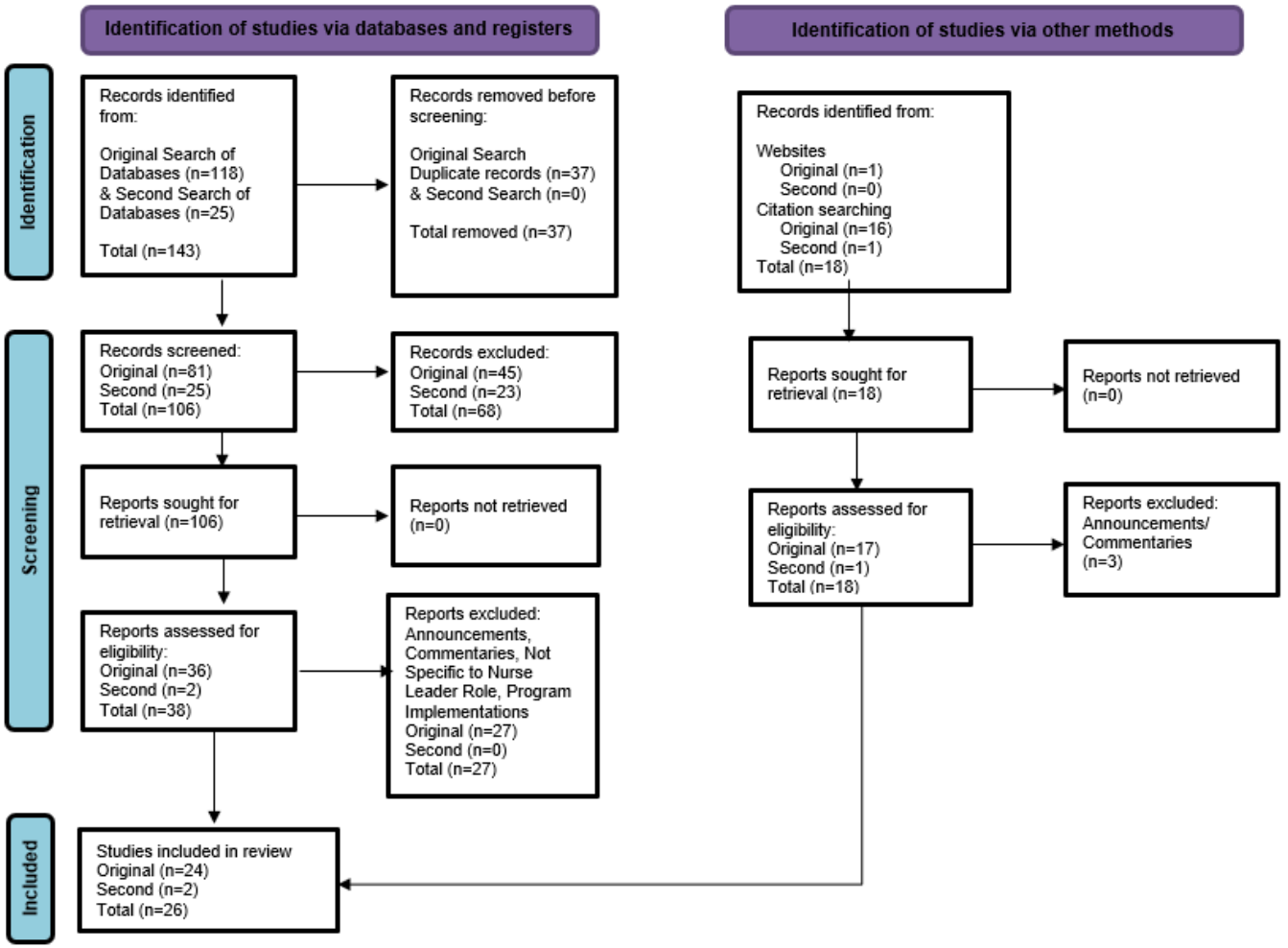


Figure 2: Search Strategy for Papers Included in Review

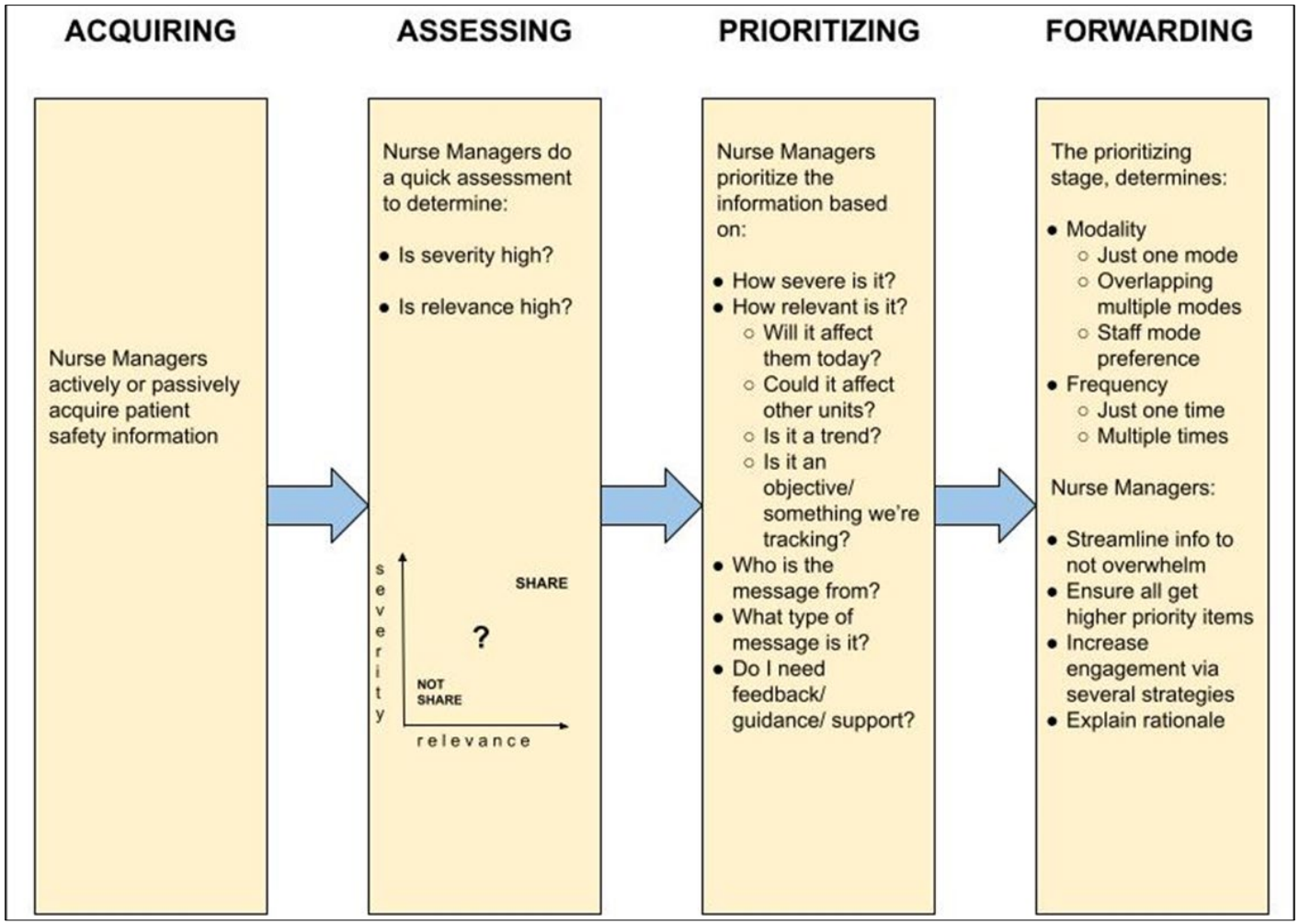
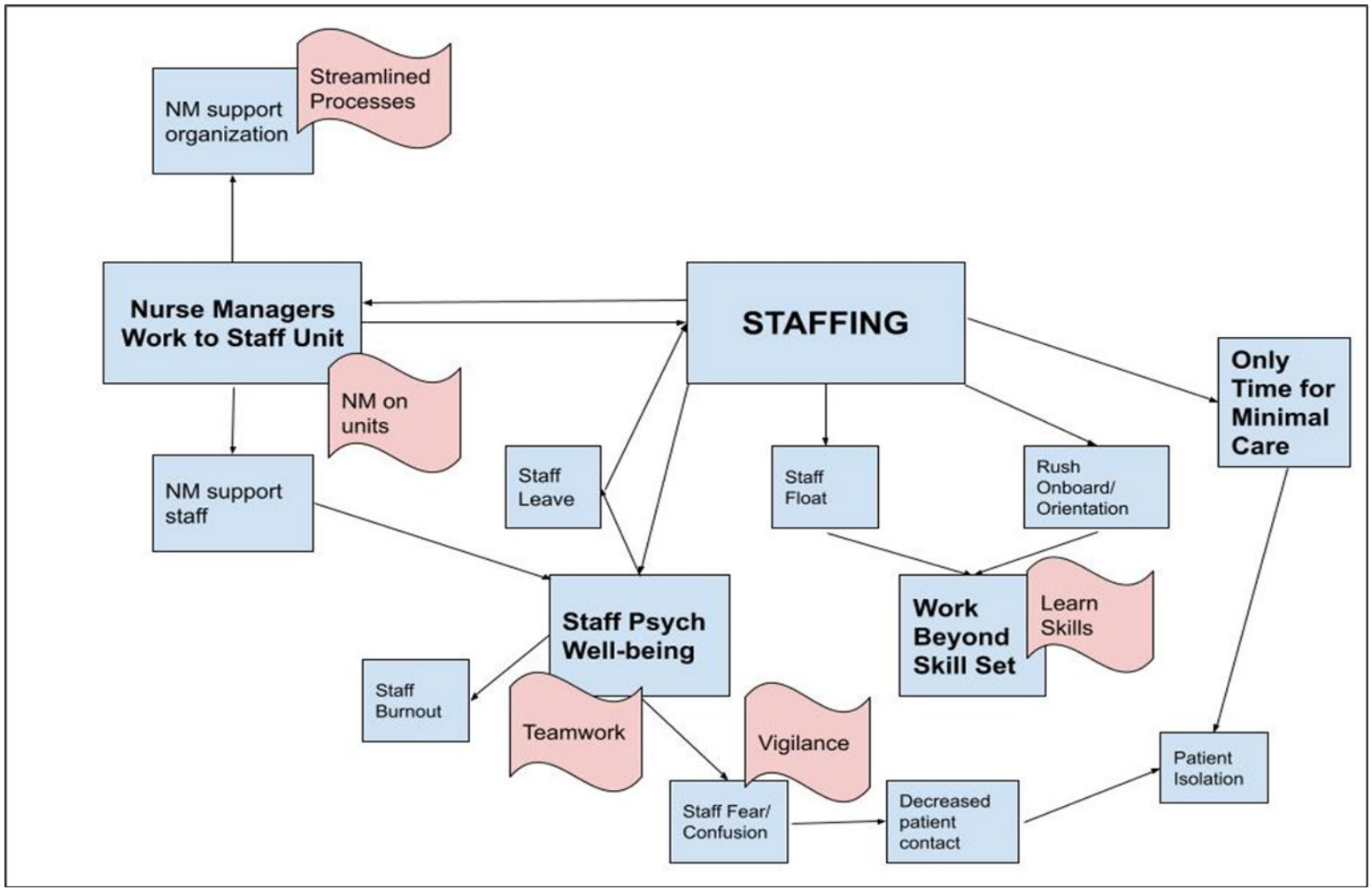


Figure 3: Nurse Managers' Decision-Making Process to Forward Patient Safety Information



Blue = Patient Safety Concerns; Pink = Positives from COVID

Figure 4: Thematic Review

Table 1: Summary of Reviewed Studies

Source	Design	Population	Setting	Aims	Results	Notes
Agnew & Flina (2014) United Kingdom	Mixed-methods Semi-structured interviews and cross-sectional surveys with Content Analysis of qualitative data and Correlational Analysis of quantitative data	Senior charge nurses (SCN) (n=15) (interviews & survey) and staff nurses (n=82) (survey only)	One large acute NHS hospital in Scotland	Identify the leadership behaviors of senior charge nurses that are (a) typically used and (b) relate to safety outcomes	• Percent of time - SCN engaged in relationship-oriented (49%), task-oriented (45%), & change-oriented (3%) behaviors • SCNs reported it was necessary to adapt their leadership style, especially during more demanding times, and become more task-oriented • Staff nurse ratings of SCNs "monitoring" and "recognizing" behaviors were related to staff compliance with rules ($r = 0.55$, $p < .05$) and severity of patient injuries ($r= -0.59$, $p < .05$) • SCNs self-ratings "supporting" were linked to lower infection rates & "envisioning change" behaviors were linked to	• Coding of interviews based on constructs of Yukl's Managerial Practices Survey

Source	Design	Population	Setting	Aims	Results	Notes
					lower infection and other safety indicators for both patients and staff	
Alingh et al. (2019) The Netherlands	Quantitative Cross-sectional survey to examine relationship of management styles to safety climate, psychological safety, & willingness to speak up via Hierarchical Regression Analysis	Nurses (n=980) and nurse managers (n=93) working on medical, surgical, and ICU wards	Dutch clinical hospitals from 2014-2015	Explore the relationships between control-based management and commitment-based management styles and climate for safety, psychological safety, and nurses' willingness to speak up	• RNs and NMs perceptions of safety management differ with nurses perceiving less safety management and nurse managers perceiving more safety management Commitment-based management: • Associated with increased speaking up attitudes and is mediated by psychological safety • Not associated with safety climate (diverges with previous studies) Control-based management: • Not negatively associated to psychological safety	

Source	Design	Population	Setting	Aims	Results	Notes
					• Positively related to safety climate (diverges with previous studies)	
Auer et al. (2014) Switzerland	Quantitative Cross-sectional survey of management support for patient safety with Path Analysis of non-punitive, open communication, organizational learning, & feedback to trust in management & perception of patient safety	Nurses (n=1633) working in direct patient care	Medical, surgical or mixed units in 35 adult acute care hospitals in Switzerland from 2009-2010	Explore the associations between hospital management support for patient safety, registered nurses' trust in hospital management, and their overall perception of patient safety	• Management support for patient safety directly influences both trust in management and overall perception of patient safety • Safety communication (i.e. non-punitive response to error, open communication, & organizational learning) had a mediating effect enhancing the overall perception of patient safety • Feedback concerning errors did not have a mediating effect • The mediating effect of safety communication on trust in management was minimal	• Subsections of HSPSC survey items were used
Barkhordari-Sharifabad & Mirjalili	Quantitative Cross-sectional surveys to	Nurses (n=171) working in	Teaching hospitals affiliated with	Determine the level of ethical leadership and its	• Significant reverse relationship between all 5 ethical leadership	• Ethical leadership questionnaire developed by

Source	Design	Population	Setting	Aims	Results	Notes
(2020) Iran	examine the relationship of ethical leadership to nursing error via descriptive and correlation statistics	medical-surgical wards	Shahid Sadoughi University of Medical Sciences in Yazd, Iran	effect on nursing error and error reporting	dimension scores and nursing error rate • Significant relationship between 4 ethical leadership dimensions and error reporting • Ethical leadership dimension "power-sharing" not significantly related to error reporting	researchers; description of development and psychometric properties provided (internal consistency = 0.99)
Cummings et al. (2010) Canada	Quantitative Secondary analysis of cross-sectional survey comparing leadership styles to mortality rates via Hierarchical Logistic Regression	Nurses (n=5,228) from 90 hospitals	Alberta, Canada	Examine the contribution of hospital nursing leadership styles to 30-day mortality of patients (n=21,570) admitted with MI, CHF, COPD, pneumonia, or stroke after controlling for patient demographics, comorbidities, and hospital factors	Overall mortality rate = 7.8% Nursing leadership styles & mortality rates: • High resonant (5.2%) • Moderately resonant (7.4%) • Mixed (8.1%) • Moderately dissonant (8.8%) • High dissonant (4.3%)	• Nursing survey data from a separate study from 1998 • Leadership styles were classified by the frequency of nurse agreement to 13 questions from the Revised Nursing Work Index for an overall unit score

Source	Design	Population	Setting	Aims	Results	Notes
Disch et al. (2011) United States	Qualitative Structured interviews with Thematic Analysis	Healthcare members (n=171) (CNO, chair of the board, physician leaders, nurse directors, nurse managers, department managers, assistant nurse managers, & staff nurses)	Eight hospitals in CA, IA, MI, MO, NY, & TX which were members of both the Solucient Top 100 and the Leadership Excellence Network program	Obtain information from organizational leaders and staff on their experiences with and structures supporting quality/ patient safety initiatives	Quality/ Patient Safety is enhanced via: • Collaborative, clearly articulated leadership • Leaders who are actively involved in goal setting (prioritizing a reasonable number to avoid "quality burden" on frontline workers), securing resources, defining roles and communicating frequently and exchanging ideas	
Feng et al. (2011) China	Quantitative Cross-sectional survey of management safety culture & patient safety culture with Spearman Correlation & Multiple	Med/ surg & ICU RNs (n=228) & nurse managers (n=20)	A university hospital in Southwest China	Explore the relationship between management safety commitment and patient safety culture	• Staff RNs scored patient safety culture lower than nurse managers (RN = 147.47; NM = 162.26, $p < .001$) • Nurse management safety commitment is related to patient safety culture • Researchers believe management safety commitment via:	• Safety commitment scale developed by the researchers; test-retest reliability = 0.88

Source	Design	Population	Setting	Aims	Results	Notes
	Regression analysis				- Role modeling - Implementing/ communicating clear safety policies - Providing safety training - Providing tangible support	
Labrague, L. (2021) Oman	Quantitative Multicenter cross-sectional surveys (n=3) to examine the influence of nurse managers' toxic leadership behaviors on patient safety outcomes and care quality with Hierarchical Linear Regression analysis	Bedside licensed registered nurses (n=1053)	20 hospitals in the Philippines	Analyze the influence of nurse managers' toxic leadership behaviors on patient safety outcomes and care quality	Toxic leadership associated with increased: • Patient complaints • Verbal mistreatment from patients • Patient falls • Healthcare associated infections • Medication administration errors • And associated with decreased quality of care	Secondary Analysis
Labrague et al. (2021)	Quantitative Multicenter cross-sectional	Licensed nurses employed in acute care	24 hospitals in the Sultanate of Oman	Examine whether nurses' safety actions mediate the	Authentic leadership: • Predicted nurses' safety actions	

Source	Design	Population	Setting	Aims	Results	Notes
Oman	questionnaire to examine whether nurses' safety actions mediate the relationship between authentic leadership, adverse events, and care quality	facilities (n=1608)		relationship between authentic leadership, nurse-assessed adverse events and nursing care quality	• Decreased nurse-assessed adverse events • Increased quality of care	
Lalleman et al. (2016) United States & The Netherlands	Qualitative Multi-site ethnographic case study with Inductive Coding	Nurse middle managers (n=16)	Two Dutch & two American acute care, mid-sized, non-profit hospitals	Explore how the "caring disposition" of nurse middle managers' habitus influences their clinical leadership behavior in patient safety practices	A caring disposition produced: • Short-term fixes and non-sustainable solutions which could jeopardize patient safety by undermining multi-disciplinary cooperation • Focus on the nursing staff instead of patient safety A scientific disposition produced: • Investigative stance toward patient safety, &	

Source	Design	Population	Setting	Aims	Results	Notes
					consultation with peers to find sustainable and evidence-based solutions	
Mattson et al. (2015) Sweden	Quantitative Cross-sectional questionnaire of communication approaches (i.e., safety priority communication & feedback) with Structural Equation Modeling of relationships with safety compliance, organizational citizenship behaviors (OCB), reporting, & patient safety	Healthcare employees (n=221) (doctors, nurses, administrative personnel, & other) working on two units (anesthetics and surgery) in one hospital	Stockholm area of Sweden	Investigate whether and in what way leader communication relates to safety outcomes	• Safety priority communication by the nursing leader was positively associated with safety compliance, which mediated and was positively associated with incident reporting • Feedback communication by the nursing leader was associated with high levels of OCB, which mediated and was positively associated with incident reporting • Incident reporting positively related to patient safety and also mediated the relationship between safety compliance & OCB with patient safety	• Variables measured with subsections of five different scales

Source	Design	Population	Setting	Aims	Results	Notes
McFadden et al. (2015) United States	Quantitative Cross-sectional survey of transformational leadership style, patient safety climate, & continuous quality improvement (CQI), with Structural Equation Modeling of hospital acquired conditions (HAC) and patient quality outcomes (PQS)	Hospitals (n=204) included in the Hospitallink Directory	Hospitals in 48 of 50 states including urban/ rural, private/ government, for-profit/ not-for-profit, & system/ non-system	Present a research model that shows how transformational leadership, safety climate, & continuous quality improvement initiatives are related to objective quality and patient safety outcome measures	Transformational leadership (CEO) is: • Associated with higher patient safety climate Patient Safety Climate is: • Associated with higher CQI • Associated with a decrease in HACs Continuous Quality Improvement is: • Associated with higher PQS • Associated with higher HACs	• Authors distinguish the different goals for Patient Safety & CQI as possible explanation for unique finding of increased HACs with CQI
Merrill (2015) United States	Quantitative Cross-sectional survey with Descriptive Correlational analysis	Nurses (n=466) working in 41 departments	9 hospitals in a not-for-profit healthcare system in 1 state	Explore the relationship between nurse manager leadership style and safety climate	• Transformational leadership style associated with increased safety climate (i.e. foster interprofessional alliances)	

Source	Design	Population	Setting	Aims	Results	Notes
					• Laissez-faire leadership negatively contributed to unit socialization and a culture of blame	
Murray et al. (2018) Australia	Integrative Literature Review	Research articles from 2010-2016 on leadership and patient safety	30 articles	Develop an understanding of leadership in health care and its influence on patient safety and safety culture	Patient safety improved by leaders who: • Engage and empower employees - clear guidelines - shared vision - lead by example - open communication - develop trust - visibility - WalkRounds may improve engagement, but also may expose disparities • Have strong transformational leadership style - strong leadership - staffing - multidisciplinary staffing - employee empowerment	• Characteristics of studies included not discussed (e.g., country, design, setting); no table presented

Source	Design	Population	Setting	Aims	Results	Notes
					- seek education/ professional growth • Address barriers - blame culture - disempowerment of nurses - time to keep up with research and EBP - increase in administrative duties - inadequate leadership education	
O'Connor & Carlson (2016) United States	Quantitative Quality Improvement with Descriptive Statistics analysis	Units (n=6) at a suburban community hospital Following intervention, nurses on the 4 of 6 units with positive results were surveyed (n not reported)	United States (assumed)	Describe how staff-designed behavior changes among senior leaders can have a positive impact on clinical nursing staff and enhance the culture of safety	Senior leaders implemented specific rounding, staff-driven safety interventions, shared governance meeting attendance, publication of safety decisions, and working alongside staff. • Incident reporting doubled • Harm events decreased by 31% • Culture of safety survey improved on 4 of 6 units • Staff recognized leadership behavior changes	• Characteristics of hospital (e.g., size, general location) not reported • n values not reported • p-values not reported • survey instrument reported as being reliable & valid; psychometric properties not reported

Source	Design	Population	Setting	Aims	Results	Notes
						• Confounding variables not controlled for analysis
O'Donovan et al. (2018) Ireland	Narrative Review	Peer-reviewed research articles from 2006-2017 related to safety culture in health care settings linking to leadership, communication, or improvement initiatives	92 articles	Explore the recent literature to examine the factors that affects safety culture within health care teams	• Seven themes emerged: - defining safety culture - teamwork & communication - leadership - accountability - safety culture & patient outcomes - measuring & enhancing safety culture • Leadership: Safety culture can be promoted via: - open communication - trust - teamwork - continuous organizational learning - create psychological safety - inclusiveness - behavioral integrity	• Characteristics of studies included not discussed (e.g., country, design, setting); no table of included studies • Authors concede it is unclear whether improving safety culture leads to better patient outcomes

Source	Design	Population	Setting	Aims	Results	Notes
					- shift away from a culture of blame - genuine safety concerns - shared leadership - whole system approach - transparency	
Parand et al. (2014) United Kingdom	Systematic Review	Articles from 1983 – 2010 which described or tested managerial roles pertaining to quality and safety in the hospital setting	19 articles: • 14 USA • 2 UK • 2 Australia • 1 Canada	Review the empirical literature to identify the activities, time spent, and engagement of hospital managers in quality of care	• Literature suggests managers influence quality and safety outcomes • Activities, such as establishing goals for quality, setting a quality agenda, engaging in quality, promoting a QI culture, managing resisters, feedback, and procurement of resources affect quality • Quality is enhanced with compensation attached to quality, using quality improvement measures, having a Board "quality committee;" These are not commonly in place	• The majority (13 of 19) of the studies were on senior management (e.g., CNOs)/ hospital Boards; 3 studies considered middle managers; 3 examined frontline staff (e.g., unit managers)

Source	Design	Population	Setting	Aims	Results	Notes
					• Several studies suggested the Board needs to spend more time on quality and safety	
Poniatowski et al. (2005) United States	Quantitative Cross-sectional survey of PSN reporting system use with Descriptive Statistical analysis	Survey of nurse managers using the Patient Safety Net (PSN) reporting system (n=515)	The University HealthSystem Consortium (UHC) – an alliance of 90+ academic medical centers & 118 affiliate members	Identify how nurse managers were utilizing PSN data to improve patient safety	• 59% Change policies/ procedures • 27% Change training, education, & communication • 8% New equipment/ supplies • 6% Staffing changes "Majority" of managers report PSN enabled them to: • Take immediate action • Collaborate with other managers & departments • Use data to leverage staffing requests, resources/ equipment, training needs • Change policies/ procedures	• Evidence tables, data analysis methods not presented • Survey created by researchers; psychometric properties not reported
Richardson & Storr	Literature Review	Research articles from 1998-2008	11 articles: • 7 USA	Identify to what extent and in what	Nursing leadership plays a role in patient safety via:	

Source	Design	Population	Setting	Aims	Results	Notes
(2010) United Kingdom		focused on patient safety, nursing, and included at least one: leadership, advocacy, interdisciplinary working, empowerment, or collaboration	• 2 Canada • 1 UK • 1 Iceland (4 papers focused on leadership)	way nursing leadership, collaboration, & empowerment can have a demonstrable impact on patient safety	• Open communication • Formalization • Staff involvement in policies • Staffing • Support of nurse/ physician relationship • "Trusted" leadership • Use of care pathways • Mentorship • Conduit to inform healthcare administration of frontline issues	
Ring & Fairchild (2013) Canada & United States	Literature Review	Articles which addressed leadership, safety culture, just culture, and regulatory nursing	23 works	Synthesize the evidence concerning the relationship among leadership competencies, patient safety, and a healthy work environment	• Safety culture achieved through consistent communication, atmosphere that values learning, nonpunitive error reporting, and fairness • Safety culture can be undermined by overemphasis on cost controls, inability to acknowledge fallibility, and focus on perfectionism	• Search terms, dates, inclusion & exclusion criteria not discussed • Characteristics of studies included not discussed (e.g., country, design, setting); no table included

Source	Design	Population	Setting	Aims	Results	Notes
					• Safety culture and just culture enhanced by organizational learning, open communication, transformational leadership, engagement, teamwork, EBP, and non-punitive designs	
Rotteau et al. (2014) Canada	Qualitative Semi-structured interviews collected as part of a previous mixed-methods study with Thematic Analysis	Senior nurse leaders (n=11) & front-line staff (n=33)	2 major teaching hospitals with mature Walkrounds programs	Explore the views and experiences of Patient Safety Walkrounds in identifying patient safety problems and improving patient safety culture	• Senior leaders initially echoed the general principles of Walkrounds – engaging staff in open conversation to discuss patient safety concerns • Senior leaders also indicated nominal respect for front-line concerns, such as environmental and infrastructure concerns instead of topics such as teamwork & communication • Senior leaders often expressed being present but not engaged, only appearing	

Source	Design	Population	Setting	Aims	Results	Notes
					interested; front line staff were disillusioned due to the lack of resolution of ongoing issues • Senior Leaders expressed controlling the conversation and steered away from "negative" or "whining" feedback from staff • Senior Leaders with clinical backgrounds were more willing to acknowledge staff concerns	
Squires et al. (2010) Canada	Quantitative Cross-sectional survey with Structural Equation Modeling of interactional justice, nurse-leader relationships, work environment &	Direct-care RN's (n=267) working in medical, surgical, or critical care on a full-time or part-time basis	Acute care hospitals in Ontario, Canada in 2008	Test and refine a model examining relationships among leadership, inter-actional justice, quality of the nursing work environment, safety climate and patient and nurse safety outcomes	Patient safety outcomes: • Resonant leadership style and interactional justice significantly influence the nurse-leader relationship, which in turn influenced the safety climate & work environment • Safety climate significantly influenced medication errors, but not pressure ulcers	• Patient Safety outcomes measured by RN self-reported number of encounters with pressure ulcers & medication errors over the last 4 months ("had wide variability")

Source	Design	Population	Setting	Aims	Results	Notes
	safety climate with patient & nurse outcomes.				• Work environment did not significantly influence medication errors nor pressure ulcers (only when mediated through a safety climate) Nurse outcomes: • Resonant leadership significantly influenced intent to leave & emotional exhaustion	• Other variables measured with six different scales
Vaismoradi et al. (2014) Iran	Qualitative Semi-structured interviews and 10 hours of structured observation with Content Analysis	Nurses (n=20) (16 direct care nurses and 4 head nurses) working in eight different medical and surgical wards	A teaching hospital in Tehran, Iran	Explore and describe how nurse leaders facilitate safe care	Three themes emerged: • Environmental (staffing, facilities – such as disinfection resources, equipment – head nurses they can only report shortages up the "chain of command") • Interprofessional collaboration (clarify nurses' roles with other disciplines, represent nursing issues in policymaking)	• Researchers did not differentiate results between RNs and nurse managers

Source	Design	Population	Setting	Aims	Results	Notes
					• Atmosphere (create positive, open atmosphere, employ proper managerial skills – consider nurses' capabilities when dividing labor, defend & support staff, trust, reward, open to report errors/ no blame & shame, supervise respectfully)	
Vogus & Sutcliffe (2007) United States	Quantitative Cross-sectional survey of medication errors linked to safety organizing, trust in manager, use of care pathways, RN characteristics, and staffing with Poisson Regression analysis	Convenience sample of RN's (n=1033) and nurse managers (n=78)	A nonprofit Catholic hospital system with hospitals in CA, ID, IA, MD, MI, & OH from Dec 2003- June 2004	Examine the benefits of bundling safety organizing with leadership (trust in manager) and design (use of care pathways) factors on reported medication errors	• Benefits of increasing safety organizing are more pronounced when coupled with high levels of trust in in one's nurse manager and use of care pathways • Interaction effects between safety organizing & trusted leadership (β = -0.68, p,.001) and safety organizing & care pathways (β = -0.82, p,.001) had significant negative relationships with medication errors	• Researchers did not differentiate results between RNs and nurse managers • Used medication error reporting as dependent variable; authors concede reporting of errors is low (i.e. 10-15%)

Source	Design	Population	Setting	Aims	Results	Notes
Wang & Dewing (2020) United Kingdom	Literature Review	Research articles from 2004-2019 on leadership and patient safety	10 articles	Examine the mechanism(s) by which nursing leadership impacts patient safety with a view to explaining connections to the concept of person-centeredness via the Person-centered Nursing Framework by McCormack & McCance (2017)	Patient safety improved by leaders who: • Empower employees • Quality leader-nurse relationships • Provided quality of work environment - policy - staffing - nurse-physician relationship	• Authors discuss that the nurse leader does directly impact patient safety, but instead impacts it indirectly via mediating effects
Wong et al. (2013) Canada	Systematic Review	Update evidence from previous study (1985-2005 search) with a secondary search of articles from 2005-2012. Inclusion required studies to be quantitative and statistically	20 total articles (7 from previous study & 13 new): • 15 USA • 4 Canada • 1 Norway	Examine the relationship between nursing leadership practices and patient outcomes	• Relational leadership practices were positively associated with some patient outcomes - reduction of medication errors - trends for reduced use of adverse events such as restraints, hospital-acquired infections, patient falls,	• Included acute care settings and community settings such as nursing homes, dialysis facilities, and home health • Most studies only looked at relational

Source	Design	Population	Setting	Aims	Results	Notes
		tested and focused on leadership including leadership styles, behaviors, competencies or practices			- indication of reduced mortality (3 of 6 studies) - reduced length of stay (1 study)	leadership practices (versus task-oriented leadership)

Table 2: Demographic Characteristics of Participants and Organizations

Characteristic	n	%	Characteristic	n	%
Gender			**Years Nurse Manager**		
Male	2	11	1-5	13	68
Female	17	89	6-10	4	21
			11-15	0	0
Age			16-20	1	5
20-29	1	5	20+	1	5
30-39	9	47			
40-49	6	32	**Hospital Size (beds)**		
50-59	2	11	<100	2	11
60-69	1	5	100-300	4	21
			>300	13	68
Race/Ethnicity					
Caucasian	14	74	**Magnet/ Pathways**		
Asian	3	16	Yes	9	47
Pacific Islander	1	5	On Journey	5	26
Hispanic	1	5	No	2	11
			Unsure	3	16
Education					
ASN	1	5	**Staff Oversee**		
BSN	9	47	0-20	1	5
MSN	9	47	21-40	4	21
			41-60	0	0
Years Nursing			61-80	6	32
1-5	0	0	81-100	5	26
6-10	4	21	101+	3	16

Characteristic	n	%	Characteristic	n	%
11-15	7	37			
16-20	3	16			
21-25	3	16			
25-30	1	5			
30+	1	5			

APPENDIX B: INITIAL INTERVIEW GUIDE

PROBLEM RECOGNITION

1. As a nurse manager, I know you have a lot on your plate, but what do you see as the biggest challenges for your unit?
    a. Probe for why they did or did not include medical errors and patient safety
2. Whenever I say the words "medical errors," what does that mean to you?
    a. Describe how medical errors, near misses, and patient safety will be defined for this study
3. How would you describe the impact of medical errors or near misses on your unit? How does that compare to other units in your organization?

INVOLVEMENT RECOGNITION

1. As a nurse manager, how would you describe your role in achieving patient safety and preventing medical errors?

CONSTRAINT RECOGNITION

1. What are some of the barriers that prevent you from [use their words for their description of their role from the previous question]

REFFERENT CRITERION

Think about a time when you had to deal with a medical error or near miss, how has that experience guided your practice as a nurse manager?

INFORMATION SEEKING

1. How do you usually find out that a medical error or a near miss has occurred on your unit?
2. Other than [the communication methods they mention in the previous question], what are some of the proactive ways you gather information about medical errors, near misses, or patient safety concerns on your unit?
3. Describe how you get information about medical errors, near misses, or patient safety concerns on OTHER units?
4. Please describe a time when you found a patient safety concern using [the proactive method they described in the previous question].

INFORMATION PERMITTING (UNIT SPECIFIC CONCERNS)

1. How did you decide what information to act on?

INFORMATION FORWARDING (UNIT/ ORGANIZATION SPECIFIC CONCERNS)

1. With whom else did you share this information? Describe the process you used to share that information. Were there any facilitators/barriers to sharing this information?

ORGANIZATIONAL LEARNING

1. What happened to that information once you shared it?
    a. Can ask about personal feedback to the nurse manager, feedback to the unit, policy changes, systems changes; did they (the nurse manager) follow up?

APPENDIX C: IRB APPROVED RECRUITMENT FLYER

Are you a Nurse Manager who has communicated about medical errors, near misses, or patient safety?

Research Study Overview

The purpose of this research study is to understand what active communicative behaviors nurse managers use concerning medical errors, near misses, and patient safety. Active communicative behaviors include things such as seeking, selecting, and sharing information on medical errors, near misses, and patient safety. Findings from this study will help researchers better understand nurse managers' communicative behaviors to achieve patient safety and determine how these can be used to improve organizational learning.

Recruiting Participants Who Are:

- 18 years of age or older
- Unit-level nurse managers
- Working full-time
- In an acute care hospital
- With a minimum of 1 year experience
- Your position includes receiving and reporting information on medical errors, near misses, or patient safety

Your Time

Completion of one telephone or Zoom interview lasting approximately 60 minutes

Compensation

Participants will receive a $25 Amazon eGift card upon completion of the interview.

Interested?

If you have any questions concerning the research study or are interested in participating in the study, **please contact Chris Deatrick**, MSN RN, PhD Candidate, at **christine.deatrick@ucf.edu or 407-823-5133**

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APPENDIX D: IRB APPROVAL

UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board
FWA00000351
IRB00001138, IRB00012110
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

June 15, 2021

Dear Christine Deatrick:

On 6/15/2021, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Category 2(ii)
Title:	Nurse Managers' Active Communicative Behaviors Concerning Patient Safety
Investigator:	Christine Deatrick
IRB ID:	STUDY00003148
Funding:	None
Grant ID:	None
Documents Reviewed:	• DeatrickHRP-251-FORM- Faculty Advisor, Category: Faculty Research Approval; • Deatrick HRP-245 Explanation of Research, Category: Consent Form; • Deatrick IRB Interview Guide, Category: Interview / Focus Questions; • Deatrick IRB Recruitment Posting, Category: Recruitment Materials; • DeatrickHRP-255-FORM - Request for Exemption, Category: IRB Protocol

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Katie Kilgore
Designated Reviewer

Institutional Review Board
FWA00000351
IRB00001138
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

UNIVERSITY OF CENTRAL FLORIDA

CLOSURE

February 9, 2022

Dear Christine Deatrick:

On 2/9/2022, the IRB reviewed the following protocol:

Type of Review:	Continuing Review
Title:	Nurse Managers' Active Communicative Behaviors Concerning Patient Safety
Investigator:	Christine Deatrick
IRB ID:	CR00001503
Funding:	None
Grant ID:	None
IND, IDE, or HDE:	None

The IRB acknowledges your request for closure of the protocol effective as of 2/9/2022. As part of this action:

- The protocol is permanently closed to enrollment.
- All subjects have completed all protocol-related interventions.
- Collection of private identifiable information is completed.
- Analysis of private identifiable information is completed.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Katie Kilgore
Designated Reviewer