MEDICATION ERROR REPORTING: A QUALITATIVE STUDY EXPLORING STUDENT NURSES' ANTICIPATED PEER REACTIONS TO ERROR REPORTING

by

LORI LYNN KELLY

SUSAN J. APPEL, COMMITTEE CHAIR
VIVIAN WRIGHT
RICK HOUSER
HEATHER CARTER-TEMPLETON
BECKY ATKINSON

A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Education
in the Department of Educational Leadership,
Policy, and Technology Studies
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2018

ABSTRACT

Through a series of vignettes describing a variety of medication error scenarios, the study used descriptive qualitative interviewing to explore junior and senior level student nurses' beliefs regarding the impact of reporting medication errors on the relationship between the person committing the error and the nurse reporting the error. The study also addressed how, if at all, the student nurses' beliefs regarding the relational impact would influence their decision to report medication errors, and what other factors influenced their intent to report medication errors. Student nurses were used for this study because the literature suggested pre-licensure socialization into the profession is a strong determinant of positive intent to report errors (Throckmorton & Etchegaray, 2007) and openness to error reporting can be reinforced during the pre-licensure education process (Espin & Meikle, 2014). The theories of Symbolic Interactionism and Ethics of Care were used to discuss the study's results and the implications for nursing education. Results included a high degree of similarity between student nurses and practicing nurses' justifications for not reporting medication errors, and a decreased intent to report errors when error-committing nurses demonstrated remorse. Results were varied regarding how interpersonal relationships affected student nurse's intent to report medication errors, and no difference was found in male versus female nursing students regarding justifications or intent to report medication errors. Implications for nursing education focused on increasing student exposure to medication errors and error reporting.

ACKNOWLEDGMENTS

I would like to thank my children, family, friends, and committee members who were supportive during this process. Additionally, thank you Dr. Atkinson, Dr. Kee, and Dr. Seager.

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CHAPTER ONE: INTRODUCTION

Nurses administer medications to hospitalized patients and are therefore the final gateway to hospitalized patients receiving medications correctly. Nurses are in a unique situation to experience errors related to medications, not only because they spend a significant amount of time administering medications (Covell & Ritchie, 2009), but also because they are the end users of a physician's order, a pharmacist's preparation, and a hospital's system for medication dispensing (Munoz, Miguez, Perez, & Escribano, 2010; Yoost & Crawford, 2016). Student nurses learn about medication errors in the classroom and in the clinical setting and have an awareness of the need to report medication errors if they commit them or recognize they were committed by another healthcare provider (Andrew & Mansour, 2014; Ion, Smith, Moir, & Nimmo, 2016). However, medication errors are underreported both by nurses and by nursing students (Andrew & Mansour, 2014; Covell & Ritchie, 2009; Haw, Stubbs & Dickens, 2014; Ion et al., 2016).

Adequate error recognition and reporting are essential to improve patient safety and decrease medication errors (Arnold & Boggs, 2016). Identifying barriers to reporting errors is necessary to increase error reporting (Covell & Ritchie, 2009; Haw et al., 2014; Kagan & Barnoy, 2008). To capture all potential future errors, reporting must include "near miss" errors (Wu, 2011). Near miss errors are errors that did not reach the patient but, had they, could have caused patient harm [National Coordinating Council for Medication Error Reporting (NCC MERP), 2001; Wu, 2011].

The Institute of Medicine's (IOM) study published in 2000 and its follow-up study published in 2007 determined that 44,000-98,000 deaths occur annually due to medical errors and that a hospitalized patient may be subjected to at least one medication error per day (IOM, 2007, p. 1). More recently, Makary and Daniel (2016) suggested medical errors are the third leading cause of death in the United States, following only heart disease and cancer. Of note, is research that suggests that for every error resulting in a patient death, the same error was committed, at some point and to some patient at least seven times (Wu, 2011), and medication related errors account for approximately one-fourth of all errors (Covell & Ritchie, 2009, p. 287).

Background of the Problem

Although nurses are considered honest and ethical professionals, able to meet the expectations of the public they serve (Honesty/Ethics in Professionals, 2014), a 2005 survey of more than 1000 nurses indicated that while more than 50% witnessed a medical error, less than 10% reported it (Maxfield, Grenny, McMillan, Patterson, & Switzler, 2005). Similarly, the 2014 study conducted by Haw et al. found that less than half of nurses in the study would report a medication related error made by a colleague. These findings highlight a need for interventions to increase nurse reporting of errors and near miss errors (de Vries & Timmins, 2016). Error reporting by nurses is valuable not only for the sake of patient safety so that appropriate interventions occur to prevent an untoward patient response, but also for organizational data to explore system problems that may predispose to medication errors and allow correction to avoid future errors (Gladstone, 1995; Keohane et al., 2008). Therefore, considering the alarming rate of medication errors, and a nurse's responsibility to administer medications, it is essential for nurse educators to prioritize medication error reporting in the education of student nurses (Andrew & Mansour, 2014). The literature suggested that pre-licensure education relating to

medication error reporting is a strong determinant of positive intent to report errors (Throckmorton & Etchegaray, 2007) and openness to error reporting can be reinforced during the pre-licensure education process (Espin & Meikle, 2014).

These same student nurses will soon be newly licensed nurses, and potentially exposed to an institution or unit that does not support the identification and reporting of errors or near errors. (Cooper, 2013). Nursing educators may increase the likelihood of student nurses becoming licensed nurses prepared to report errors by including methods to overcome known barriers to error reporting during pre-licensure education (Cooper, 2013). Pre-licensure socialization into the profession of nursing, including the need to report errors influences the student nurse's intent to report errors (Throckmorton & Etchegaray, 2007).

Health care risk epidemiology suggests medication errors are the most common cause of adverse patient outcomes (Munoz et al., 2010). The American Association of Colleges of Nursing (AACN) in its prioritized development of Quality and Safety Education in Nursing (QSEN) addressed medication errors in the medical setting. QSEN challenged nursing faculty to address the knowledge, skills, and attitudes entry level nurses need to have in order to provide safer patient care (AACN, 2015). Again, by acknowledging barriers to medication error reporting, pre-licensure nurse educators can prepare student nurses to better anticipate, recognize, and overcome these barriers and may increase the likelihood of students becoming licensed nurses prepared for the challenges of medication error reporting (Andrew & Mansour, 2014; Cooper, 2013). Despite the recommendations, little research exists that examined how student nurses understand the reporting of medication errors, or what influences their intent to report errors as licensed nurses, especially regarding the phenomenon of "telling" on a colleague.

Statement of the Problem

While many studies have examined various barriers to nurses reporting medication errors, what is not known yet is how anticipated peer reactions to medication error reporting influence a student nurse's intent to report errors. All barriers to medication error reporting are important (Firth-Cozens, Firth, & Booth, 2003). Medication error reporting will affect not only patients and their families, but also nurses, physicians, healthcare institutions, and the general public as all are stakeholders in improving the safety of healthcare. The specific benefits to each of these stakeholders are explored in more detail in the review of the literature.

Although multiple studies have examined reasons nurses choose not to report errors, there is a gap in the literature specifically examining the role that professional collegial relationships among healthcare providers working together on hospital units play in nurses' decisions to report or not report known errors. Despite the moral obligation of nurses to report errors and near errors, current studies indicated that medication errors continue to be underreported (American Nurses Association, 2015; Covell & Ritchie, 2009; Haw et al., 2014; Kelley, 2002; Maxfield et al., 2005). Overcoming the barrier of "tattling" on colleagues can increase the likelihood of error reporting (Covell & Ritchie, 2009; Firth-Cozens et al., 2003). By increasing error reporting, future errors may be decreased (Wu, 2011). This study is important because it examined student nurses' beliefs about the impact on collegial relationships that error reporting may have, and what influence, if any, those beliefs have on the intent of the student nurse to report a medication error. The results of this study may be able to provide suggestions for further pre-licensure nursing education regarding medication error reporting which could increase the likelihood of student nurses becoming licensed nurses more prepared to report medication errors.

Purpose of the Study

The purpose of this descriptive qualitative study was to explore junior and senior student nurses' beliefs surrounding anticipated peer reactions when a nurse reports a medication error or near miss error involving a peer. The researcher conducted interviews with junior and senior student nurses in the southeastern US, utilizing an interview protocol. The researcher utilized the literature to develop the protocol and questions for this study.

Significance of the Study

This study is important because medication errors harm patients and a large variety of stakeholders (IOM, 2000, 2007; Blendon et al., 2002; de Vries & Timmons, 2016; Gooch, 2015; Rassin, Kanti, & Silner, 2005). The literature clearly demonstrates that both nurses and student nurses understand the necessity for reporting medication errors and near miss errors (Andrew & Mansour, 2014; Covell & Ritchie, 2009; Ion et al., 2016). What is also clear is that medication errors continue to occur and continue to be underreported (Choi et al., 2016; Haw et al., 2014; McComas, Riingen, & Kim, 2014; Schwartzberg, Ivanovic, Patel, & Burjonrappa, 2015).

This study is significant because it explored an under-investigated phenomenon: student nurses' beliefs about the impact of "telling" within professional relationships and whether or not those beliefs will influence the student nurses' intent to report medication errors once they are licensed nurses. All barriers to medication error reporting are significant and should be investigated (Firth-Cozens et al., 2003). Identifying existing barriers can allow pre-licensure nurse educators to provide focused education to assist students to anticipate barriers and practice methods to overcome them. Improved preparation of neophyte nurses may increase error reporting. Increased error reporting may lead to decreased error occurrence.

Statement of the Research Questions

The following questions were addressed by this study:

Research Question 1: How do peer reactions influence student nurses' intent to report errors or near miss errors involving a peer?

Research Question 2: In what way, if any, do student nurses believe that reporting errors or near miss errors committed by a peer will influence the relationship with the peer?

Research Question 3: What do student nurses believe justifies their decisions to report or not report errors or near miss errors?

Research Question 4: What differences exist, if any, between female and male nursing students regarding justification to report or not report errors or near miss errors?

Introduction to the Theoretical Frameworks

Symbolic Interactionism is a social theory rooted in the philosophy of pragmatism (Society of the Study of Symbolic Interaction, 2017). Noted pragmatists who developed many of the underlying tenets of Symbolic Interactionism include William James, who believed social behavior is the result of habits that were formed from experiences and, therefore, an individual's sense of self is formed by imagining the reactions others will have to him or her, based on previous experiences (Benzies & Allen, 2001). Creation of the term *symbolic interactionism* is credited to Herbert Blumer who, in 1937, organized the works of numerous earlier pragmatist scholars, most notably George Mead, and presented this collective work as a new social theory. A further review of Symbolic Interactionism's history, application to this study, and applications in other specialties are included in the review of the literature.

The Ethics of Care Theory is an ethical theory that examines the moral character of the decision maker. Therefore, is categorized as a type of virtue ethics (Ethics of Care, 2013). The

Ethics of Care Theory is most commonly associated with the work of Carol Gilligan (Sanders-Staudt, 2017). Gilligan argued against Lawrence Kohlberg's universal justice-based model of maturation in ethical decision making. Gilligan's research focused on the ethical maturation of girls and noted a higher concern involving immediate relationships. Subsequently, Gilligan theorized that this relationship focus was a legitimate form of decision making obscured in Kohlberg's work because his subjects were all boys, and boys tend to be more focused on independence and autonomy (Saunders-Staudt, 2017). The Ethics of Care Theory's development, application to this study, and applications to other specialties are explored in more detail in the review of the literature.

These two theories, Symbolic Interactionism and Ethics of Care Theory, are appropriate to guide this study. Both theories are concerned with the meaning of individual experiences derived from human interactions. Symbolic Interactionists believe that truth and facts are experienced differently by different persons and the meaning of those experiences change through the interaction with other persons (Denzin, 2000). In this study, one of the phenomena explored is the experience of "telling" on another person, objectified as reporting medication errors. The Ethics of Care Theory explores caring from a feministic perspective, which identifies caring as a component of justice and unavoidable within relationships. Relationships are inherent to nursing. Ideally, a relationship exists between a nurse and a patient. However, a nurse will also have a relationship with the people he or she works with and these professional collegial relationships can have varying degrees of closeness. These theories combined would suggest that a nurse's sense of justice and ultimate decision to report errors might be influenced by anticipating the impact on both the patient and collegial relationships inherent in any error reporting situation, and what experiences the nurse has had with "telling" in past relationships.

Nature of the Study

A qualitative method was chosen to investigate the beliefs of student nurses regarding the impact on relationships that may occur when reporting medication errors. A sample population of student nurses enrolled in a pre-licensure nursing program in the equivalent of the junior year or greater of education were provided with a set of vignettes and asked a series of interview questions related to the vignettes (Creswell, 2014). The interviews were recorded, transcribed, and became the data. The data were coded and combed for themes and patterns addressing the research questions.

Assumptions and Limitations

This study assumed that participants had past experience with the phenomenon of "telling" on another person. Although having the experience of "telling" was a criterion for inclusion in the sample, it assumed the participants understood the phenomenon and could project how past experiences may influence anticipated peer reactions in this study. Another assumption in this study is that the student nurses interviewed provided their honest answers to the questions**.** Limitations for this study included the lack of generalizability of a small sample size to all student nurses. In addition, student nurses' responses are not generalizable to licensed nurses. Lastly, Hughes and Huby (2002) indicated that it is not easy to produce generalizable data from the use of vignettes.

Delimitations

Student nurses were selected for this study specifically because of their unique position. As students, they have been exposed to the need for error reporting (Arnold & Boggs, 2016; Lilley, Rainforth, & Snyder, 2014). However, student nurses would not have experienced other well-documented reasons for not reporting errors that are cited by licensed and practicing nurses,

including a lack of follow up by hospital administration, lack of change, unfamiliarity or difficulty with the reporting process, and time away from patient care (Haw et al., 2014). This allows the impact on collegial relationships and its influence to be the focus of this study.

Definition of Terms

The following definitions are presented in alphabetical order to inform how these words and phrases are used in this study. The definition of terms emanated from the literature.

Error reporting: Kelley (2002) used the American Nurses Association Code of Ethics to support a nurse's duty to report in writing any committed error. Furthermore, she stated the existence of a moral obligation of nurses to report, to a supervisor, errors made by others. Therefore, for the purposes of this study, error reporting was defined as communicating a known or near miss error either in writing, utilizing an institution's reporting procedure, or verbally to an individual in a supervisory role.

Medication error: The NCC MERP (2001) identified classifications of harm from medication errors: No error but potential for error, Error no harm, Error harm, and Error death. For the purposes of this study, medication error was defined using the latter three categories when an incorrect decision or action involving a medication occurred resulting in no harm, harm, or death to a patient (Kelley, 2002; NCC MERP, 2001). *Near miss:* The National Coordinating Council for Medication Error Reporting index contains a category within the classification of medication errors called "no error." This category includes circumstances or events that have the capacity to cause error but did not cause an error (NCC MERP, 2001). The next category includes errors that did not reach the patient (an error of omission is one example). This is similar to Wu's (2011) definition of a near miss as an unsafe act that has the potential to injure a patient but does not. Next are errors that did occur but did not cause harm to a patient. The next

categories include errors that did occur and may have or did cause some harm to the patient. Lastly, NCC MERP includes a category where an error contributed to or caused a patient death. For this study, a near miss error is defined as any unsafe act or omission involving a medication that has the capacity to cause harm to a patient. Figure 1 incorporates the NCC MERP's categorizing of medication errors.

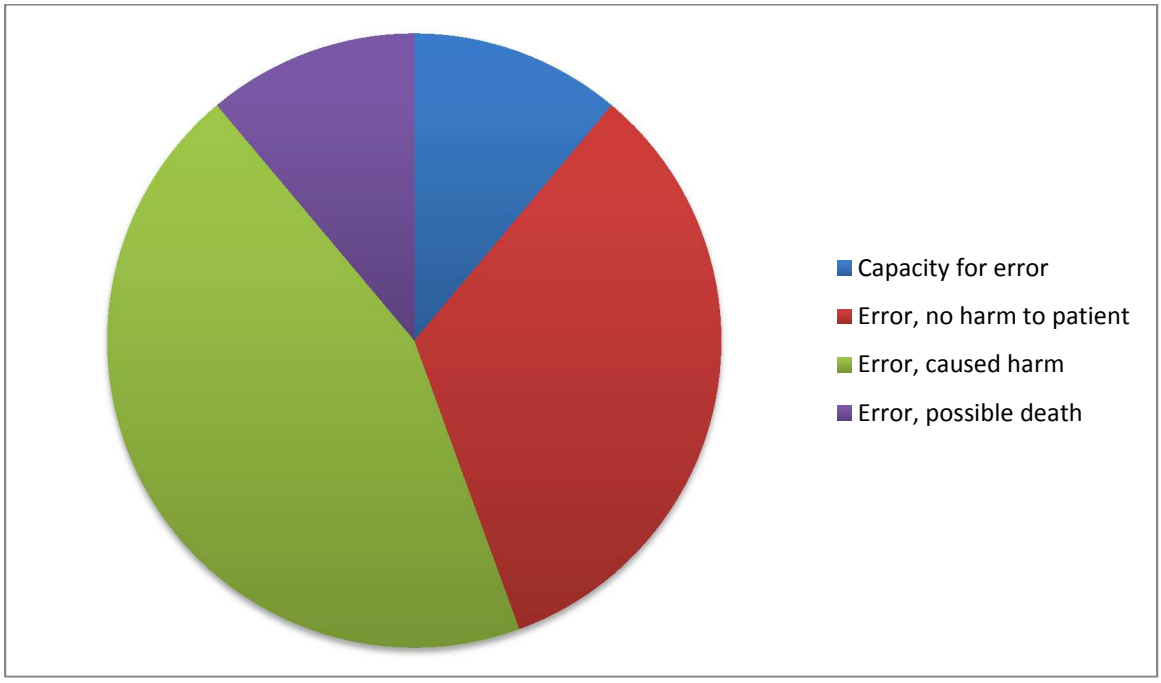

Figure 1. NCC MERP (2001) Index for Categorizing Medication Errors

Student nurse: For the purpose of this study, a student nurse was defined as any person enrolled in a pre-licensure education program with the intent to graduate and become a licensed nurse (www.nsna.org).

Vignette: A vignette is a technique used in structured and in-depth interviews, which provides a sketch of a fictionalized scenario on which the respondent will imagine, drawing on

personal experience, how the central character in the scenario will behave (Jenkins, Bloor, Fischer, Berney, & Neale, 2010).

Summary of Chapter One

Chapter One included a brief overview of the current problem of medication error occurrence and underreporting and introduced this study. Chapter One included a description of the study's purpose and significance to the healthcare community. Study questions and terminology definitions were included as a part of this chapter.

Chapter Two, Literature Review, is an overview of the literature about what is known about medication errors, and nurses' and student nurses' reporting of medication errors. Chapter Two includes a further review of the theoretical frameworks and their development and application within nursing and other specialties. Chapter Two continues as an in-depth exploration of the need for ongoing research into the prevalence and reasons that healthcare medication errors continue at unacceptably high rates. Chapter Two includes a description of the impact of medication errors on the variety of stakeholders within the healthcare community. In support of this study, Chapter Two includes an examination of nurses' reasons for not reporting medication errors and student nurses' experiences regarding medication error recognition and reporting. Chapter Two includes suggestions for the need of ongoing research in these areas and explores potential solutions for poor reporting of medication errors in healthcare.

Chapter Three, Methodology, is a description, in detail, of the methodology for this study. Chapter Three includes the procedures for study participant identification and recruitment, anonymity assurance, data collection and management, and data analysis. Chapter Three contains the proposed Research Questions as well as the literature support for the vignettes used to drive the discussion for the interview questions.

Chapter Four is a summary of the results of the analysis of the data. Data were evaluated as described in Chapter Three and presented in its entirety in the writing of Chapter Four. Chapter Five presents a re-examination of the research questions, providing an interpretation of the answers based on the data gathered and offering conclusions considering the theories of Symbolic Interactionism and Ethics of Care.

CHAPTER TWO: LITERATURE REVIEW

Despite the challenge from the IOM 16 years ago to develop systems to drastically improve the safety of the US healthcare system (IOM, 2000), medication errors continue to harm and kill thousands of patients each year (IOM, 2007; Makary & Daniel, 2016). Nurses, by virtue of their position, are exposed to medication errors committed by themselves, other nurses, other primary providers, and pharmacists and should be a foundational source for error reporting that could lead to improved system safety and fewer medication errors (Keohane et al., 2008). However, the reality is that nurses profoundly underreport occurrences of medication errors with reports ranging from less than 60% of all errors being reported by nurses including only 48% of errors made by themselves and 40% of errors made by another professional being reported (Covell & Ritchie, 2009; Haw et al., 2014).

Many studies in the literature provided reasons nurses do not report all known errors. Reasons frequently related to a negative response or a complete lack of response by hospital administrators. No studies have focused solely on the impact on professional collegial relationships as a reason for not reporting errors. No studies have examined student nurses' beliefs about how professional collegial relationships may be impacted by error reporting and how those beliefs may influence student nurses' intent to report errors. The following review of the literature will begin with a further exploration of Symbolic Interactionism and the Ethics of Care theories and provide examples of their application to varied disciplines. Next, stakeholders potentially impacted by medication errors are defined and discussed. Following the review of

the theoretical frameworks and relative stakeholders, the remaining review is divided into three categories:

1. The historical and ongoing prevalence of medication errors.
2. The phenomenon of underreporting of errors by nurses, including reasons cited by nurses for reporting or not reporting known medication errors.
3. The experiences of student nurses regarding identifying and reporting medication errors.

Research Source Categories

The primary key words for literature sources included *Symbolic Interactionism, Ethics of Care Theory, medical errors, medication errors, medication error reporting, nurses,* and *student nurses*. These terms were used within the Elton B. Stephens Company (EBSCO) database collections, primarily the Cumulative Index of Nursing and Allied Health Literature (CINAHL), the Educational Resources Information Center (ERIC), and PsychINFO. Additionally, *Symbolic Interactionism, Ethics of Care Theory,* and *student nurses and medication errors* were entered into Google Scholar.

Theoretical Frameworks: Symbolic Interactionism and the Ethics of Care Theory

Symbolic Interactionism

Herbert Blumer (Benzies & Allen, 2001) introduced the term 'symbolic interactionism' as a separate sociological framework in 1937. Blumer was a student of pragmatist George Herbert Meade whose landmark research resulted in the perspective that the self was constructed from two primary sources, the "I" and the "me" (Benzies & Allen, 2001, p. 542). According to Meade, the "I" was the instinctual and natural impulse and the "me" was influenced by the expectations of others (Benzies & Allen, 2001). Although the exact beginning of Symbolic

Interactionism varies, according to Plummer (2000), anywhere between classical Greek philosophy to the 18th century works of David Hume and Adam Smith, it is most often credited to George Herbert Meade (Benzies & Allen, 2001). Meade was a professor at the University of Chicago around the turn of the 20th century and although he taught many of the themes now considered inherent to Symbolic Interactionism, he never published his work. Meade's work was synthesized and published by Blumer who is credited with the term *symbolic interactionism*. Regardless of the debate surrounding its exact origin, the theory's roots are found in pragmatism (Benzies & Allen, 2001; Plummer, 2000). Pragmatism is a philosophy that denies an ultimate truth and instead suggests that truth is pluralistic and fluid, based on experience. Past experiences then collectively become the expected. Because individuals have so many experiences interacting with so many different people, the expected varies depending on the situation (Benzies & Allen, 2001; Plummer, 2000).

Due to Symbolic Interactionism's debated development, there are also multiple sources listing various schools of thought, themes, and underpinning assumptions (Benzies & Allen, 2001; Plummer, 2000; Stryker, 2008). However, Norman Denzin is cited as the modern champion of the theory (Plummer, 2000). Denzin (2000) listed eight "root assumptions" of symbolic interactionism (p.82), paraphrased by the following: Human beings act toward things on the basis of the meanings that the things have for them. Those meanings are modified through an interpretive process, which involves self-reflective individuals symbolically interacting with one another. The meanings of things arise out of the process of social interaction; therefore, human beings create the worlds of experience in which they live. The meanings of these worlds come from interaction, and they are shaped by the self- reflections persons bring to their situations. Self-interaction is interwoven with social interaction and

influences that social interaction, while joint acts, their formation and dissolution, conflict and merger constitute what Blumer calls *the social life of a human society*. Finally, society consists of the joint or social acts, which are formed and carried out by its members who in turn are influenced by things outside of the individual such as mass media and advertising.

Application of symbolic interactionism. Symbolic Interactionism has been used in a wide variety of disciplines including anthropology, psychology, deviance/criminology, feminist studies, communication, marketing, education, and others (Denzin, 2000; Society for the Study of Symbolic Interaction, 2017). The following selected articles highlight pertinent application of the Symbolic Interactionism theory. The articles represent a variety of applications and a range of publication dates from 1974-2013.

It is fitting to begin this review with an article from 1974 written by Norman Denzin. In it, he offers ideas on how to develop a methodological approach to naturalistic theory development related to deviance, which will assist in determining how individuals become labeled as deviant. Denzin asserted the series of events an individual experiences following a perceived deviant act is a part of the individual becoming labeled deviant. He used the term "labeling encounters" (p. 271) as episodes where an individual is treated like and publicly declared morally unacceptable or deviant (Denzin, 1974). Claiming that these labeling encounters include many rituals and routines that if explored and understood could assist in developing a pattern that leads to an individual being labeled deviant, the article used Symbolic Interactionism to argue that it is not so much a behavior by an individual that labels them deviant, but the reactions from society (Denzin, 1974). Denzin argued that by exploring the symbolism inherent in the reaction from society to negative individual behaviors, the point at

which the behavior progresses from simply undesirable to deviant can be determined (Denzin, 1974).

The next application originated from the discipline of public relations (PR). Joye Gordon was a professor of public relations who joined the ongoing debate amongst PR professionals regarding a standard definition for public relations. In her research, she found over 100 textbooks, each of which offered a different definition, usually some variation of what PR practitioners do, what effect PR should have or how it should be practiced. Utilizing the theory of Symbolic Interactionism, Gordon (1997) offered a different type of definition. Citing Herbert Blumer's assertion that "[b]oth the functioning and fate of institutions are set by this process of interpretation as it takes place among the diverse set of participants" (p. 64), Gordon offered as a definition that PR is "the active participation in social construction of meaning" (p. 64). Gordon continued by explaining that most other definitions assume the PR company is manipulating an organization for an outcome. Her Symbolic Interactionism-based definition saw the PR company's role to define and reinforce the societal elements that resulted in whatever outcome is desired. In this way, Gordon asserted that persuasion inherent in most PR campaigns is not by force but is a naturally occurring and ongoing result of social interaction.

The next two studies demonstrated uses of Symbolic Interactionism in primary education. Teo and Osborne (2012) used Symbolic Interactionism to explore how the meanings of the phrases *curriculum reform* and *inquiry curriculum* are paramount to the reactions faculty members have related to the process of implementing these actions (Teo & Osborne, 2012). The study's location was a specialized high school for gifted children that was not under restrictions of ordinary schools regarding mandated benchmarking assessments. Teachers were encouraged to be innovative. Teo and Osborne held, through interviews and observations, that the teacher

central in this narrative associated teaching gifted students at an institution with significant material resources and abundant academic freedom with privilege. Furthermore, the teacher desired to earn this privilege through his interactions with his students via a challenging and innovative curriculum. In an attempt to accomplish this transaction, the teacher unconsciously chose words that to him symbolized the most challenging curriculum, being a curriculum of "inquiry." Ultimately, the teacher capitulated, stating that even very talented high school students could not function in a truly inquiry-based curriculum. Teo and Osborne concluded that there was a symbolic interaction between the teacher's circumstance and his feelings of privilege, as well as that he should actualize that privilege through an inquiry-based curriculum, which to him befitted the privilege.

Another application in education surrounded the conceptualization of counseling and support services for immigrant students. Ukasoanya (2013) asserted that Symbolic Interactionism should be included in the repertoire of school counselors working with immigrant students. Oftentimes, according to Ukasoanya, teachers and counselors look at immigrant student behavior, like language acquisition and group acculturation, to assess social adaptation. This is based on an assumption that conformity to the new country's social norms means the immigrant is successfully adapting. The missing component, according to Ukasoanya was an investigation into the meaning the new behavior (i.e., language or social group) holds for the immigrant student. By considering more than only outward behaviors and focusing on the immigrant student's perception of the meaning of these behaviors, teachers and counselors can better evaluate true social adaptation and potentially identify students who continue to struggle with incongruent self-image and other maladaptive adjustment issues (Ukasoanya, 2013).

One study applied Symbolic Interactionism to Nursing Education. Carlson (2012) conducted an ethnographic study on nursing preceptors in an attempt to increase understanding of what precepting means to the nurses who function in that role. Symbolic Interactionism was used as a lens to analyze the data results. Carlson argued that Symbolic Interactionism was a good theoretical fit for preceptorship due to the high amount of interaction that occurs between preceptor and the precepted. Interaction includes interpersonal communication—the use of professional slang to connote belongingness, joint actions through shared skills, and through meaningful objectives such as "the keys" (p.461) which nurses readily understood means the keys to access-controlled medications. Carlson promoted Symbolic Interactionism as a possible method to assist in identifying the many complex elements a preceptor must include in the preparation of a student or newly graduated nurse for the role of independent practitioner. By better understanding the language, behaviors, and attitudes associated with being a competent nurse, preceptors can more thoroughly expose the neophyte to the nuanced and sometimes hidden meanings of communication and behavior within the profession.

One study within the Nursing literature used Symbolic Interactionism as a framework to positively affect the health status of a population. Figueroa (2008) called on nurses to increase their understanding of the symbols of spiritual expression within a family so those symbols could be encouraged, and resources suggested to increase spiritual expression within the family. Figueroa asserted that spirituality promotes health and health seeking behaviors within African American communities and that the use of spirituality may assist in reducing the disparity of alcohol and substance abuse that she asserted exists in African American communities. Figueroa believed that Symbolic Interactionism could be used by nurses working with families affected by substance abuse to determine behaviors and actions that represent spirituality within those

families. Once identified, those behaviors and actions could be encouraged, and resources coordinated to support those behaviors and actions. Figueroa stressed that increasing spirituality was only one way to address the issues surrounding substance abuse, but had several positive results including increased ego integrity and decreased role strain.

In conclusion, this section reviewed six articles with various applications of Symbolic Interactionism. Topics included a study about determining deviance and the meaning of public relations. Additionally, Education provided applications for understanding the meaning of words to describe a curriculum strategy and the social adaptation of immigrant primary students. Lastly, Nursing provided examples within the facet of nursing education that included precepting as well as addressing spirituality among families affected by substance abuse.

The Ethics of Care Theory

Carol Gilligan studied at Harvard under Lawrence Kohlberg. Kohlberg's research found that girls' moral development was slower than boys and therefore it took girls longer to reach a universal and justice-based approach to ethical decision-making (Sanders-Staudt, 2017). Gilligan believed that girls' moral development was perceived by Kohlberg to be slower not because girls reached moral maturity slower, but because of the difference between girls' and boys' value of relationships. Gilligan's research determined that this relational approach to moral development was as legitimate as the justice-focused approach but was often concealed in a male-dominated, justice-oriented society (Sanders-Staudt, 2017). The Ethics of Care theory is often viewed as a feministic theory and Gilligan herself described Ethics of Care Theory as a "feminine ethic" (Webteam, 2011, p. 4), attempting to resist the universal justice approach hierarchy of paternalistic institutions (Webteam, 2011). Gilligan coined the term, the Ethics of

Care Theory, although her work and the work of others on this topic is often referred to as care ethics.

Joan Tronto, a political scientist and professor of women's studies, expanded the Ethics of Care Theory in the 1990s. Tronto differentiated obligation-based ethics and responsibility-based ethics, arguing that, like Gilligan, she believed responsibility-based ethics focused more heavily on perceived relationships and less on universal rights or wrongs (Lachman, 2012). Tronto's additions focused on the need of those who are less powerful to care for one another to impede the amassment of power by those perceived as more powerful (Lachman, 2012, Sanders-Staught, 2017).

One unique component of Ethics of Care Theory is the interdependency of the ethical decision maker within the context of the situation and of any existing relationships (Ethics of Care, 2013). Gilligan stressed that humans are instinctually and naturally responsive to one another and maintaining connectedness and interdependence is rational (Webteam, 2011). Only when those contextual relationships are considered can an individual's ethical decision making be understood (Ethics of Care, 2013). Consequently, a second component of Ethics of Care Theory is the recognition of the prioritization of relationships. This means, that within any social ethical dilemma, the closeness of the relationship with others involved may influence the ethical decision (Ethics of Care, 2013).

Application of ethics of care theory. Nurses recount many reasons for not reporting known medication errors (Antonow, Smith, & Silver, 2000; Haw et al., 2014; Kagan & Barnoy, 2008). These reasons are further discussed in the review of the literature but include items such as the belief that no harm was done to the patient, that it is easier to fix the problem, that nothing happens when errors are reported, fear of punishment for self or others, and distressed peer

relations (Antonow et al., 2000; Haw et al., 2014; Kagan & Barnoy, 2008). Student nurses will not yet have experienced an institutional system wrought with the variety of reasons not to report medication errors. However, pre-licensure education for student nurses does include content that stresses the need for nurses to report all errors and near miss errors (Lilley et al., 2014; Yoost & Crawford, 2016). By using the Ethics of Care Theory to evaluate participants' responses to interview questions, the study may determine when, and to what extent, peer relationships influence the decision to report. The Ethics of Care Theory has been applied in various professional fields including nursing, healthcare, education, international relations, law, and politics (Ethics of Care, 2013). The following are brief examples of the use of the Ethics of Care Theory in nursing.

Lachman (2012) related Ethics of Care Theory to nursing practice through the application of Tronto's four elements of caring; attentiveness, responsibility, competence and responsiveness; meant to specify how the moral obligation of caring within relationships is actualized. Lachman supposed that these elements when used by the nurse can help to ensure that the care delivered is the care required by the patient. Furthermore, Lachman argued for Ethics of Care Theory's application for self-evaluation of the degree that the Ethics of Care Theory components were a part of the commitment and enthusiasm a nurse demonstrates in his or her practice (Lachman, 2012). Also, within nursing, Taylor-Ford (2013) applied Ethics of Care Theory to nurse executives by suggesting the executives offer staff ethical frameworks to assist in understanding the origins of moral distress during end-of-life care concerns. Taylor-Ford (2013) suggested Ethics of Care Theory as a possible theoretical framework to assist staff to determine what relationships were driving decision making and emotions; relationships with the patient, the family, the institutional environment, or other healthcare providers (Taylor-Ford,

2013). This is one example of the use of Ethics of Care Theory within nursing. Other examples highlight the theory's usefulness in other disciplines. The following paragraphs include examples within animal research, capital punishment, and business.

The Ethics of Care Theory has applications outside of healthcare that include the areas of animal research and capital punishment. Cardoso and Almeida (2014) suggested that Ethics of Care Theory can be applied to the relationships between humans and animals (Cardosa & Almeida, 2014). In this example, Gilligan's perspective on relationships being a primary method to examine ethical dilemmas was applied to ethical dilemmas involving the relationship between humans and research animals and used as a guide for determining ethically sound decisions regarding animal use in research (Cardoso & Almeida, 2014). Concerning capital punishment, Scott (2004) examined the Ethics of Care Theory and determined its application to strangers' and individuals' determination of social justice positions concerning punishment. Scott argued that in addition to an ethics of justice, Ethics of Care Theory should be utilized in the moral discussion of capital punishment, because Gilligan's research indicated that participants in her research were concerned about the well-being of humans in general, not only those in close relationships. Thus, Scott concluded that Ethics of Care Theory influenced an individual's beliefs and values surrounding punishment and should be included in such discussions.

Business is another area where Ethics of Care Theory is used. Orser and Elliot (2012) discussed how Ethics of Care Theory is included as an element to add competitive advantage to small businesses. The authors argued that business development focusing on both individual and common group relationships can create new possibilities in small business that may have significant economic possibilities (Orser & Elliot, 2012). Other business domain-related applications of Ethics of Care Theory are derived from research focused on corporate social

responsibility and honesty in financial statement preparation. Lantos (2001) used Ethics of Care Theory to assert that primary relationships exist between a private business and its investors versus more obscure relationships that exist between a public business and its shareholders. Lantos argued that the Ethics of Care Theory explained how in the former relationship, the primary concern of business should be closely aligned with the interests of investors, which may or may not include a role in social responsibility. For Lantos, the more public company domain can readily incorporate more socially responsible decisions, as the community is larger and often more diverse. One final example concerned Ethics of Care Theory's application to the integrity of those individuals charged with preparing financial statements. According to the authors, self-interest would be the dominant force when individuals prepared a financial statement to be released to a company's stakeholders. However, despite the ability to release results with a spin towards the company's success, many preparers will be conservative with results. This study indicated a higher likelihood of female preparers being more conservative in their reporting and suggested that female preparers felt a more defined relationship to stakeholders (Rentfro & Hooks, 2006).

The above are a few examples of the ongoing and expanded use of the Ethics of Care Theory in a variety of specialties including, but not limited to, nursing, bio medics and business. The following section will discuss stakeholders in the arena of medication errors.

Stakeholders Regarding Medication Errors

It seems obvious—and it is obvious—that the individual patients and their families that experience prolonged illness or suffer as result of a medication error are the most important stakeholders surrounding the issue of medication errors. This phenomenon will be explored in the review of literature focusing on medication error prevalence later in this review of the

literature. However, several other groups are also impacted due to medication errors, including nurses, physicians and other primary providers, healthcare institutions, and the public.

Individual nurses who make medication errors are affected and reported significant physiological and emotional stress, including guilt, shame, and post-traumatic stress disorder (PTSD) due to medication errors (Rassin et al., 2005). Kelley (2002) suggested that the emotional burden to nurses who have committed an error may be more significant than the physical costs to the patient, often causing nurses to leave their job or even the profession. The profession of nursing is also impacted through nurses leaving the profession as suggested by Kelley (2002) and the loss of integrity. Nursing, as a profession identifies as both contributor and consumer of evidence-based practice, and withholding information negatively impacts the professional status and image of nursing to its patients, employers, and other professional groups (Kelley, 2002). Additionally, the research suggested that nurses were more likely to be indicated as responsible for medication errors by physicians than by the public, adding to role and relational stress within the relationship between nurses and physicians (Blendon et al., 2002).

Physicians are also stakeholders. In addition to the personal distress experienced by individual physicians who may make medication errors, harm to physicians derives from the view of the public that often, individual physicians are responsible for errors, as opposed to systems or other providers, regardless of the reason for the error (Blendon et al., 2002).

Hospitals and healthcare systems are also stakeholders in decreasing medication errors. Healthcare institutions are harmed by negative community perceptions and negative media attention when either a significant incidence occurs and is released to the public, or when there is a series of negative incidents that slowly erodes the public's trust in the providing institution (Gooch, 2015).

Finally, the public at large is another stakeholder. The public is harmed if persons in need of healthcare hesitate to seek needed care because they are concerned about potential errors and have a general mistrust of hospitals and their healthcare providers (Gooch, 2015).

Medication Error Prevalence

Institute of Medicine Studies

The 2000 IOM study entitled, *To Err is Human,* was a synthesis of multiple medical and medication error studies performed by various institutions over the course of several years (IOM, 2000). The largest of the studies included a 1984 study of 30,000 discharges from 51 New York hospitals. Information gleaned from this study was corroborated by a 1992 study of Colorado and Utah discharges totaling 15,000. In retrospect, the authors and researchers concluded that human beings make errors, and that these errors can be prevented by creating systems where it is hard to do the wrong things and easy to do the right things (IOM, 2000).

The study concluded that the healthcare system is not as safe as it should be (IOM, 2000). Through its retrospective examination of these two major studies, *To Err is Human* determined that 2.9 to 3.7% of admitted patients experienced an adverse outcome due to a medical intervention. These data were then extrapolated to the estimated 33.6 million US hospital admissions and concluded that an approximated 44,000-98,000 deaths per year were attributable to medical error. Additionally, the study determined that out of every 131 outpatient deaths, 1 was contributable to a medication error; and as for inpatient deaths, 1 out of every 854 deaths was contributable to a medication error (IOM, 2000). Finally, the study established as many as 28% of adverse drug events were preventable. Additionally, the study suggested that reported numbers were most likely significantly low citing one study that concluded that reports were filed for less than 6% of adverse medication incidents.

The follow-up study, published in 2007 (IOM, 2007), was a result of literature reviews between 1995-2005 and focused on relevant literature including the five recognized steps of medication delivery; ordering, transcribing, preparing, administering, and evaluating medications. Articles included in this study originated from both peer reviewed, and non-peer reviewed sources from databases including MEDLINE, CINAHL, Psychinfo, the International Pharmaceutical Abstract (IPA), Science Citation Index, and Dissertation Abstracts. This report focused on the sources of medication errors and how errors were quantified. The authors reported struggling with the lack of heterogeneity of reported errors due to a variety of sourcing data including direct observation, chart review, computerized monitoring, and self-report (IOM, 2007).

However, taking into account the variability of definitions and measurements, the study authors were able to conclude that a hospital inpatient was likely to experience one medication error per day while hospitalized, a number unacceptably high (IOM, 2007). Furthermore, the study authors recommended ongoing efforts to define and identify medication errors, and to assess the impact of error prevention strategies (IOM, 2007).

The IOM studies challenged healthcare providers to decrease errors. Strategies to decrease errors varied but included the increased use of computer-based order and delivery systems (Schwartzberg et al., 2015). The following three studies will highlight the continuation of high numbers of medication errors and illuminate the ongoing need for further studies to determine the causes of medication errors despite the implementation of these recommendations. As has been highlighted throughout this study, causes of medication errors can only be determined and addressed if the errors are first reported.

Ongoing Medication Errors

Schwartzberg et al. (2015) created their study to evaluate the effectiveness of computerized physician order entry to decrease medication errors caused by illegible handwriting, misplaced charts, and carelessness that they contended were some of the causes of the 7,000 patient deaths per year reported in their study. These researchers conducted a retrospective study of physician medication orders prior to and following a change from hand written orders to computerized order entry. A large urban adult and pediatric hospital in New Jersey was the site of the research. Both pre-implementation of computerized order entry and post-implementation of computerized order entry orders were evaluated for 26 weeks. Both pre- and post-errors were categorized according to the location of the error within the sequence of medication administration to a patient and included ordering, transcribing, dispensing, and administering. The medication delivery process and the potential for errors in each sequence can be found in Figure 2.

Study results indicated that computerized order entry by physicians did not decrease errors. In fact, the errors increased following implementation of computerized order entry even though they believed the new system would result in decreases in errors. To accommodate for the expected learning curve related to computerized order entry, the researchers conducted an analysis of variance (ANOVA) comparing errors to time intervals representing the 26 weeks of the post-computerized order entry process. Results of the ANOVA suggested that time did not improve error incidences. Errors increased over the 26 weeks of the study from 112 errors to 439 errors, respectively.

Although this study had limitations, the findings suggested an ongoing alarming rate of error. This study highlighted the need for error reporting to evaluate new systems developed

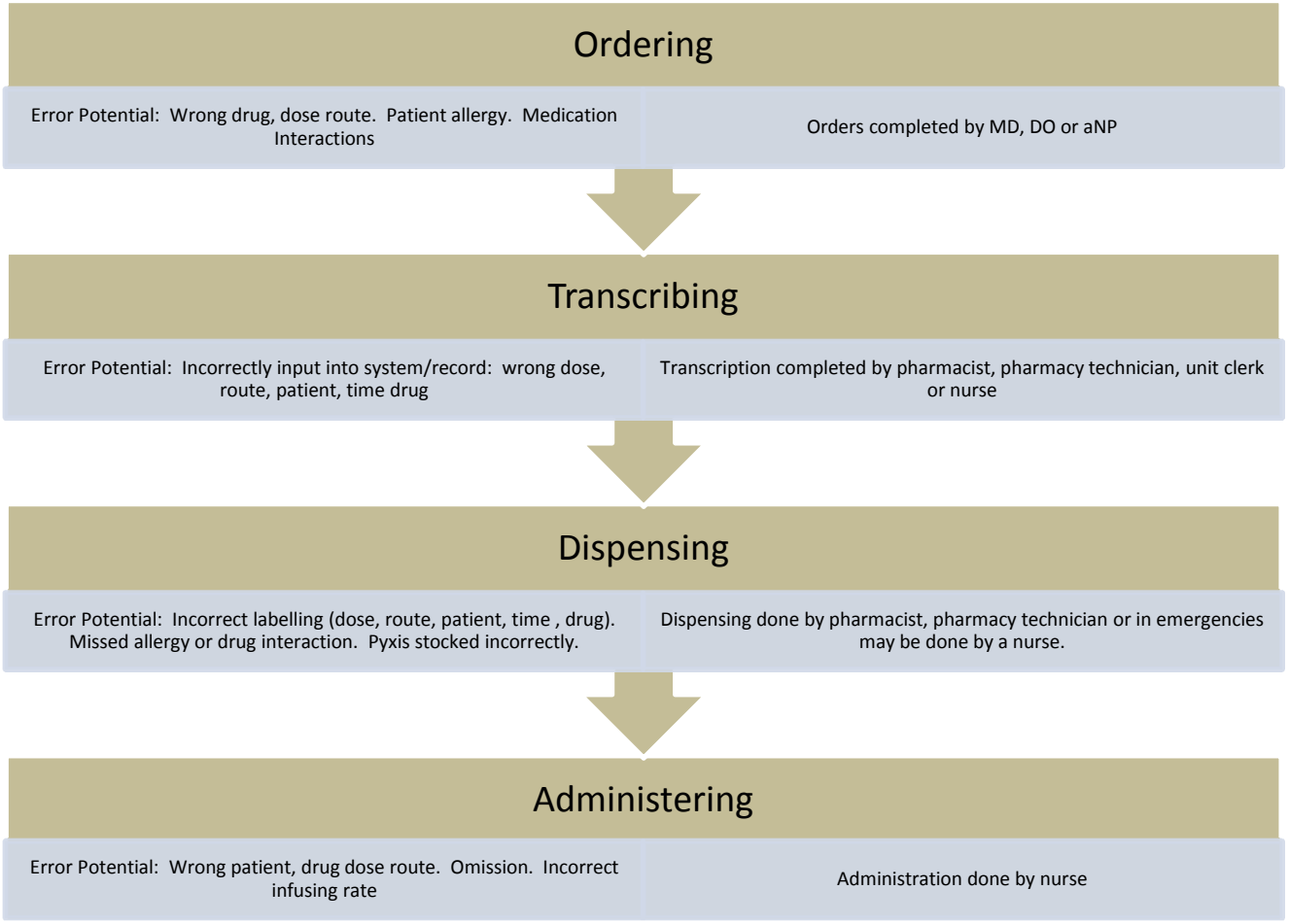

Figure 2. Medication delivery sequencing. The left column describes errors that may occur in each sequence. The right column describes the discipline responsible (Leape et al., 1995).

with the intent of decreasing medication errors. The next study also examined the effectiveness of a new system intended to decrease errors. This new system was directed more at nurses than physicians. Another suggestion that emanated from the IOM studies was the inclusion of electronic health records (EHR) (McComas et al., 2014). One component of the EHR is the electronic medication administration record (eMAR), the use of which was intended to increase nurse efficiency, quality of patient care, and patient safety (McComas et al., 2014). In its inception, the eMAR would decrease medication errors by providing nursing staff with legible orders, current medication lists, potential drug interactions, and drug-dose information

(McComas et al., 2014). The researchers in this study examined 156 medication administration episodes involving 38 nurses. The study concluded after multivariate analysis that eMAR did not increase medication administration efficiency but did decrease medication administration error. Examining errors per month, the study found a decrease of errors reported from pre-eMAR of 11.0 to post eMAR of 5.3 reported errors per month.

This was a positive finding indicating that eMAR use may be an element effective in decreasing medication administration errors. However, the study only determined that error rates decreased by 48%, leaving more than five reported errors during observed administration per month in this single 40-bed medical-oncology unit in a single southern California hospital. Considering that five administration errors occurred on this single unit in 1 month, an extrapolation of this result applied to all units of all hospitals in all states would result in a phenomenal number of errors nationwide. Although this was a retrospective literature extrapolation study, it reflected unreported and unidentified medical errors, including medication errors. Identifying the reasons errors occur must be a priority for healthcare institutions. Known errors must be reported. Determining reasons errors were not reported is essential to determining what errors occur and devising methods to address them.

There is a significant financial impact of ongoing medication errors. A study by Choi et al. (2016) extrapolated data from inpatients admitted between 2005 and 2006 to two New Jersey hospitals, excluding emergency department or direct intensive care unit admissions. The focus of this study was the financial impact of medication errors, which is not the focus of this review. However, to identify the financial impact, the researchers first needed to identify the frequency of medication error occurrence. Errors were recorded in a database that considered the type of unit to which a patient was admitted, the age, gender, length of stay (LOS), diagnosis-related

group (DRG), and international classification of disease (ICD) of the patient as well as the stage of the medication process in which the error occurred. Results indicated that errors occurred at a rate of 0.82% and were most common during administration. This study evaluated 57,554 patients. The extrapolated findings indicated 189 errors in medication administration, 121 errors during medication transcription, 87 errors during medication dispensing, and 73 errors during medication ordering.

Data extrapolation was also used by the final study in this section of the literature review. Makary and Daniel (2016) re-examined the results from the most commonly cited estimate of annual deaths from medical errors in the US, the IOM study published in 2000 (Makary & Daniel, 2016). These researchers identified numerous studies, published as early as 1994, that indicated the IOM study results were low. Suggesting that a major cause of the variance lay with the system of determining cause of death, these researchers concluded that the current classification of disease code (ICD) limits physicians', funeral directors', medical examiners', and coroners' ability to capture human error that may have been a factor in an individual's death and that moving away from the limitations of ICD coding can better capture underlying reasons for patient deaths, including medical error. Although the IOM studies described the difficulties quantifying actual medical errors due to varying collection and reporting methods, and suggested the actual numbers were most likely higher than reported, Makary and Daniel utilized data extrapolated from a literature review of numerous studies and concluded the potential of 210,000-400,000 deaths per year occur from medical errors in hospitalized patients. These numbers ranked medical error as the third leading cause of death in the US. The study suggested the need for strong scientific methods to better quantify the extent of the problem in order to develop a process to evaluate and prevent medical errors.

In conclusion, medication errors continue to be a source of significant harm to hospitalized patients (Choi et al., 2016). This section of the literature review examined the frequency of medical and medication errors, highlighting several studies suggesting errors are underreported. The following section of the literature review will focus on medication error underreporting and the reasons nurses underreport medication errors.

Medication Error Reporting

The following section of the review of the literature includes four studies quantifying medication error underreporting by nurses and exploring reasons nurses decide not to report known errors. Understanding why errors go unreported is essential for increasing error reporting by addressing the concerns of nurses (Firth-Cozens et al., 2003).

Haw et al. (2014) reiterated the IOM's suggestion that medication errors most likely occur much more frequently than reported. To determine how much underreporting may occur, and why nurses underreport, these researchers provided written vignettes to 50 nurses employed in a psychiatric hospital setting, describing a potential medication error. The first vignette described an error of omission committed by another nurse while the second vignette described a near miss error committed by the nurse being interviewed. Semi-structured interviews lasted approximately 30 to 40 minutes and determined whether participants would report the error and if not, why not.

Results demonstrated that study participants would report the discovered errors made by another nurse 48% of the time and the near miss error made by them 40% of the time. Data reduction and coding elicited four major themes including excusing, knowledge, fear, and burden. Excusing was defined as either excusing the behavior of the other nurse or excusing one's own behavior. Sub-themes in this category, or the excuses cited, included a lack of harm

to the patient and the belief that such an incident was only a momentary oversight and likely very rare. Knowledge included two subsets; a lack of knowledge of the reporting process and a lack of knowledge about what constitutes a reportable error. Fear encompassed a broad range of concerns including disciplinary action that may or may not include litigation, loss of respect from colleagues, and the risk of causing conflict by reporting errors. Lastly, burden was divided into the sub-themes of an already heavy workload, not enough time to report the incident and an incident was not worth reporting. Further review of the literature in this category demonstrates that many of the themes identified by Haw et al. (2014) are like those reported by other studies.

Likewise, a study was conducted by Covell and Ritchie (2009). Like the previous study the purpose of this study was to determine how nurses responded to medication errors, specifically the frequency and likelihood of nurses reporting medication errors. However, the Covell and Ritchie study also asked nurses what strategies they believed would improve medication error reporting.

The mixed method design included semi-structured interviews, lasting approximately 45 to 60 minutes, followed by completion of a questionnaire. Study results indicated most of the nurses in the study, 71%, believed that less than 60% of medication errors were reported. The qualitative portion of this study identified a series of common thought processes nurses in this study used to determine whether to report a medication error. First, the nurse needed to recognize that an error occurred. Study authors termed this *deciding*. *Deciding* encompassed both admitting an error occurred and then determining the potential compromise to the affected patient. Participants reported being more likely to report an error if they believed significant or immediate harm might occur. Participants judged the degree of harm using individual clinical assessment and clinical judgment skills. Also significant, participants reported being more likely

to report an incident if they committed the error, versus discovering an error committed by another nurse. Additionally, one participant stated that when positive peer relationships existed, the likelihood of reporting an error made by a peer was less. Peer relationships were also cited as a significant determinant for reporting as there was a concern about causing coworker conflicts by reporting errors committed by others. Other determinants included the belief that the patient was not harmed, the error was not significant enough to report, or the incident was not recognized as an error. Participants stated that they commonly did not report medication omissions or late administrations as medication errors.

Participants indicated the understanding and belief that not reporting medication errors jeopardized patient safety and quality of care, and that nurses have an ethical obligation to report errors. Participants also indicated that they understood and believed their peers understood that medication errors are significantly underreported. Regardless of this understanding, participants were unwilling to report all medication errors, due to the belief that negative consequences outweighed the benefit of reporting errors, especially when no or minimal harm occurred to the patient.

One study suggested the unwillingness of nurses to report medication errors is related to the culture of the healthcare institution or specific unit where the nurses are employed. A 2007 study by Throckmorton and Etchegaray found nurses were more likely to report medication errors, even errors where no harm occurred to the patient when the threat of potential sanctions was eliminated through anonymous reporting. Throckmorton and Etchegaray attempted to determine if several variables affected the intent of practicing nurses in the state of Texas to report medication errors. The researchers explored participant's knowledge of the Texas

Nursing Practice Act (TNPA), the type of incident, the perception of the environment for reporting, and various demographic data.

Surveys were sent to 4,250 nurses selected randomly from the Board of Nursing Examiners in the state of Texas. A 10% response rate resulted in 435 participants. Results indicated that knowledge of the nursing practice act was not a significant predictor of participants' intent to report medication errors. Interestingly, the researchers turned to the literature for a possible explanation and suggested that the socialization into the profession that occurs during the pre-licensure education process, and not knowledge of the law, more strongly influenced intent to report medication errors.

Additional results demonstrated that participants' perception of the organizational climate was also not a significant predictor of intent to report. Although more respondents indicated their units were more punitive than not, results were insignificant in all four subsets, suggesting unit climate may play some role in intent to report, but not a significant role. What was significant in this study was the indication that nurse participants intended to report all errors, even those that did not causes harm to the patient.

Medication errors that occur but do not harm the patient are called *near miss* errors (Wu, 2011). Another study by Etchegaray, Thomas, Geraci, Simmons, and Martin (2005) specifically explored the ability of practitioners to identify medication errors and near miss errors. This multi-disciplinary study included 68 volunteer participants including nurses, pharmacists, physicians, and physician assistants from a large academic hospital in the southwestern US. The researchers developed 10 scenarios from previous actual medication errors and corresponding incident reports and created 5 medication error scenarios and 5 near miss error scenarios. Participants were divided into two groups. One group received the scenarios with definitions of

medication error and near miss error, while the second group only received the scenarios. Participants were asked to read each of the scenarios and determine if the scenario depicted a medication error, a near miss error, or neither. T-test analysis of the data indicated that there was a significant difference in the ability of providers to correctly identify a near miss error if the definition of a near miss error was included. This suggested that practitioners are less familiar with what constitutes near miss errors and therefore will be less likely to report them.

This section of the literature review focused on the underreporting of medication errors and near miss errors. Studies in this section suggested a pattern for underreporting by nurses that included fear of retribution or damaged relationships, the belief that the incident was not report-worthy, or the inability to identify an incident as needing to be reported. The final section of the literature review examines the experiences student nurses have had with medication errors and error reporting, and their ability to recognize errors.

Student Experiences With Medication Error Recognition and Reporting

This section of the review of the literature focuses on student nurses. Three research articles were chosen for this section to emphasize that student nurses understand the need to report errors, but still have multiple reasons for not doing so. These articles are a complete review of this topic available in the literature and highlight the need for a better understanding of student nurses' motivation for error reporting.

The first study conducted by Andrew and Mansour (2014) was completed in the United Kingdom (UK). The sample included 180 pre-licensure student nurses enrolled in their last semester in an adult branch UK university. The qualitative study utilized written hypothetical medication error scenarios and gathered demographic data. Free text responses were collected

and analyzed. Four themes were identified: protecting patient safety, willingness to compromise, avoiding responsibility, and consequences from my actions.

Results within the first theme, protecting patient safety, suggested that students were aware of the correct procedures for reporting errors and had a willingness to do so in order to protect patients from potential harm. However, the second theme, willingness to compromise, suggested that the participating student nurses would try to avoid direct confrontation of another staff nurse, but instead attempted to accommodate the error by conforming to what was generally accepted as the normal response for medication error incident reporting. In other words, the student would weigh the situation, considering the impact to the patient and the level of acceptance or rejection by the others making up the nursing team. The third theme, avoiding responsibility indicated that as a student, many participants simply believed that approaching staff or reporting errors was not their responsibility. Their response was to avoid bringing attention to the error. Finally, and most alarmingly, the theme termed *consequences from my actions*, reported concerns from student participants of a negative backlash from error reporting including a chastisement from clinical faculty for not conforming to the unit culture. This study confirmed student nurses' awareness of the need to report errors, but actual reporting was influenced by several factors, including peer and faculty responses to error reporting.

Espin and Meikle (2014) conducted research that focused on students' perceptions of what constituted a patient incident and when incidents needed to be reported. Using a convenience sample of 4th year student nurses enrolled in a traditional baccalaureate nursing program in an urban university, the researchers created five scenarios that were not limited to errors concerning medications, but also included poor pain management, poor nursing care, negligence regarding isolation precautions, patient compromise due to ancillary staff boundaries,

and a potential medication administration error. Healthcare staff involved in these incidents included other nurses, medical residents, and attending physicians.

Student participants identified errors correctly 74% of the time. When incidents were identified, students indicated they would report the error 96% of the time. Participants stressed that medication errors needed to be reported due to risk of patient harm, professional responsibility, and legal accountability. The study authors suggested that as students, the participants were more open to error reporting and this openness should be reinforced during preparatory education using case studies and scenarios describing potential error situations.

A second study explored why student nurses decided to report incidents or not. Ion et al. (2016) conducted a qualitative study examining why student nurses decided to or not to report incidents of poor patient care. Thirteen students were selected by convenience sampling from a UK university. Using semi-structured interviews, students were asked to describe clinical situations where they had observed poor patient care and had reported it, and situations where they had observed poor patient care and had not reported it.

The study's purpose was to identify how students would explain their decision to report or not report incidents. Results indicated explanations by students on why they chose to report poor care situations focused on two broad themes: moral and professional duty and positive personal attributes. Student participants indicated both a personal moral and a professional duty to report poor care as well as a personal satisfaction that reporting contributed to role fulfillment and self-confidence. For students who did not report poor care incidents, justification was more difficult and resulted in four themes: hopelessness of the situation, negative personal impact, theory-practice gap, and displacement of responsibility. The hopelessness of the situation described the feeling of futility due to the established structure perceived as unchangeable

including unit culture, inadequate staffing, and unresponsive hierarchies. The second theme in this category, negative personal impact described the belief that reporting would result in being ostracized, disliked, and result in the work environment becoming worse for the student. Theory-practice gap was described as the perception that the idealistic focus on the patient taught in pre-licensure was unrealistic and therefore discounted, with one student saying that to do otherwise would make you "look out of touch" (Ion et al., 2016, p. 1059). Lastly, displacement of responsibility included the perception that something prevented them from being able to report or being comfortable reporting. These things included not being welcomed by unit staff, having had unrelated but negative interactions with faculty or staff, and in one case being too tired. Also included were assumptions that poor quality is the norm and persons would not be interested in students' input. This study reinforced that student nurses understand the need to report quality and safety issues but are often reticent to do so because they are either not able to distance themselves from the situation or they believe that the negative consequences outweigh their obligation to patients.

In summary, this review of pertinent literature included examples of the application of the Ethics of Care theory and a description of the stakeholders for whom medication error reporting is important. Research included both historical "gold star" IOM studies of the prevalence and impact of medication errors, and current studies that determined the ongoing nature of medication errors and error underreporting. The literature review also examined reasons nurses underreport errors. This review concluded with the studies that have examined student nurse's experiences with medication error reporting. The next section, Methodology, will describes how this study will be conducted.

CHAPTER THREE: METHODOLOGY

The purpose of this interpretive qualitative study was to study junior and senior student nurses' beliefs surrounding anticipated peer reactions when a student nurse reports a medication error or near miss error involving a peer. The research questions for this study were answered through a series of interview questions related to vignettes presented to the participants. The vignettes and research questions can be found in Appendices A and B, respectively. Appendix C, contains the interview questions relationships to the research questions. The research questions for this study were

Research Question 1: How do peer reactions influence student nurses' intent to report errors or near miss errors involving a peer?

Research Question 2: In what way, if any, do student nurses believe that reporting errors or near miss errors committed by a peer will influence the relationship with the peer?

Research Question 3: What do student nurses believe justifies their decisions to report or not report errors or near miss errors?

Research Question 4: What differences exist, if any, between female and male nursing students regarding justification to report or not report errors or near miss errors?

Research Method and Design

This study followed an interpretive orientation. Interpretive researchers are concerned with the participants' views of the phenomenon being studied and therefore rely on the experiences of the participants for data, focusing on understanding the participants' experiences (Mackenzie & Knipe, 2006). Specifically, interpretive approaches to qualitative research

examine what it is to be in the world as opposed to attempting to know the world (Reiners, 2012). Within this study, the participant is in a world where they have already experienced the repercussions of "telling" and in a world where they have had relationships, which are normal societal experiences. Therefore, an interpretive qualitative design was most appropriate for this study because interpretive qualitative research intends to understand the meaning of everyday life and human problems and identify barriers and facilitators to change behaviors of normal social practices (Reiners, 2012, Starks & Trinidad, 2007). The behaviors that are addressed in this study come from the literature suggesting that nurses significantly underreport medication errors and are more likely to report errors that they made themselves versus errors committed by another (Covell & Ritchie, 2009). This suggests that the problem of error reporting exceeds a knowledge deficit of the need to report errors or a simple willingness to report errors. Failure to report known errors suggests the motivation to report or not report may be based on normal social practices. Normal social practices or common occurrences and cultural norms to "not be a tattle tale" are addressed in this study. Additionally, this study was developed using two social theories: symbolic interactionism and the ethics of care theory. The use of theories in qualitative studies can be used to assist the researcher to focus on specific elements of a cultural normative (Reeves, Albert, Kuper, & Hodges, 2008). Theoretical applications can assist the researcher to focus research questions to look at data through a particular "lense" (Reeves et al., 2008). In this study, the researcher identified many reasons cited in existing literature for why nurses do not report known medication errors. By using the specific theories of symbolic interactionism and the ethics of care, this researcher was able to focus both research questions and interview questions to address issues of "telling/tattling" and relationships. The use of these theories corresponds to interpretive inquiry because descriptions are already interpreted as part of being

within a culture (Matua & Van Der Wal, 2015). Within this study, research questions and interview questions were based on the desire to ascertain if participant's responses to represented medications errors were impacted by already defined and known societal norms, being the maintenance of relationships and "not telling." This is consistent with the interpretative inquiry in that it wants to unveil the meaning of the phenomenon within defined contexts (Matua & Van Der Wal, 2015). In this study, the context is quite specific; the discovery of a medication error committed by another while at work.

Descriptive qualitative inquiry was eliminated as true descriptive qualitative research requires the researcher to bracket any preconceptions, and complete bracketing is impossible in this study as its research questions and interview questions were based on theoretical principles (Matua & Van Der Wal, 2015). Exploratory qualitative methodology was also eliminated as exploratory studies seek to define phenomenon when there is little known about the subject (Barros-Bailey, 2017). While there is little known about how anticipated peer reactions will influence intent to report errors, the use of theoretical frameworks in this study predetermines the phenomenon of relationships and previous "telling" experiences and focuses on interpreting these phenomena in a specific cultural context, that being medication error reporting.

Other qualitative methods were not chosen for this study. Grounded theory utilizes comparison and a multi-stage interview process to develop a theory of the participants' actions or interactions (Creswell, 2014). There was no benefit to this study from more than one initial interview. Discourse analysis focuses on understanding how language influences participants' identities and behavior (Starks & Trinidad, 2007). This study did not focus on student nurses' actual interactions with one another, but instead focused on how error reporting is perceived to influence relationships once reported. Ethnography examines a group of participants who share

common characteristics (Creswell, 2014). This study did not intend to study groups of student nurses, but was interested in individual perspectives. Case studies were not selected for this study. Case studies are conducted over a period of time, and this study examined perceptions at a single point in time, during an interview (Creswell, 2014). Phenomenology was not chosen for this study because phenomenology focuses heavily on the lived experience of the participant. Student nurses most likely have not had the experience of needing to decide to report an error. Instead, participants in this study all indicated they had experience with "telling" in some manner, in their past and understood the concept of "telling."

Quantitative designs were not chosen for this study. This was a non-experimental study. Non-experimental quantitative designs such as using surveys would not allow the depth of information sought in this study.

Student nurses were selected for this study specifically to control for the social norms on any specific unit that a nurse would have been exposed to during their employment. According to the Ethics of Care Theory, the social norms that exist within relationships are a significant influence on behavior, especially among females (Sanders-Staudt, 2017). Symbolic Interactionism suggests that the meaning an experience has for an individual is influenced by the social reaction of others (Plummer, 2000). Associated behaviors and habits then are created by past experiences and will influence the response to similar experiences (Benzies & Allen, 2001). By using a qualitative approach, data can include both participants' past experiences with "telling" as well as projected experiences with "telling" and anticipated effects on hypothetical professional relationships.

To address the research questions, participants were engaged in a series of interview questions surrounding hypothetical vignettes. The vignettes were written by the researcher and

derived from medication errors nurses commonly experience, as reflected in the literature (Antonow et al., 2000; Barker, Flynn, Pepper, Bates, & Mikeal, 2002; Gladstone, 1995). A copy of the vignettes and research questions can be found in the appendices section of this study, Appendix A and Appendix B, respectively.

The following sections explore the population selection criteria, the sample selection procedure, instruments, data collection, and analysis and ethical considerations.

Population

Junior or senior year students in a pre-licensure baccalaureate program, between the ages of 19 and 24 was the population. Care was given to exclude any student who had been previously licensed as a nurse (i.e., licensed practical nurses pursuing registered nurse degrees, or nurses previously licensed in another country, or taking courses to be re-licensed for any reason were excluded). The approximated population included students from 10 colleges or universities in the recruitment area, or approximately 1,250 potential participants (Tennessee State Government, n.d.) (tn.gov/assets/entities/health/attachments/Prof_Assoc_NCLEX.pdf).

Sample

The sample included student nurses studying in the southeastern region of the US, currently enrolled in an accredited pre-licensure Baccalaureate nursing program and who had experienced the phenomenon of "telling". To be representative of the disproportionate male-to-female ratio in nursing, the sample contained three male student nurses and seven female student nurses (United States Census Bureau, 2013). Prior to obtaining permission from participants, the University's Institutional Review Board (IRB) was contacted for permission and permission was granted. The IRB letter granting permission is included in Appendix D. As potential participants, student nurses were notified of the study through word of mouth, utilizing known

contacts that interact with student nurses and through snowball sampling. Snowball sampling is also referred to as chain-referral sampling (Dudovskiy, 2016). Snowball sampling is a non-random sampling method where participants are asked to recruit other participants who they believe may be interested in participating in the study. Specifically, exponential discriminative snowball sampling method was used. Exponential snowball sampling means that any referred potential participants will also be asked to provide contact information for other potential participants. Discriminative exponential sampling, however, limits the number of participants from each referral source to one (Dudovskiy, 2016). Care was taken to ensure that participants understood they did not have to provide names of other potential participants. All potential participants were screened to determine if they met the inclusion criteria. The sample target size was a minimum of eight student nurses as recommended by Creswell (2014) for qualitative interviewing. The final sample size was 10 student nurses. The snowball sampling result is illustrated in Appendix E.

Instrument

To address the research questions, participants were read a series of interview questions surrounding six vignettes. Each vignette was read first, and the seven questions followed. The interview questions addressed the research questions. Interview questions can be found in Appendix C of this study. The vignettes derived from common medication errors nurses may experience as reported in the literature (Antonow et al., 2000; Barker et al., 2002; Gladstone, 1995). The following discussion will include the vignettes and their rationale.

Vignettes

Vignettes are a technique used in structured and in-depth interviews where the participant is invited to draw on personal experience and describe how the central character in the vignette

should behave (Jenkins et al., 2010). The vignettes are intended to act as a stimulus to extend the discussion of the scenario presented (Jenkins et al., 2010). The vignettes in this study are considered "snapshot" (p. 176) vignettes presented specifically as hypothetical situations where the participants were asked to put themselves into the situation as the nurse to obtain sensitive data in an indirect and non-confrontational manner (Jenkins et al., 2010).

To be used, vignettes need to be plausible (Jenkins et al., 2010). Each vignette that was used in this study was presented to a panel of nursing experts and deemed understandable and realistic. The six vignettes used for this study represented errors commonly cited by nurses. The vignettes in this study were written by the researcher and intended to represent the literature. The literature demonstrated that approximately 62% of errors are prevented from reaching the patient (Antonow et al., 2000). Of the six vignettes, only Vignette Number Two and Vignette Number Four described errors that reached the patient. Additionally, incident reporting varies depending on the stage of the medication process (Antonow et al., 2000). Approximately 50% of errors occur during the administration process while approximately 24% occur during transcription/verification and 10% during dispensing (Antonow et al., 2000). For this reason, four vignettes demonstrated errors during administration while Vignette Number Five reflected a transcription/verification error and Vignette Number Three reflected an error during the process of dispensing the medication.

Additionally, vignettes that were used in this study were created to reflect common types of medication errors. The 2002 study by Barker et al. listed the most common error types as omission, unauthorized drug, wrong dose, and wrong form. An earlier study by Gladstone (1995) included incorrect intravenous infusion rates as a dose error and incorrect patient as a

drug-related error. The vignettes in this study represented medication errors or near miss errors related to incorrect intravenous infusion rate, wrong patient, wrong drug, and wrong dose.

The six vignettes were written with three levels of connection to the person committing the error. In two of the vignettes, medication errors were committed, but the individual responsible for the error was not easily identified. In two vignettes, the individual responsible for the error was known, but was not present at the time the error is discovered. In two vignettes, the individual responsible for the error was known and was still present on the unit at the time the error was discovered. This is included in Table 1.

Table 1

Vignettes as Related to Connection to the Person Committing the Error and NCC MERP's Definition of Medication Error

#	Connection	Type of Medication Error
1	Committer is known, not present, will likely know who reported error	Omission; Error, no opharm
2	Committer is known, not present,	Error, caused harm
3	Committer is not known, will likely not know who reported error	Capacity for Error
4	Committer is known, not present, will likely know who reported error	Capacity for Error Capacity for Error
5	Committer is not known, not present will likely not know who reported error	Capacity for Error
6	Committer is known, is still present will likely know who reported error	Error, caused harm

The vignettes were written so that the protagonist could be any nurse, not necessarily the participant. The study vignettes were written in this manner because the literature suggested it is

easier to talk about a hypothetical response from another person than it is to speak about oneself and one's intentions or beliefs, and that this may allow for responses that do not simply reflect patterns of social desirability (Hughes & Huby, 2002; Jenkins et al., 2010).

Data Collection

Study information and consent forms were emailed to participants prior to interviews. Interviews were conducted by phone and recorded. Phone interviews were elected for this study because they allowed participants to best determine the time and location of the conversation and have been shown to be a reliable method for data collection (Mohamed & Kenford, 2004; Sturges & Hanrahan, 2016). The date and time of interviews were mutually determined ahead of time, at a location of the participant's choice. Phone conversations began with unrecorded brief introductions and pleasantries. Participants were then asked for their permission to begin recording and were reminded to avoid any identifying information once the recording began. Participants were then asked for their verbal consent.

Interviews lasted between 24 minutes and 51 seconds and 46 minutes and 30 seconds and were deemed complete when the participants no longer offered new information. Data collected included demographic data for each participant, including age, academic level, program type, and previous healthcare experience. Vignette order was determined arbitrarily; however, each interview used the same vignette order and the same interview questions.

A semi-structured, synchronic approach was used during the interviews. This approach allowed for each question or series of questions to stand on its own, without necessarily having to wait for the next question to emerge (Weiss, 1994). Follow-up questions were asked when clarification or elaboration was necessary. Care was taken to avoid communicating judgment of responses.

Data Analysis

The first step in data analysis in a qualitative study is data transcription. Transcription of each interview was completed by the researcher to provide a written record of the interview session (Creswell, 2014) and was printed for use by the researcher. Prior to transcription, each interview was reviewed several times for the researcher to fully comprehend the entire conversation. Recordings were transcribed as soon as possible following each interview.

The researcher followed the steps recommended by the Colaizzi method of qualitative data analysis (Colaizzi, 1978; Morrow, Rodriguez, & King, 2015; Shosha, 2012). Colaizzi's descriptive method consists of seven steps:

1. Familiarization
2. Significant statements
3. Formulated meanings
4. Clustering themes
5. Exhaustive description development
6. Fundamental structure production
7. Verification of fundamental structures

The first step, familiarization, thoroughly engages the researcher with the data. The researcher listened to each recorded interview multiple times and personally transcribed each recording. Transcription documented which vignette the participant was responding to, and each interview question the participant was answering. After transcribing each recorded interview, this researcher re-read the transcript several times, reading carefully to ascertain what the participant was attempting to communicate.

The second step, significant statements, directs the researcher to identify all statements in the accounts that are of direct relevance to the phenomenon under investigation (Colaizzi, 1978; Morrow et al., 2015; Shosha, 2012). A total of 270 significant statements was identified from the over 12,000-word initial transcript. The researcher focused on statements pertaining to participant perceptions regarding what constituted a medication error, positions surrounding reporting medication errors, feelings about reporting peers and/or friends, and anticipated reactions to telling on someone or being told on. An example of how significant statement were elicited from the transcripts can be found in Appendix F, and an inclusive table of all steps is included in Appendix G.

Step Three of Colaizzi's method of descriptive qualitative analysis is identifying formulated meanings from the significant statements. In this step, the researcher must identify meanings for each significant statement, being careful to avoid any personal bias as meanings are derived from the data. As an undergraduate nursing educator, this researcher was acutely aware of potential bias from a desire for the participants, all student nurses, to correctly determine what constituted errors and how those errors should be correctly reported. These potential biases were acknowledged by the researcher and each formulated meaning was interpreted based on the phenomenon identified. Interpretive research understands that complete bracketing is impossible (Matua & Van Der Wal, 2015); however, Colaizzi stated that bracketing within the participant responses must occur, and this researcher bracketed personal biases based on being a nurse educator (Colaizzi, 1978). One hundred thirty-one formulated meanings were extracted from the 270 significant statements. An example of formulated meanings as extracted from one participant transcript is available in Appendix H, while an inclusive table of all steps is included in Appendix G.

The fourth step in Colaizzi's method is clustering themes. This step requires the researcher to cluster identified meanings into common categories. To complete this section, this researcher coded each formulated meaning with key phrases, created from the identified meanings. Key phrases were then re-considered based on the formulated meanings, significant statements, and participant transcripts to ensure representation. The key words and phrases that evolved into the clustering themes included

1. The patient is getting the correct medication (or care).
2. I will communicate with the physician, charge nurse, head nurse, or someone in authority.
3. I will interact with the committer to better understand what happened.
4. "Serious" mistakes need to be reported.
5. I probably won't report it because there was no harm done.
6. I won't report it because it the first time the committer made a mistake.
7. I would hesitate to report it when the committer was very experienced.
8. I'd fix it or get the order fixed.
9. Whether or not I'd report it depends on the attitude of the error committing nurse.
10. I would address the error-committing nurse myself and that would be sufficient.
11. Nurses fix errors from other departments and for each other.
12. Error-committing persons will feel badly about their error.
13. Error-committing persons may be fear job jeopardy.
14. People are afraid of getting into trouble.
15. Error committing persons will be angry if the error is insignificant.
16. A friend would expect you to cover for them.

17. Reporting errors make situations harder.

` 18. It depends on the response from the error-committing nurse.

19. Reporting will have negative relational consequences.

Creating exhaustive descriptions is Step Five in Colaizzi's method of descriptive qualitative data analysis (Colaizzi, 1978; Morrow et al., 2015; Shosha, 2012). In this step, the researcher is challenged to write a comprehensive description of the phenomenon encompassing all of the clustered themes identified. From this description, Step Six, fundamental structures, emerges which consolidates the exhaustive descriptions into succinct and comprehensive fundamental statements that capture the essential elements of the phenomenon and accurately represents the participants views. There are three exhaustive descriptions in this study, with the following fundamental structures. These are further defined in the proceeding paragraphs:

1. Caring for my patient is the priority.

2. The characteristics of the error-committing person impacts the decision to report errors.

3. Error reporting impacts relationships.

Exhaustive Descriptions and Fundamental Structures

Caring for my patient is the priority. The fundamental structure, *caring for my patient is the priority*, is supported by clustered themes: the patient is getting the correct medication (or care); I will communicate with the physician, charge nurse, head nurse, or someone in authority; and I'll fix the error or get it fixed. Participants recognized the need to prioritize patient care and ensure patient safety. Participants described the ways they would accomplish this including things such as obtaining the correct medications, ensuring antibiotics that were opened but not administered were discarded and new antibiotics were obtained, assessing the patient for side

effects of any error, and documenting the actual administration time of mediations, etc. Additionally, participants wanted to protect their patients by reporting the situation to someone. In most cases, the purpose of reporting was not to document an error, but to make certain that someone other than the participant knew the error had been made to ascertain that the patient was safe. Interview Question Seven specifically asked participants if they would report errors described within the vignettes. Some participants indicated that they would report errors when asked directly, stating things like, "I would report because I have been taught it's all about helping the patient and advocacy and maintaining care for the future too" (Participant 9). Participant 1 indicated she would report because "[i]t's the rules." However, other participants indicated that they would need to report the error to have the error addressed, but not formally report it. Examples include "I'd contact the pharmacy to make them aware, but no formal report or anything" (Participant 10) and "Yes, you tell the right people and get the right people to help you figure out what to do" (Participant 1). Lastly, participants were very willing to communicate errors they believed were "serious" and could cause real harm to their patients, as exemplified by participant who stated "Okay, well that's super bad . . . call the doctor and tell them everything," but less willing if they determined the error to be less serious such as with both Participants 2 and 9, both using the same phrase "no harm no foul" when determining not to report an error that they perceived would cause no harm to the patient.

In some cases, reporting was due to a lack of confidence that as students, participants were unsure how best to protect the patient, and in other cases to make certain the incident was appropriately handled. Participants had a varied response as to whom the situation should be reported to, and included the physician, the charge nurse, someone with more experience or more authority than themselves, and, in one case, to the facility's risk management department. It is

important to note however, that although participants were often willing to discuss the situation with another person, they were not initiating a formal report, as exemplified by Participant 10 who stated, "Probably not write a formal report, but call the charge nurse for sure and have the right person deal with it." In summary, participants prioritized caring for their patients. When they believed error reporting would benefit their patient, they were willing to report.

The characteristics of the error-committing person impacts the decision to report errors. This structure is supported by the theme clusters including *I will interact with the committer to better understand what happened*, *I won't report it because it is the first time the committer made a mistake*, *I would hesitate to report it when the committer was very experienced*, *it depends on the response from the error-committing nurse*, and i*t depends on the attitude of the error committing nurse.* Participants wanted to understand why an error-committing person made the error. Although the participants did not use the term *competence*, they seemed to be implying that there was a significant difference between a nurse who just made a "complete mistake" (Participant 9) or a "minor mistake" (Participant 1) and a nurse who was demonstrating either incompetence ". . . if it's the third or fourth time" (Participant 6) or a lack of caring "If I didn't think the nurse acted accordingly or was taking proper care of the patient, then I'd report it" (Participant 9). Participants stated a hesitancy to report more experienced or "seasoned" nurses stating a more seasoned nurse would be "defensive and feel targeted" whereas a new nurse would be more receptive and try to learn from their error (Participant 7). In summary, participants felt strongly that they needed to understand what happened and whether or not the error-committing person was sincerely sorry for the error and would take action to correct their future practice. Participants seemed to believe that less

experienced nurses would be more open to error feedback than experienced nurses, and therefore they were more likely to report errors made by inexperienced nurses.

Error reporting impact relationships. The last exhaustive description and fundamental structure is supported by emerging themes including *the error-committing persons will feel badly about their error*, *fear job jeopardy and getting into trouble*, *be angry, especially if the error is perceived by the committer as insignificant*, and *if there is a friend-relationship, may expect you to cover for their error*. Participants were descriptive when discussing the effect error reporting would have on the individual being reported. Participants stated things like, "they'd beat themselves up" (Participants 1 and 4) and be "extremely upset and embarrassed" (Participant 5). Participants stated ongoing consequences of error reporting could include things like the inability for staff to "cover for each other" (Participant 8) or "care for each other" (Participant 6) after error reporting between peers. Participant 9 stated reactions to error reporting could be "hostile." Participants were divided in their opinions about how error reporting would impact relationships if the error reporter and the error-committer were actually friends. In some cases, it was felt that friends would have an expectation that the would-be error-reporter would cover for them (Participants 5 and 8), but other participants believed that a friendship would not be affected (Participants 4 and 7). In summary, participants indicated that being reported on was hard on the error-committing person, and as one participant stated, ". . . and as humans, we have sympathy . . . and wouldn't report [some errors]" (Participant 9). Additionally, in some circumstances work environments could be negatively affected and friendships damaged by reporting errors.

Validation of the findings was encouraged through the process of member checking. Member checking is the process of presenting the findings to the participants to make sure the participants believe the findings are accurate (Creswell, 2014) and is last step recommended by

the Colaizzi method (Shosha, 2012). For this study, member checking was completed in two phases. Once formulated meanings were determined, each participant was contacted and allowed the opportunity to review their transcript and the formulated meanings descriptions to ensure they felt represented. Confirmation was received from all 10 participants as the participants needed to provide a mailing address to receive their gift card, and subsequently remuneration for participation was sent to each participant's mailing address. However, only one participant offered any comment: "It looks good." Once fundamental structures were identified, each participant was again emailed and encouraged to review them and offered the opportunity to provide any additional insight or correction. Three participants responded to this request and the comments included "I believe that sums up my thoughts from your study.", "Looks good to me. Good luck.", and "I think this looks great. Thank you again for letting me be a part of your study."

Trustworthiness

The trustworthiness of this study's findings was enhanced by following recommendations that addressed the key components of trustworthiness: credibility, transferability, dependability, and confirmability (Shenton, 2004). Credibility addresses the desire for the findings to be a representation of reality and was addressed in this study by the use of a well-known data analysis method, the Colaizzi method (Shenton, 2004). In addition, the researcher was well experienced with the phenomenon and the participant's experiences as student nurses, as the researcher was both a practicing registered nurse and a nursing educator working with pre-licensure nursing students (Shenton, 2004). Additionally, the students in the sample participated voluntarily, with the knowledge that they could refuse to answer any questions or drop out of the study at any time. Participants were encouraged to be honest and assured that their identity would remain

private (Shenton, 2004). Lastly, as this study was an academic project, the data analysis process was overseen and evaluated by other researchers (Shenton, 2004).

Transferability allows study readers who believe they are experiencing a similar situation with persons similar to the study participants to relate the findings of the study to their experience. To allow for as much transferability as is possible, this dissertation included information regarding the number and length of data collection sessions, the time period during which the data were collected, and a description of the criteria for participation in the study.

Dependability aims to allow another researcher the opportunity to repeat the study, and although the same results are not expected, the methods used should be described with enough detail that the study could be repeated with a different group of participants (Shenton, 2004). This study, as an academic project. includes significant detail, a copy of the vignettes, and interview questions. This will allow another researcher interested in the same phenomenon to construct another study that is similar to this study.

Lastly, confirmability is concerned with accurately representing the feelings and experiences of the participants without bias from the researcher (Shenton, 2004). As previously mentioned, the study's findings were communicated to the participants to ensure they believed their feelings and experiences were accurately captured. An assumption was made that participants were satisfied with the process and results as no useful comments were offered. In addition, Shenton (2004) stated the use of an "audit map" (p. 72) be implemented to assist others in following the data analysis process. This is similar to Colaizzi's "thematic map" (p.35) and can be found in Appendix F.

Ethical Considerations

The researcher completed the Collaborative Institutional Training Initiative (CITI) program prior to contacting The University of Alabama's Institutional Review Board. The request for permission to begin data collection was prepared and submitted to The University of Alabama's Institutional Review Board. Permission was received prior to data collection.

Participant Protection

Due to the nature of the study, there was no probability of harm to participants. Participants' identities were guarded by their responses to the interview questions and each participant was assigned a non-identifying number used during data analysis and results discussions. Nowhere in the study were participants identifiable.

Participant Permission

A consent form was emailed to the participants prior to the telephone interview. Interview recording only began after participants were reminded to avoid providing any identifying information. Verbal consent is part of the recorded interview. Additionally, participants consented to be contacted by the researcher at a later date, should further interviews or data analysis indicate a need for follow-up questions and for the opportunity to review results of data analysis. The participants stated they understand their right to drop out of the study at any time and for any reason through their verbal consent.

Data Management

Interviews were recorded using a digital recording application on the researcher's iPhone. This iPhone was password protected. Recordings were deleted once transcripts were completed. Transcripts were kept in a locked file cabinet in the home office of the researcher. Access to the file cabinet has been limited to the researcher. Once the dissertation is approved, transcripts will

be shredded. Once the second member checking step was complete, all names, email addresses, text messages, and phone numbers were deleted from the researcher's phone and computer.

Information included in Chapter Three described and defended the research method chosen for this study. Additionally, the rationale for the vignettes that were used for this study was discussed. Elicited themes were listed. Chapter Three continued with a description of ethical safeguards including how institutional and participant permission was obtained and participant confidentiality protected during data collection and data analysis, as well as how participant validation was attempted, and trustworthiness, transferability, and confirmability were addressed. Chapter Four will present the results and findings from the data.

CHAPTER FOUR: RESULTS

Chapter Four describes the research sample and continues with Coliazzi's method of qualitative analysis with an exhaustive description of the phenomenon of students' perceptions of error reporting. The fundamental structure of the phenomenon is detailed through analysis and support of the 19 themes which emerged during the earlier steps of data analysis. Salient quotations from participants are included.

Research Sample

Ten nursing students were sampled. Of the 10, 7 were female and 3 were male. Participant ages ranged from 20-24 and included five juniors and five seniors, all enrolled in the requisite baccalaureate pre-licensure nursing program within the geographic region of the southeastern US. No participants had been previously licensed as a nurse at any time. When asked about previous experience as a healthcare provider, five participants volunteered that they had no experience, one had no human healthcare experience but self-identified as a veterinarian technician, two identified as nursing assistants in a hospital, one participant specifically identified as a nursing assistant in a hospital "ICU," and one participant identified as a "certified nursing assistant". A representation of this information is found in the following table.

Table 2

Interview Length and Participant Demographic Data

#	Interview Length	Age	Level	Gender	Experience as a "tech"
1	33:00/1,550 words	20	Jr.	F	None
2	37:36/1,531 words	20	Jr.	F	Nurse Assistant 6 mo.
3	29:23/949 words	22	Jr.	F	Nurse Assistant 3 mo.
4	43:16/1662 words	24	Sr.	F	"Vet" tech
5	28:30/703 words	24	Sr.	F	Nurse Assistant 6 mo.
6	31:46/1,479 words	19	Jr.	F	None
7	24:51/1088 words	23	Sr.	M	None
8	30:53/1,254 words	23	Sr.	M	None
9	32:06/1,340 words	21	Sr.	M	"ICU tech" 2 years
10	46:30/1.123 words	22	Jr.	F	None

Interviews were conducted in accordance to the description included in Chapter Three. Each interview was recorded, with all requisite acknowledgments and permission granted. Interviews ranged in time from 24 minutes, 51 seconds to 46 minutes, 30 seconds and on a word scale from 703 words to 1, 662 words spoken by the participant, as per individual transcripts. Participants were contacted prior to each scheduled interview, and interviews were conducted at a convenient time and location of each individual participant's choosing.

Description of the Investigated Phenomenon

The phenomenon investigated in this study was student nurses' perception of peer responses to error reporting and student nurses' stated justification for reporting or not reporting

medication errors. Each student nurse participant was asked to respond to a series of questions surrounding six vignettes, each of which described a type of medication error. Responses were ultimately categorized into three fundamental structures. Fundamental structures are succinct statements that are derived from the creation of exhaustive descriptions of the phenomenon investigated (Colaizzi, 1978; Shosha, 2012). The fundamental structures and their relationship to the theoretical frameworks and literature are described here.

Structure 1: Caring for my Patient is the Priority

This structure resulted from a consistent concern verbalized by all participants that their patients deserved to receive the correct medications. Depending on the degree of harm or potential harm, the actions varied, but for each vignette, participants addressed necessary steps to care for the patient. Even when participants were able to anticipate that the purpose of the questions was to explore reporting the medication error described, participants still chose to discuss actions to protect the patient.

Participants recognized the need to prioritize patient care and ensure patient safety. Participants described the ways they would accomplish this including things such as obtaining the correct medications, ensuring antibiotics that were opened but not administered were discarded and new antibiotics were obtained, removing incorrect medications, and assessing the patient for side effects of any error and documenting the actual administration time of mediations, etc.

Within the NCC MERP (2001) category of *capacity for error*, Participant 1 stated that when an antibiotic was not infused, the nurse would "Get the right med to the patient, I hope so." When the Pyxis was incorrectly stocked, participants stated the nurse would ". . . get it fixed before somebody else grabs the same thing and it's wrong too (Participant 7), or that the nurse

would "hold the med, report it to the pharmacy" (Participant 8). Other responses included statements like "take the [wrong medication] away and figure out what medication the patient should be taking" (Participant 7) and "get it fixed in the computer" (Participant 3).

Within the vignettes that represented the NCC MERP (2001) category of *error but no harm*, participants stated, "The patient needs their medication, they should get a new one as soon as possible" (Participant 1). Participant 2 stated that she would "start the medication, document on the medication administration record (MAR) and let the physician know." Other participants stated things like "I'd just be concerned something would be wrong with the patient" (Participant 1) and "Document that it didn't run and report it to charge nurse that it wasn't running" (Participant 5).

The third NCC MERP (2001) category of *error, caused harm* resulted in comments such as ". . . if the patient is in really bad shape then it needs to be reported so that someone above the nurse can take action for the patient's wellbeing" (Participant 6) and "I think the first thing is to speak with the charge nurse . . . what is the next step? Pain medication is a big deal, IV is going to be in their system faster" (Participant 4).

This first structure, *caring for my patient is the priority*, demonstrated an easy acknowledgement by the participant that a situation occurred, and that their responsibility was to provide the patient with the correct care, and secondarily to report the situation to someone.

Participants' comments that support reporting the situation to someone include Participants 2 and 5 who would "let the physician know" when asked about what the nurse should do for errors committed, with no harm. When errors were committed with harm, participants stated, "I think the first thing is to speak with the charge nurse . . ." (Participant 4) and ". . . tell the lead nurse and get directions on what to do now" (Participant 7). Additionally,

when asked Question 2, should something different happen than you think would happen, responses included "I feel like I should say more, but just the same [report it to supervisor and risk management]" (Participant 5) and "Report it to the charge nurse" (Participant 6) as well as ". . . go to the next level . . ." (Participant 9).

Participants believed they needed to "report" errors; however, in most cases they did not signify intent to formally report an error, as in an incident report or written documentation of the error. Only Participant 5 specified, "risk management," while other participants included the physician, charge nurse, lead nurse, next level, or someone more experienced than them. None of the participants mentioned any type of written reporting or indicated what they believed the person to whom they would report the error should do with the information.

At various times throughout the interviews, participants indicated awareness that medication errors need to be reported. Participant 5 stated the error needed to be reported to risk management because the nurse was not following protocol. When an error that caused harm occurred, responses were stronger: "Absolutely report it to the facility" (Participant 1) and "Report it. Absolutely" (Participant 2). Errors that did not cause harm resulted in similar, but less definitive responses including Participant 7 who stated, "I guess it depends on the full policy, they should definitely follow that [meaning the person who is reporting the incident should follow the reporting protocol]." along with "Any nurse would report this kind of mistake" (Participant 10). Only one respondent stated unequivocally, "I think the nurse should report it no matter what. That's what I've been taught, that all medication errors need to be reported no matter what" (Participant 9). However, Participant 7 stated similarly that all errors should be reported, but "so that [the error] is not on my hands completely" while Participant 4 stated that "all errors should be reported, everyone should be accountable" but that she did not

believe that is what would happen in the situation. In a similar manner, some participants indicated that having their errors reported was expected. Participant 3 stated, ". . . I just wouldn't feel bad if someone reported me for that . . . I hope it would be reported, I'd expect it to." Other responses included "The nurse who found the mistake doesn't have a choice . . . I wouldn't hold it against them" (Participant 1) and another participant stated similarly "any nurse would understand another nurse doing the same thing [reporting an error]" (Participant 4). Finally, one participant offered, "I would [report the error]. Maybe I'd give them some education about it, maybe help them out if they're new nurse" (Participant 7).

Participants expressed the opinion that errors needed to be reported, and that there was little choice other than to report. However, a variance of the reasons why was revealed. In some cases, it was to protect the patient, in others to protect themselves, and in yet others to educate the error-committing person. When the participants deemed the error to be "significant," reporting was more likely.

Responses were significantly stronger when the participant determined that the error was "serious." Participant 6 voiced unequivocally that ". . . if the patient is okay and there's no trouble then there's no reason to report it, but if the patient is in really bad shape then it needs to be reported . . .." Heparin infusion errors were deemed "super bad" (Participant 7), and heparin called a "high risk drug" (Participant 1). The fact that the infusion was faster than ordered resulted in comments like, "because the rate was more, I believe it should be reported to the charge nurse . . . in this case less is better, but it was more" (Participant 4) and "call the doctor because heparin is bad to give too fast" (Participant 10). Participants judged how serious the error was when determining whether or not to report; ". . . that's kinda a big mistake. It depends on how big a mistake it is if I would report it" (Participant 6). Participant 3 used "real life

nursing versus book nursing" to determine that an error of the wrong route "is not life threatening, it is a big deal, but on a scale it's not a big deal." Similarly, participants judged errors to be "a minor mistake" (Participant 1) or the patient did not have "worsening symptoms" (Participant 10) and therefore the error may not be worth reporting.

Participants used seemingly arbitrary and individual guidelines when determining when and if an error was serious. The type of medication, the route of administration, and their perceived potential for complications all impacted their decision to report errors. In most cases, participants felt the need to further explore what happened and how the patient was impacted. This is explored in Structure Two, *the characteristics of the error-committing person impacts the decision to report*.

Structure 2: The Characteristics of the Error-committing Person Impacts the Decision to Report

Study participants indicated that the characteristics of the error-committing person, mainly their experience level, competence, and intentionality influenced the decision to report or not report. To make this determination, some participants needed more information. Participant 9 would "go and find out what happened and how they made the mistake" while others stated ideas including "talking to the other nurse to find out what happened" (Participant 4) or "find out what's the case first" (Participant 6). Participant 10 indicated that she would "Tell the nurse that she's covering and say, 'hey what happened?'"

Although this study cannot state that nurses will be less likely to report errors when there are extenuating circumstances, participants in this study wanted to understand why the error-committing person made the mistake, and if the mistake could be corrected with no adverse effects to the patient.

In one instance, where a transcription error occurred, the participant's solution was simply to "go and find all the places where 600 [mg] was entered and change it to 800 [mg]" (Participant 8) or in the case of Participant 2 "just clarify the order." In another case, correction was acceptable if the error had only recently happened: "I'd report it if it's been a mistake happening for a long time, but if I just found it, then no [I wouldn't report it]" (Participant 3). One participant recognized that the option to "just fix it" is available but struggled with "you still want to do the right thing" (Participant 1). Another recognized the option to fix the error may make the situation easier to manage stating ". . . if there weren't any bad consequences to the patient, then just go around it, not create more work and problems by dealing with it directly" (Participant 10). This was echoed by Participant 9 who added ". . . no harm no foul since it wasn't consumed . . . no need to bring in upper authority." Another respondent used similar descriptors, stating, "I think sometimes we assume it's a no harm, no foul, we keep from saying anything, we just start it" (Participant 2). Finally, several participants indicated that the expectation was that nurses "cover" for one another. Participant 5 stated, "The nurse who made the mistake would be upset that the other nurse didn't cover for her." Participant 8 expressed a similar opinion stating, "I think it's something that some people would just expect to let go. The patient wasn't in any real danger."

Whether or not the error-committing person showed remorse (i.e., could "learn from their mistake") also impacted the decision to report. Participant 9 stated, ". . . if it was just a complete mistake and they felt bad and wouldn't do it again and wanted to correct their actions, then I wouldn't report it." This is supported by Participant 6 who stated, ". . . if the nurse knew the order was discontinued and just gave it anyway, regardless of what the order said, then that's a big deal and should get reported." This is supported again by Participant 9 who added, "If they

were just like, 'it's just one dose [implies showing no remorse] then I'd feel like I had to report it and go to the next level if the nurse didn't hold themselves accountable for the mistake." In some instances, the nurse discovering the error would expect the nurse committing the error to self-report, as in Participant 10's reply of "Tell the nurse that she's covering and say 'hey what happened?' Tell her she should call the provider." The frequency of a nurse committing errors was also a determinant to reporting. As Participant 6 stated, "If it's the first time they made the mistake, I'd say, 'hey, I fixed that mistake for you, but be aware next time,' but if it's the third or fourth time, I think I'd report it." The last example supporting Theme 9 is derived from Participant 9 as he struggled with his decision to report an error stating,

> The textbook answer is to report them, but as people, we have sympathy and as long as the nurse isn't consistently making mistakes and feels bad about this one and wants to correct it, then as humans we have sympathy and it wouldn't be reported.

This thought, of being human and accepting of errors may originate from the fear many of the participants expressed about the perceived consequences of making errors, and concern over getting others into trouble. These are explored further in the final theme, Theme 10.

The reasons why errors should be reported, ignored, or corrected were variable. The experience level of the nurse, the competency of the nurse, the willingness of the nurse to be accountable for themselves, and remorse perceived by the reporting person were all possibilities.

Structure 3: Error Reporting Impacts Relationships

How error reporting affects peer relationships also had many variables and some dichotomy amongst participants. Participant 10 stated she believed some people would be "afraid to rat out a friend." Participant 6 described the decision as an individual one, depending on "how comfortable that person was reporting a mistake and dealing with the consequences from their peers." She continued, "I wouldn't think it would be the best scenario ever and they

wouldn't be on good terms" (Participant 6). Participants used phrases like "there would be a lot of tension" (Participant 2), "would feel targeted and would be defensive" (Participant 7), "angry" (Participant 9), "annoyed" (Participant 10), and "afraid [for their job], upset at first" (Participant 4), and "scared they'd be in trouble" (Participant 10). One participant believed any alleged error would be denied by the person who committed the error, even if they knew they had committed the error. Several participants were concerned that the nurses involved would not be able to work together, stating "that nurse wouldn't want the other nurse covering for her anymore" (Participant 2) and "they wouldn't be able to care for each other or help each other . . . it'd be like, 'she reported me so I'm not going to deal with her or help her and that's it'" (Participant 6). Other participants described the tension due to the committer being "embarrassed, just feeling really bad and embarrassed" (Participant 5) and a general sense of increased scrutiny stating "you wouldn't be able to feel like yourself at work, and you'd be second guessing yourself that you're following exactly by the book and always have your shield up" (Participant 9).

Although research has indicated that the use of non-threatening and non-punitive error reporting methods may increase medication error reporting, including near miss medication error reporting, by as much as 500% (Force et al., 2006), the participating students in this study perceived there was a threat to the error committing nurse when errors are reported. Participant 3 stated unequivocally that if medications were left at the bedside, a capacity for error, "the nurse would be getting in trouble for that." Also, one participant indicated that if the antibiotic did not infuse, which is an error with little potential for harm, the error-committing nurse would be afraid "they'd be in trouble for this kind of mistake" (Participant 10). Even errors regarding the Pyxis loading, a potential error, resulted in comments such as "that would be about getting in trouble" (Participant 4). Many participants added statements such as "maybe concerned their job

is in jeopardy" (Participant 10) and "nobody wants to get in trouble" (Participant 6), as well as reporting depends on "the amount of trouble they'd get into" (Participant 3).

In summary, Structure 3 suggested that students will determine when to report based the perceived impact on the relationship between the reporter and the committer. In some cases, participants were concerned about causing undue emotional distress to the committer or "trouble" they perceived the error-committing person would experience, and that they would proceed with reporting an error by making a determination as to whether or not that error-committing person should experience "trouble," in part based on the degree of remorse and the frequency of errors as explored in prior structures.

The results of this study are important because the students' reasons for choosing to not report a medication error are like the reasons found in the literature that nurses use for choosing not to report errors, including a perceived lack of harm to the patient, the belief that errors should be overlooked if the error-committing nurse does not make mistakes repeatedly, a fear of disciplinary action resulting from the report, and the risk for interpersonal conflict (Haw et al., 2014). Symbolic interactionism suggests that social behaviors are formed from previous experiences and anticipated peer reactions. Student nurses have not experienced the need to report medication errors, and therefore their frequent reluctance to do so, even in hypothetical vignettes, may be related to previous experiences of "telling" and the social expectation to not be a tattletale. Similarly, the Ethics of Care Theory implies that individuals are more committed to interpersonal relationships than to other relationships or the expectations of institutions. In this study, although participants were very concerned about the well-being of their patients, if they determined the patient was not injured, most participants clearly prioritized the peer-peer relationship above the nurse-patient/professional relationship or the employee-employer

relationship. Chapter Five continues the discussion of the findings of this study and explores potential applications to pre-licensure nursing education.

CHAPTER FIVE: DISCUSSION

The underreporting of medication errors hurt patients, physicians and other practitioners, nurses, and communities (Blendon et al., 2002; de Vries & Timmons, 2016; Gooch, 2015; IOM, 2000, 2007; Rassin et al., 2005). Research indicated that medication errors in healthcare settings are underreported (Haw et al. 2014; Maxfield et al. 2005). Therefore, it is a priority for nursing education to address methods to increase error reporting as part of an undergraduate, pre-licensure curriculum (Andrew & Mansour, 2014; Cooper, 2013).

This study examined what, if any, justifications student nurses expressed for determining whether to report known medication errors committed by someone other than himself or herself. It further explored how student participants believed anticipated peer reactions and expectations influenced their decision to report or not report medication errors. Student nurses were chosen for this study because they lacked significant exposure to any specific institutional or unit-based culture of error reporting, and most of their socialization into nursing at this stage was derived from their educational experiences and role models (Throckmorton & Etchegaray, 2007). In this chapter, the qualitative data analysis is discussed as it pertains to the research questions and implications for pre-licensure nursing education. The research questions are discussed out of numerical order to decrease repetition of information. Chapter Five concludes with recommendations for further research into the topic of preparing student nurses for the challenge of reporting medication errors, including errors that cause no harm to the patient and near miss errors.

Research Question 3: What do Student Nurses Believe Justifies Their Decisions to Report or not Report Errors or Near Miss Errors?

The Degree of Perceived Harm or Potential Harm to the Patient

Student nurses' decisions to report or not report a medication error was summarized by Participant 6 who stated, "It depends on how big a mistake it is, if I'd report it." Participants believed that the too rapid infusion of heparin was serious, and all participants indicated that for that vignette, the error would be reported. This researcher used heparin for this vignette purposefully because it was assumed that by the junior or senior year, most student nurses would be familiar with this medication. However, what is less likely known to student nurses is how quickly blood coagulation will normalize once a heparin administration is stopped. The argument is not that heparin, when given too rapidly, should not be reported or is not a "big mistake" (Participant 6), but that the reason for reporting this error is based on a judgment being made by student nurses who do not have the requisite experience to make these decisions. The medication, Allopurinol, used in Vignette 5, being an oral medication and in this vignette, under-dosed (600 mg instead of 800 mg) resulted in a tendency to correct the error or clarify the error with the practitioner, and make up the missing 200 mg, and not necessarily report the error. Similarly, when the medication error included the same medication, but administered using an incorrect route of administration, student respondents were more likely to make sure the error-committing nurse was aware of the error, but not report it, supported by statements such as, ". . . if it was just a complete mistake, then I wouldn't report it" (Participant 9). Additionally, many participants expressed their opinion that if an error was not "serious," there was a heightened expectation from peers that the error need not be reported.

Participants used clinical judgment about the potential harm the medication error may have had to the patient as a determinant when deciding whether or not to report an error. None

of the participants indicated a need to report medication errors for the sole purpose of adding value to the medication administration process. Only one participant included any thought of "future mistakes" (Participant 9) in the decision to report medication errors. The example of the incorrectly transcribed Allopurinol could just as easily have been an incorrectly transcribed digitalis preparation resulting in a cardiac complication for a patient. This study's participants, suggesting a lack of awareness of the need to report all medication errors, including near miss errors, to prevent a similar but potentially more harmful outcome in the future, did not voice this type of consideration.

Joan Tronto differentiated obligation-based ethics and responsibility-based ethics in her discussion of Ethics of Care (Lachman, 2012) believing that the big difference between the two was where caring started. In obligation-based care, the caring begins with the act while in responsibility-based care, caring begins with the relationship (Lachman, 2012, Saunders-Staudt, 2017). Within relationships, there is prioritization based on the closeness of the relationship (Lachman, 2012, Saunders-Staudt, 2017). The study participants may feel the requirements of the nurse-patient relationship were met once they have determined the patient was not harmed, which was clearly the priority of all participants in this study. If the nurse-patient relationship is satisfied, perhaps the next most relevant relationship for the nurse is the peer-peer relationship, not the nurse-profession relationship or the nurse-employer relationship. According to the Ethics of Care theory, nurses who chose not to formally report errors, even when they should, are ethically justified. That prioritization of relationships may explain why even as students, the study participants often did not hesitate to state that they would not "formally" report an error or potential error.

The Individual who Committed the Error

Characteristics of the error-committing person and her or his subsequent reaction to having committed the error were other justifications used by study participants when deciding to report or not report a medication error. Several participants indicated an increased likelihood to report a younger nurse, because that person would not feel as badly about being reported. There was a hesitancy to report more experienced nurses, for fear the error-committing person would have a negative response and possibly scrutinize the reporting nurse.

Error-committing persons who showed remorse ["felt bad . . . wouldn't do it again . . . wanted to correct their actions . . ." (Participant 9)] resulted in responses indicating participants would be less likely to report the error. Subsequently, if the error-committing nurse responded, "it's just one dose," or had known she or he was giving a medication incorrectly "and just did it anyway" (Participant 6), participants were more likely to report the error. These justifications also suggest that the study participants missed the bigger issues of medication error reporting. The research indicated that when conscientious and/or seasoned nurses make medication errors, those errors are more likely to be associated with systems problems and are important to investigate to develop systems improvements (Force et al., 2006). Again, the argument is not that nurses who frequently make mistakes or are sloppy should not be reported, but to maximize investigations into systems-related issues, the most valuable information will be elicited from the most conscientious and experienced nurses.

Ethics of care theory, according to Tronto includes four elements: attentiveness, responsibility, competence, and responsiveness of the care receiver (Lachman, 2012). Attentiveness requires recognition of the need while responsibility requires action to meet the need. Participants in this study, when they recognize an error occurred and at least act to attend

to the safety of the patient and correct the error, may feel they have fulfilled those elements of caring. By considering the past work practices of the error-committing person, participants may be ensuring an acceptable level of competence as one determinant of intent to report, i.e., whether the error-committing person had made errors in the past. Lastly, by expecting the error-committing person to show remorse and be unlikely to repeat the error, participants may be fulfilling the last element listed by Tronto; responsiveness to care. Responsiveness to care is the care giver ability to evaluate that the care was effective. In the case of the study participants, by ensuring that the error-committing person would not repeat the error and was "really sorry" participants may be satisfied with their actions regarding managing the error.

Research Question 1: How do Anticipated Peer Reactions Influence Student Nurses' Intent to Report Errors or Near Miss Errors Involving a Peer?

Participants indicated two dominant anticipated peer reactions. First, many participants indicated they believed the error-committing person would self-criticize and be remorseful. Two participants used the phrase "beat themselves up. (Participants 1 and 4). Other responses included "wouldn't sleep that night" (Participant 1), "upset and embarrassed" (Participant 5), and "extremely upset" (Participant 10). This type of response is further explored within the discussion of Research Question 3 which preceded but was related to a higher likelihood to not reporting errors when the error-committing person was remorseful. The second anticipated response was concern that the error-committing person would be afraid of getting in trouble or perhaps losing or diminishing their employment. Participant 9 summarized how anticipated responses influenced his intent to report medication errors:

> The textbook answer is to report them, but as people we have sympathy and as long as the nurse isn't consistently making mistakes, feels bad about this one and wants to correct it, then humans have sympathy and it wouldn't be reported.

How the study participants anticipated peers would respond to medication errors being reported overlaps with the discussion of Research Question 3, which preceded this section. The deeper discussion remains the same. The Ethics of Care theory indicates that as relational human beings, we have a higher concern for individuals than for institutions. However, to address the inherent problems within institutions, the actions of the individuals within them must be investigated (Gladstone, 1995; Keohane et al., 2008). Again, research indicated that non-threatening, non-punitive methods of error reporting increase error reporting and therefore the likelihood of systemic problems being discovered and addressed (Covell & Ritchie, 2009; Force et al., 2006). However, this study suggested that study participants associate a negative consequence related to making medication errors and subsequently having errors reported.

Symbolic interactionism suggests that it is not the act itself that determines how a person will feel about himself or herself, but the "labels" added by societal reactions (Denzin, 1974). Participants may believe that by not formally reporting an error, they are protecting the error-committing person from a more severe societal response that may lead to feelings of inadequacy and "deviancy" (Denzin, 1974). Participants used negative phrases like "throwing them under the bus," suggestive of more severe potential reactions and consequences should the error be reported.

Research Question 2: In What way, if any, do Student Nurses Believe That Reporting Errors or Near Miss Errors Committed by a Peer Will Influence the Relationship With the Peer?

Study participants were divided in their beliefs regarding how reporting errors would influence peer relationships. For one participant, being friends with the error-committing person would not affect the relationship. Participant 7 stated, "Like before, if they were good friends they'd be accepting about hearing about their mistake. Say if it's someone they don't like,

they'd think they were just finding ways to get them into trouble." Another participant indicated the error-committing person would be thankful that the error was found and corrected, even if it was reported (Participant 3), and another stated that peers would understand stating "Any nurse would understand another nurse doing the same thing" (Participant 1). Participants 6 and 10 indicated the error-committing person "wouldn't be happy about it" or that a friend "might be angry." Finally, Participant 9 indicated that he would report the error, unless it was his best friend stating, "I'd report it . . . meaning unless it was like my best friend, then I would report the mistake."

Participants in general indicated their belief that medication error reporting would cause tension between peers, and there was a belief that friends should "cover for one another" (Participants 5 and 8). Participants' comments included a general feeling of scrutiny associated with medication error reporting. One participant stated, "The nurse would feel unsafe around that other nurse, like they have to be perfect and always by the book . . . and then they'd tell the other nurses about what happened and that they were told on, it wouldn't go unnoticed" (Participant 9). Another participant described how the nurses would not want to be covered for breaks by nurses who report errors (Participant 6). Study participants were divided in how they anticipated medication error reporting would influence peer relationships. Participant 9 also indicated that along with a negative individual response, there may be a negative group response to the error reporting nurse.

Research Question 4: What Differences Exist, if any, Between Female and Male Nursing Students Regarding Justification to Report or not Report Errors or Near Miss Errors?

This study revealed no significant differences between male and female participants in regard to their justifications to report or not report errors or near miss errors. Participant 7, a

male participant, stated unequivocally, "I wouldn't have any problem reporting any mistake on anybody. Friend or not." This same participant indicated that he would follow whatever the protocol was for reporting errors. When it came to pre-existing relationships, this participant stated, "It'd be like it was. Friends, we're friends, neutral we're just the same" (Participant 7). However, it was Participant 9, also a male, who discussed how as humans we have sympathy, and he would not report an error when the error-committing nurse was truly remorseful. Participant 8, the third male participant, made the following statement when asked about how his peers would respond to being reported: "It could affect the relationship because you work so closely with other nurses, both the way you view the other nurse and the way the other nurse views you." Additionally, Participant 8 indicated that the transcription error was just a minor error, not worthy of reporting and that the nurse who gave the medication using the wrong route would expect his peers to let it go because the patient was not in any real danger. Although this was not a research question, when examining the responses of the three male participants, Participant 7, the adamant reporter of all errors, had no experience as a healthcare provider outside of nursing school, but neither did Participant 8, who was less likely to report what he considered minor errors.

The one other participant who indicated a tendency to report all or most medication errors was Participant 5. This participant was the only participant who indicated she would report errors to anyone other than the practitioner or a person in a "charge nurse" role, and that was to "risk management." Participant 5 was a female nursing student with 6 months of experience as a nursing assistant in a hospital. Therefore, this study did not find any significant difference in the responses between male and female nursing students regarding their justifications or intent to report medication errors. Also, although not a research question in this study, this study did not

find a significant difference between student nurses with experience as paid care providers and those who did not have experience as paid care providers.

In conclusion, Participant 9 was an excellent example of the dichotomy that exists in most of the participants of this study. He stated, "I would report this because I have been taught it's all about patient advocacy and helping the patient out and maintaining care and for the future of care too." However, he was also the participant who would not report his best friend, and indicated that because humans have sympathy for one another, he would hesitate to report. This dichotomy may be explained through the application of both Symbolic Interactionism, in that previous experiences of telling may have had negative consequences on relationships, and the Ethics of Care Theory in that there is a hierarchy of relationships. In the case of Participant 9, a close interpersonal relationship precludes the nurse-patient/profession relationship and the employee-employer relationship.

Implications for Pre-Licensure Nursing Education

The literature suggested that pre-licensure education related to medication error reporting is a strong determinant of positive intent to report (Throckmorton & Etchegaray, 2007) and openness to error reporting can be reinforced during the pre-licensure education process (Espin & Meikle, 2014). The results of this study suggest that student nurses have very similar justifications for not reporting medication errors to those seen in practicing nurses; clinical judgment that the patient was not harmed, and/or that the error was not significant enough to report, the ability to fix the error, prioritizing the care of the patient, concern that reporting an error committed by another person would create conflict among peers, and that nurses who only rarely makes mistakes should not be reported (Antonow et al., 2000; Covell & Ritchie, 2009; Haw et al., 2014). It is important to reiterate that from this study, even student nurses whose

clinical practice exposure was limited to pre-licensure educational clinical experiences, having no practical experience as paid care providers in nursing assistant or certified nursing assistant roles, indicated a reluctance to report errors for the reasons listed above. This suggests that hesitancy to report medication errors may originate from the Symbolic Interactionism perspective that telling on someone is simply associated with negative outcomes, learned through previous life experiences. This perspective, coupled with other research that indicates how non-punitive institutional approaches to medication error reporting increase error reporting (Force et al., 2006), may provide insight into how pre-licensure nurse educators can enhance the likelihood of error reporting in future nurses. The following two suggestions would increase the exposure of student nurses to medication error reporting during pre-licensure education.

One suggestion is to include as a part of pre-licensure curriculum, a review of the literature and a discussion regarding the actual number of medication errors and near miss errors that are reported, including an estimation of underreported events. Pre-licensure medication safety education tends to focus on how individual practitioners can prevent errors from occurring. By focusing on the "five-rights" of medication administration; the right patient, medication, time, dose, and route; we suggest to nursing students that any failure in providing accurate medications is due to a failure to follow this simple verification procedure and is solely the fault of the practitioner, although the research has indicated otherwise (Grissinger, 2010). As educators, we can remove the insinuation that errors occur due to poor adherence to seemingly simple steps, and recognize that other variables such as poor lighting, understaffing, shift change, interruptions, and distractions (call lights, phone calls, paging systems, conversation with staff, family, and patients), new equipment, sound-alike medications, and others (Grissinger, 2010; Tompkins McMahon, 2017) are often at fault. Stressing that even highly competent and caring

nurses make mistakes, and that mistakes are frequently the result of multiple, complex systemic issues, not individual negligence (Force et al., 2006), we can reduce the stigma and fear associated with making and reporting errors, or as Denzin stated, the label of deviancy which can lead to feelings of unacceptance and inadequacy (Denzin, 1974). Similarly, by educating nursing students about the inherent systemic causes of medication errors, we can emphasize the importance of reporting all medication errors, even those that caused no harm or were near misses, to prevent future medication errors.

The second recommendation is to increase student nurses' exposure to medication error reporting during clinical. Considering the importance of Symbolic Interactionism and its supposition that past experiences will influence the behavior of individual in similar but new experiences, any exposure reporting medication errors may influence students' likelihood of reporting errors once they are licensed and practicing independently. If for no other reason that research has suggested that it is the responsibility of the academic establishment to provide skills in critical analysis and report writing for students (Kitson-Reynolds & Ferns, 2013). To do this, clinical faculty must have knowledge of their clinical institution's philosophy and mechanisms for error reporting and be willing to report errors, all errors, even errors that caused no harm or were near miss errors committed by their students. Admittedly, this will result in added paperwork and follow-up burden for clinical faculty and may be distressing to the student. However, it is role modeling what should happen in practice and how the student, once independent, should behave. Also, research suggested it is better for the neophyte to have had the opportunity to experience error reporting while under the guidance and support of a faculty member than to experience it for the first time alone (Kitson-Reynolds & Ferns, 2013). Laboratory and simulation may also present opportunities for increased practice with error

reporting. Sanko, McKay, De Santis, and Solle (2015) demonstrated that when students made medication errors during simulated laboratory experiences and could spend time examining the reasons why they committed the error and how they would improve their practice in the future, medication error rates during simulation decreased. Anytime a student nurse makes a medication error, whether in actual practice or during laboratory simulation, and regardless of the error's potential for harm (and including near misses) nursing faculty can assist the student to not only recognize that they made an error but examine deeply why they made the error; what was happening around them, how were they feeling, and what would they do differently next time. Additionally, laboratory simulation can provide an excellent opportunity for the student to practice reporting errors (Sanko et al., 2015). This researcher would add that students can practice observing one another during simulation, and gain practice constructively confronting other students about any errors in their practice, recognizing errors made by others, and documenting errors made by others. Symbolic interactionism suggests that if students find value in analyzing, discussing, and sharing errors and potential errors during their educational experiences, they may act in such a way as to provide the opportunity for practicing nurses to analyze, discuss, and share their errors, in hopes of providing a valuable experience for their peers. This is not likely to occur unless error analysis, open discussion, and sharing are a consistent and integral part of their learning experience. Providing students the opportunity to understand why and how medication errors occur and practice reporting them may increase students' comfort with error reporting and assist them to develop a pattern of error reporting as independent practitioners.

Limitations

Study limitations recognized prior to data gathering and analysis included the lack of generalizability of a small sample size to all student nurses. In addition, student nurses' responses are not generalizable to licensed nurses. Lastly, Hughes and Huby indicated that it is not easy to produce generalizable data from the use of vignettes (Hughes & Huby, 2002).

Limitations discovered during the research process include the variance of participants' experience as non-licensed caregivers. The participants for this study had experience ranging from 2 years as an intensive care unit assistant, where exposure to errors is highly likely, to no experience outside of academic clinical experience. Participants with paid life experience as caregivers would most likely have been subjected to work environment expectations and norms regarding how errors are managed whereas those without that experience would not.

Another limitation is the potential variance in how and to what degree error reporting is stressed. Participants represented five institutions of higher learning and could have received different messages of the significance of error reporting. Additionally, it is unknown to what degree participants were exposed to simulation experiences, where errors are common, versus actual clinical experiences where nursing faculty often intervene to prevent errors, which could result in participants having varying degrees of familiarity with the idea and practice of error reporting.

Recommendations for Future Research

The results of this study suggest that student nurses justify not reporting medication errors for many of the same reasons practicing nurses justify not reporting medication errors. Although junior and senior nursing students are not fully socialized into the nursing profession, it is possible that they have had enough socialization to be influenced by their experiences to

believe that there are justifications for not reporting medication errors. Repeating this study with even younger nursing students, or pre-licensure students could shed light on whether the findings support the theoretic perspective from Symbolic Interactionism that these justifications come from previous experience with telling or if student nurses develop these justifications from clinical exposure and/or other peers during nursing education.

One finding in this study not yet discussed is the participant's indication of their intent to report medication errors to someone else, but not formally. Participants generally stated they would report medication errors to the physician if the problem was serious or required clarification, or to the "charge nurse", "someone in charge", or "someone with more experience than me". If neophyte nurses consider that by telling someone else, they have actually reported the medication error, an interesting and important follow up study would focus on those nurses in the role of "charge nurse" and how they handle these informal reports.

Additionally, considering the need for nursing clinical faculty to work more closely with institutional medication error reporting procedures, another interesting follow up study would focus on nursing clinical faculty and how familiar they are with their clinical institutions' medication error reporting processes and how often they use a formal process for reporting medication errors and near miss errors, including their beliefs on how medication error reporting does or would affect their relationships with the institution and unit staff.

Another recommendation stems from a limitation in this study due to the lack of research into methods and approaches academics can use to bridge the symbolic interactionism recognized gap to assist student to progress from "beating themselves up" for making errors to using the experience to improve their practice and increase their willingness to openly share their errors with others. Nursing faculty need to conduct research to determine how to provide

debriefing and sharing opportunities that expose weaknesses in student performance but do not add to their possible past experiences of being embarrassed or ashamed of having made a mistake. Research that does exist clearly indicated that a non-punitive reporting atmosphere within clinical institutions significantly increases error reporting (Force et al., 2006) what has not been investigated is how best to recreate a similar atmosphere in the learning environment displacing fear of judgment by faculty and peers, a negative grade or possible failure with feelings of mastery related to analyzing an error, objectively documenting an error, and openness to sharing an error. The skill of recognizing, analyzing, and sharing errors should be an outcome for any student involved in clinical encounters or clinical simulation, and like any other clinical or simulated skill, opportunities for practice and repetition made available.

Conclusion

Medication errors hurt patients (Munoz et al., 2010). Medication errors and near miss medication errors need to be reported to prevent untoward patient responses, but also to gather institutional data to expose any systems problems that may need to be addressed, and thereby decrease future errors (Gladstone, 1995; Keohane et al., 2008). However, medication errors remain underreported (American Nurses Association, 2015; Covell & Ritchie, 2009; etc.). Many barriers to medication error reporting have been reported in the literature, but less is known about the impact on professional relationships when peers report medication errors or what student nurses perceive the relational impact of medication reporting to be. The purpose of this qualitative study was to explore student nurses' justification for reporting or not reporting medication errors committed by someone other than themselves, and how perceived reactions to being reported would affect the relationship between the error-committing person and the error-reporting person and the student's intent to report the error.

The researcher conducted interviews with10 participants surrounding a series of vignettes describing realistic but hypothetical medication administration errors. The Colaizzi method of data analysis resulted in 19 theme clusters and 3 fundamental structure statements which were then applied to the research questions for this study. Results suggested that student nurses justified their reluctance to report medication errors for many of the same reasons practicing nurses do and believed similarly to practicing nurses that reporting medication errors will have a negative impact on peer relationships. Since students have not yet been fully socialized, the theoretical perspective offered by Symbolic Interactionism is that these justifications originate from experiences prior to nursing school, possibly in situations where telling on someone was received negatively. Similarly, the reluctance to risk damaging peer relationships suggests that even as student nurses, the participants valued peer relationships over the professional relationship with the patient, if the medication error did not seriously injure the patient. This result aligns with the Ethics of Care Theory, which suggests that people, most often females, value interpersonal relationships more than other types of relationships. However, in this study, there was no apparent difference between responses from male or female participants. Nursing implications resulting from this study focus on the need to increase exposure of student nurses to medication error reporting to increase student nurses' comfort with telling on themselves and others, and to promote the development of the habit of medication error reporting that will transfer to their independent practice.

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APPENDIX A

VIGNETTES

The following vignettes will be used to introduce the topic of medication error and error reporting.

Vignette 1:

The nurse, an RN, has taken over the care of a patient because of a need for patient reassignment. During the patient assessment, the nurse notices a full bag of antibiotic hanging in the patient's room. The nurse realizes the clamp was not open and the antibiotic did not infuse. The nurse checks the patient's medication record and realizes the medication was supposed to be infused 4 hours ago.

Vignette 2:

The nurse, an RN, is assessing the patient at the start of the shift. The patient is ordered to have a heparin drip infusing at 800 units per hour. When the nurse reviews the drip rate, the nurse recognizes the rate of administration is actually delivering 1400 units of heparin per hour.

Vignette 3:

The nurse is preparing medications for a patient. The patient is to receive a onetime dose of Cardizem 15 mg I.V. over 2 minutes due to a rapid atrial fibrillation. The nurse obtains the medication from the medication delivery system (i.e., Pyxis). When the nurse gets to the patient's room, the nurse realizes the Pyxis was stocked incorrectly and the vial is Cardene, not Cardizem.

Vignette 4:

The nurse enters the patient's room for the first time. There is a pill cup with a pill in it on the bedside table. The nurse asks the patient about this medication and the patient replies, "I was on the phone when the last nurse came in. The nurse said it was amoxicillin and I should

take it once I was off the phone, but I am allergic to amoxicillin, so I did not take it." The nurse reviewed the patient's medication record and realized amoxicillin was not ordered for this patient.

Vignette 5:

The nurse is administering medications. The electronic medication administration record (eMAR) indicates 600 mg of allopurinol is due to be administered. The patient tells the nurse, "I always take 800 mg at home." The nurse checks the original order and realizes it does say 800 mg.

Vignette 6:

The nurse is covering for a colleague during lunch. The patient is recovering following surgery and is being weaned off I.V. narcotics for pain control and transitioned to oral pain medications in anticipation of discharge. The patient requests pain medication. When the nurse enters the room with oral pain medications, the patient states "I was given medication through my I.V. last time." The nurse reviews the prescription record and realizes the I.V. medications were discontinued although the nurse administered them anyway.

APPENDIX B

RESEARCH QUESTIONS

Research Question 1: How do anticipated peer reactions influence student nurses' intent to report errors or near miss errors involving a peer?

Research Question 2: In what way, if any, do student nurses believe that reporting errors or near miss errors committed by a peer will influence the relationship with the peer?

Research Question 3): What do student nurses believe justifies their decisions to report or not report errors or near miss errors?

Research Question 4): What differences exist, if any, between female and male nursing students regarding justification to report or not report errors or near miss errors?

APPENDIX C

INTERVIEW QUESTIONS

1. “After reading vignette ___, what do you think the nurse will do?” Why do you think the nurse will do that?
2. If the nurse reports the mistake, do you believe the person committing the mistake will know that the nurse reported it?
3. “What do you believe the nurse should do?” Why do you believe the nurse should do that?
4. If there is a difference between what you think the nurse will do and what the nurse should do, why do you think that?
5. “How do you think the person who made the mistake will [OR would] react to the mistake being reported?” “Why do you believe that?”
6. “If the nurse reported the mistake, do you believe it would affect the relationship with the person who made the mistake?” “If so, how?”
7. “If you were the nurse in vignette ___, do you believe you would report this mistake?” “Why or why not?”

APPENDIX D

UNIVERSITY OF ALABAMA INSTITUTIONAL REVIEW BOARD STUDY AND INFORMED CONSENT APPROVAL

THE UNIVERSITY OF ALABAMA | *Office of the Vice President for* Research & Economic Development
Office for Research Compliance

October 2, 2017

Lori Kelly
ELPTS
College of Education
Box 870302

Re: IRB # 17-OR-327-ME, "Medication error reporting: A qualitative study exploring student nurses' anticipated peer reactions to error reporting"

Dear Ms. Kelly:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of written documentation of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on September 28, 2018. If your research will continue beyond this date, please complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, please complete the Modification of an Approved Protocol form. **Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants**. When the study closes, please complete the Request for Study Closure form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

[redacted]
Director & Research Compliance Officer
Office for Research Compliance

358 Rose Administration Building | Box 870127 | Tuscaloosa, AL 35487-0127
205-348-8461 Fax 205-348-7189 | Toll Free 1-877-820-3066

AAHRPP DOCUMENT #193

UNIVERSITY OF ALABAMA
HUMAN RESEARCH PROTECTION PROGRAM

SAMPLE CONSENT FORM FOR NONMEDICAL INTERVIEW STUDY

UNIVERSITY OF ALABAMA

Individual's Consent to be in a Research Study

You are being asked to be in a research study. This study is called Medication Error Reporting: A qualitative study exploring student nurses' anticipated peer reactions to error reporting.

This study is being done by Lori Kelly. I am a student in the Department of Educational Leadership, Policy and Technology Studies in the graduate school of the University of Alabama. This study is necessary for the completion of a doctoral degree in education. I will receive no type of financial compensation for this study.

What is this study about?
It is estimated that around 50% of all medication errors are not reported. It may be hard for nurses to report medication errors that other people commit because of a concern regarding how reporting will impact their relationship with the person who committed the mistake.
This study explores the opinions of student nurses about how a series of medication mistakes should be managed.

Why is this study important—What good will the results do?
The findings may identify topics that should be included in undergraduate nursing education that may help prepare student nurses to report medication errors they discover.

Why have I been asked to take part in this study?
You provided me your email address. You fit the criteria for inclusion in this study. I am interested in your opinions about this topic.

How many other people will be in this study?
I hope to interview about 8 student nurses.

What will I be asked to do in this study?
If you agree to be in this study, I will speak with you on the telephone. You will be asked for your permission to have the interview recorded and for your permission to participate in the study. We will discuss 6 short examples of mistakes surrounding medication administration and you will be asked a series of questions.
When all the interviews are completed, I will send a summary of the results for you to look at and make sure you feel your responses were correctly and adequately included.

How much time will I spend being in this study?
The interview should last about 45-60 minutes, depending on how much information about your experiences you choose to share.

Will being in this study cost me anything?

The only cost to you from this study is your time.

Will I be compensated for being in this study?
In appreciation of your time, you will receive a $50 VISA gift card once you have had the opportunity to review the results.

What are the risks (problems or dangers) from being this study?
The chief risk to you is that you may find the discussion of your opinions to be uncomfortable.

What are the benefits of being in this study?
There are no direct benefits to you unless you find it pleasant or helpful to discuss these medication related events.

How will my privacy be protected?
You may determine when we talk, and make arrangements to talk at a time and place to ensure your privacy.

How will my confidentiality be protected?
When the interview begins and recording begins, you will be reminded not to include any information that will identify you.
The recording will be transcribed, but your name will not appear on any written transcript. Once the recording are transcribed, the recording will be erased from my phone and my computer.
Ms. Kelly will be the only person who knows your name and what you said during the interviews. There will be one piece of paper that includes your contact information so that you can be contacted for additional information and to check the results and receive your gift card. Once your gift card is mailed to you, this piece of paper will be shredded. This information will be kept locked up in Ms. Kelly's home office.
When the results are written, you will only be identified by a name that is not yours and identified as a student nurse studying in the southeastern region of the United States.

No one will be able to recognize you.

What are the alternatives to being in this study?
The only alternative is not to participate.

What are my rights as a participant?
Being in this study is totally voluntary. It is your free choice. You may choose not to be in it at all. If you start the study, you can stop at any time. However, if you stop the interview, you will not receive the gift card.
The University of Alabama Institutional Review Board is a committee that looks out for the ethical treatment of people in research studies. They may review the study records if they wish. This is to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

Who do I call if I have questions or problems?
If you have questions about this study please ask them. You can call Lori Kelly at 615 418 7690. Before we begin the recorded interview, you will be asked if you have any additional questions or concerns.

Additionally, you can contact my faculty advisor at The University of Alabama:

Susan Appel 205-348-1026

sjappel@bama.ua.edu

If you have questions or complaints about your rights as a research participant, call Ms. Tanta Myles, the Research Compliance Officer of the University at 205-348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make a suggestion, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html . After you participate, you are encouraged to complete the survey for research participants that is online there, or you may ask Ms. Kelly for a copy of it. You may also e-mail us at participantoutreach@bama.ua.edu.

What now?

I will contact you by telephone within a few days. At that time, I will be happy to answer any questions you have about this study or about this consent form. You do not need to send the form back to me. You will only need to tell me over the phone that you agree to participate.

If you have any questions right away, feel free to call me.

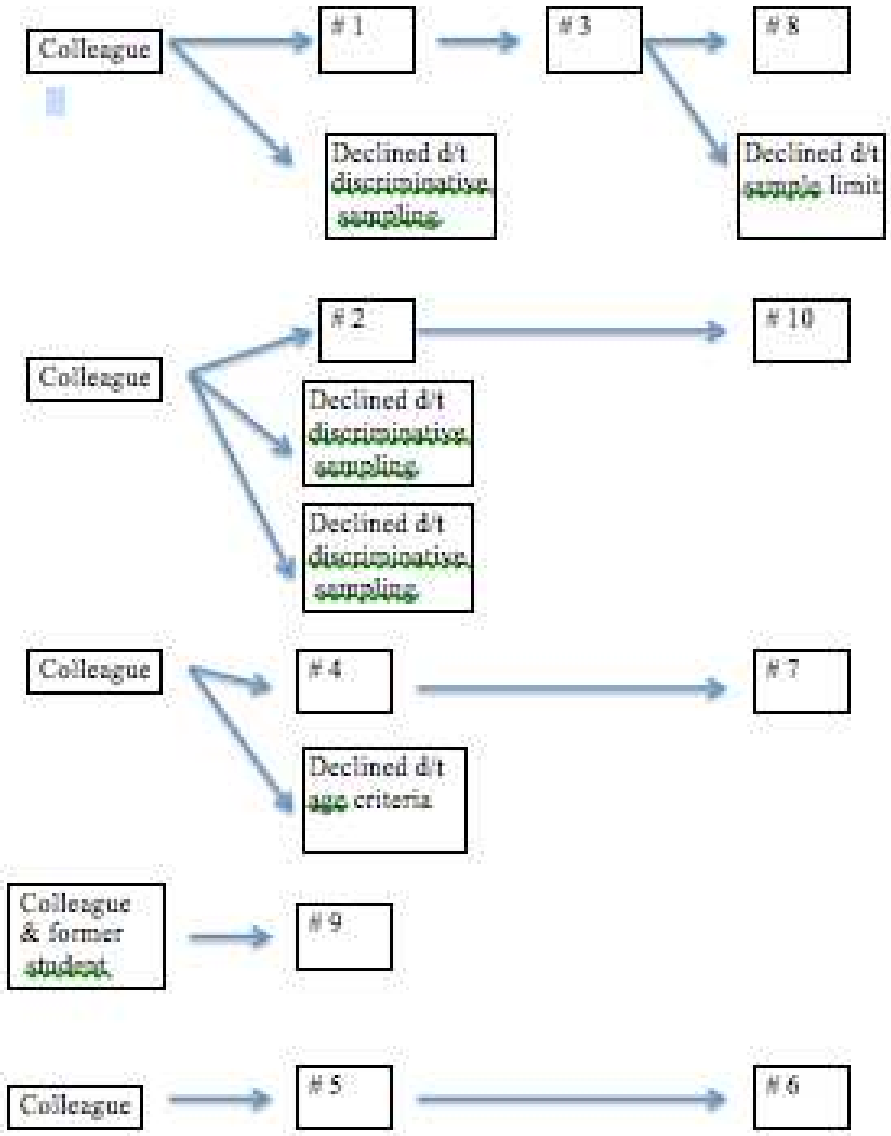
I look forward to speaking with you,

Lori Kelly 615 418 7690

UA IRB Approved Document
Approval date: 9-27-17
Expiration date: 9-28-18

APPENDIX E

SAMPLING


Colleague
1
3
8
Declined d/t discriminative sampling
Declined d/t sample limit
Colleague
2
10
Declined d/t discriminative sampling
Declined d/t discriminative sampling
Colleague
4
7
Declined d/t age criteria
Colleague & former student
9
Colleague
5
6

APPENDIX F

SIGNIFICANT STATEMENTS
(EXAMPLE; FOR COMPLETE DATA TABLE, SEE APPENDIX G)

Participant	Vignette	Interview Question	Transcript	Significant Statement(s)
7	5	5	"Again, it's a situational basis, like I said before. A young nurse will be like, "oh gee" but a more seasoned nurse will be more defensive about it."	-seasoned nurse will be more defensive.

APPENDIX G

DATA ANALYSIS

Interview Question #				
SEQUENCE (Leape, L.L. et al., 1995) Error Potential (NCC MERP, 2001) Relationship to error-committing person Vignette #: Description	Significant Statements: 270	Formulated Meanings: (131)	Clustering Themes: (19)	Fundamental Structures (3)
Question 1: What will the nurse do?				
ADMINISTERING Omission: Error but no harm Committer is known, but not present Vignette #1: Antibiotic did not infuse.				
	"The patient needs their medication, they should get the new one as soon as possible" (1) "Start the medication, document on the MAR and let the physician know" (2) "Check when it was due and start it, make sure it is documented	Make sure the patient is getting the correct medication. (make sure the patient is okay) Document. Inform Physician.	Caring for my patient is the priority. I need to communi-cate the situation in some manner	Caring for my patient is the priority. Caring for my is the priority.

	correctly"(3) "…let the physician know." (5) "Open the clamp and start the infusion, she'd probably seen this before" (10)			
	"I'd talk to the charge nurse or maybe another nurse and get advice what to do" (4) "Document that it didn't run and report it to charge nurse that it wasn't running" (5) "…I'd talk to the charge nurse and get direction what to do next…" (4) "Report it to the lead nurse" (7) "Take it down and report it not given…usually report it to the charge nurse". (8) "…and then report it to the charge nurse so someone else would know." (9)	Report to charge, patient needs are primary concern. Report to the charge nurse. (also called the lead nurse)	I need to communi-cate the situation in some manner	Caring for my patient is the priority.
	"Try to find out which nurse stated that the medication had	Interact with the nurse committing the error to better	In order to determine what to do, I need to	The characteristic of the error-committing

	been given and then try to do education to that nurse so she knew what happened" (8) "Go and find the nurse who was caring for the patient and find out what happened. If I didn't think that nurse reacted accordingly and was taking proper care of the patient…then I would report it to the charge nurse." (9) "Then, she'd be sure to tell the other nurse so it wouldn't happen again" (10)	understand the incident. (ask what happened) Ask what happened. Report it to the charge nurse.	under-stand what happened.	person impacts the decision to report errors The characteristic of the error-committing person impacts the decision to report errors. Caring for my patient is the priority.
ADMINISTERING Error, caused harm Committer is known, not present Nursing Vignette 2: Heparin at incorrect rate			Caring for my patient is the priority.	Caring for my patient is the priority.
	"She will just	Adjust the	Caring for	

	adjust the rate to 800 u/hr" (2) "Fix the mistake, tell the person who did it…if the patient is okay and there's no trouble then there's no reason to report it, but if the patient is in really bad shape then it needs to be reported so that someone above the nurse can take action for the patient's well being" (6)	infusion rate. (decrease it or stop it-Fix it) Fix the mistake. Report it, this may have serious consequences.	my patient is the priority. I will report all serious errors. I need to communi-cate the situation in some manner	 Caring for my patient is the priority. Caring for my patient is the priority.
	"Report it, stop the infusion. Tell the charge nurse" (3) "She would set it to the correct rate and report it to the charge" (8) "Okay, well that's super bad. Immediately stop the heparin therapy. Call the doctor and tell them everything" (7) "Because the rate was more, I believe the nurse should talk to the charge nurse…in this	Inform the charge nurse or the physician. Fix it. Report to physician. Report, this is serious. "More is serious" Determine how bad it is. Patient needs are primary concern. Does the error-committing nurse admit the mistake.	Caring for my patient is the priority. I will report all serious errors	 Caring for my patient is the priority.

	case less is better, but it was more" (4) "Evaluate for side effects and if they're harmful. Go back to the coworker and if they don't admit their mistake then I'd have to let the doctor know and go up to the next level and report the mistake" (9) "There's no way to [avoid reporting it] because other people have to be involved" (10)	Have to report, "serious"		
	"Report it because heparin is a highly risk drug" (1) "Okay, well that's super bad. Immediately stop the heparin therapy. Call the doctor and tell them everything" (7) "…call the doctor because heparin is bad to give too fast" (10)	Have to report, is "serious"/ heparin	I will report all serious errors. I need to communicate the situation in some manner Caring for my patient is the priority.	Caring for my patient is the priority. Caring for my patient is the priority.

DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette 3: Pyxis is incorrect				
	"I think she'd tell the charge nurse" (2) "Let the pharmacy know it was stocked incorrectly" (3) "They'd check with the charge nurse to make sure there were no other mistakes" (4) "Report it to administration and risk management" (5) "I don't know who is in charge of the Pyxis, but report it to them, or to the charge nurse" (6) "I guess report it to the lead nurse and not do anything, but get it fixed before another nurse grabs the same thing and it's wrong too"	Report it to somebody. (charge nurse, pharmacy, administration, risk management)	I need to communicate the situation in some manner.	Caring for my patient is the priority.

	(7) "She would report that the bin was wrong, hold the med, report it to the charge nurse and probably pharmacy" (8) "Probably not write a formal report, but call the charge nurse for sure and have the right person deal with it" (10)			
	"I'd backtrack about how the medication go in the wrong place" (9)	Investigate to better understand the incident.	In order to determine what to do, I need to under-stand what happened.	The characteristic of the error-committing person impacts the decision to report errors.
	"Get the right med to the patient, I hope so" (1)	Make sure the patient is getting the correct medication. Patient needs are primary concern.	Caring for my patient is the priority.	
ADMINISTERING Capacity for error Committer is known, not present, Will likely know who reported the error Vignette 4: Patient				

allergy and pill left				
	"She would talk with the other nurse and to the patient" (1) "Should find the other nurse and find out how they made the mistake and let them know the severity of it. I don't think the nurse would report the other nurse I need to understand what happened. Though, I really don't" (9)	Interact with the nurse committing the error to better understand the incident. (What happened) Understand how they made the mistake (what happened)	In order to determine what to do, I need to under-stand what happened.	The characteristic of the error-committing person impacts the decision to report errors.
	"Waste the medication…report it to the charge nurse, chart on it exactly what happened, like it was a critical incident" (3) "Report it to risk management because she wasn't following" (5) "Yes, because if someone is allergic to the medication and you just left it there that's kinda a big mistake. It depends on how big a mistake it	Document the error accurately (critical incident) Multiple significant mistakes should be reported. Report this serious mistake.	Caring for my patient is the priority. I know I should report all errors. I will report all serious errors. Caring for my patient is the priority.	Caring for my patient is the priority. Caring for my patient is the priority.

	is if I would report it" (6) "Take the amoxicillin away and figure out what medication the patient should be taking. Report to lead nurse" (7) "You'd want to make sure to find the charge nurse b/c there was some error in reading the chart or not reading it close enough…you have to report all of those violations because that is not safe at all, the nurse kinda ignored the client" (8) "That is wasn't ordered is a big red flag…this one needs to be written up." (10)			
	"She should discard the medication" (1) "Take it out of the room. I don't know honestly if she would report it" (2)	Patient needs are primary concern. Unsure if reportable.	Caring for my patient ~~is~~ → the priority.	
	"…they'd confront them and say, 'hey	Interact with the nurse committing the	In order to determine what to do, I	The characteristic of the error-

	you entered the wrong room…maybe that person got the wrong meds…and you're not supposed to just leave medications" (4) "She should discuss it with her because she should never have done that, this is a hard one" (5) "…let them know you aren't supposed to let medication hang out I the room, we're supposed to watch them take it" (6) "Should find the other nurse and find out how they made the mistake and let them know the severity of it. I don't think the nurse would report the other nurse though, I really don't" (9)	error to better understand the incident and educate the error committing nurse (what happened) Find out how the mistake occurred. (What happened)	need to under-stand what happened. I will report all serious errors.	committing person impacts the decision to report errors. Caring for my patient is the priority. .
TRANSCRIBING Capacity for error Committer is not known, not present and likely will not				

be known. Vignette 5: eMAR is transcribed incorrect				
	"It's hard to separate what I think should be done and what will be done…will contact the physician and clarify the order, maybe give the 600 and if it was supposed to be given, give the 200 later" (2) "The nurse will call the pharmacy or the physician to clarify the order. Nurses don't put it in the computer" (4) "…fix all the areas the 600 was typed instead of 800" (8) "I actually saw this happen the other day…they called the provider and figured out the right dose, since it's less severe, probably not a formal report" (10)	Patient needs are the priority. Fixit/clarify. Fix the error.	I need to communi-cate the situation in some manner. Sometimes it's easier and expected to fix the error if you can.	Caring for my patient is the priority. Error reporting impacts relationships.

	"I'd give what's on the eMAR. That's the only legal thing to do. You can't give anything different" (1) "Give what is written on the eMAR to cover myself and the patient and so I was doing my job…" (9)	No alternatives except to follow the eMAR		
	"Get it fixed in the computer. I'd report it if it'd been a mistake happening for a long time, but if I just found it first, then no." (3) "…get a new prescription, then get the correct dose and give it to the patient and also report it to a supervisor and risk management" (5) "…if it's someone I see on the unit, I'd tell them, but if it's not someone I see, I'd tell the charge nurse" (6) "I think they'd just correct the	Fix it. Report if serious. Report to charge nurse. Fix it.	Sometimes it's easier and expected to fix the error if you can. I need to communicate the situation in some manner.	Error reporting impacts relationships. Caring for my patient is the priority.

	dose, for this one, they wouldn't report it" (7) "Figure out who did it [nurse, pharmacy, clerical] and let the right person know" (8)			
ADMINISTERING Error, caused harm Committer is known, is present Will obviously know who reported error Vignette 6: wrong route				
	"Just start with the oral meds. It's not life threatening, it is a big deal but on a scale its not a big deal. Real life nursing versus book nursing" (3) "…if the nurse just didn't realize the order was change, then not report it" (6) "…if it was just a complete mistake and they felt bad and wouldn't do it again and wanted to	It was just a mistake and not worth reporting.	"Serious" errors should be reported. The experience and attitude of the error-committing nurse influences the decision to report. I just won't report it.	Caring for my patient is the priority. The characteristic of the error-committing person impacts the decision to report errors. Error

	correct their actions, then I wouldn't report it" (9) "I wouldn't rat out the other nurse. That's a harsh way of saying it, but you know, throw them under the bus…definitely not write up a formal report" (10)			reporting impacts relationships.
	"It was a minor mistake, bring it to the attention of the nurse who was at lunch." (1) "I think she would explain it to the patient…and tell the actual nurse that the order was changed." (2) "She should tell the other nurse, give her a heads up " (3) "…find out what's the case first" (6)	Make sure the error-committing nurse is aware of the error, not worth reporting. Understand what happened.	"Serious" errors should be reported. I need to understand what happened..	Caring for my patient is the priority. . The characteristic of the error-committing person impacts the decision to report errors.
	"I think the first thing is to speak with the charge nurse…what is the next step? Pain medication is a big deal, IV is going to be in their system	Report the error to the charge nurse. Error-committing nurse needs to	I will report all serious errors. The experience	Caring for my patient is the priority. The

	faster" (4) "This is a tough one…report it to the supervisor and risk management" (5) "…if the nurse knew the order was discontinued and just gave it anyway, regardless of what the order said, then that's a big deal and should get reported" (6) "I feel they would hold the medication, tell the lead nurse and get directions on what to do now." (7) "If they were just like, 'its just one dose' [implies showing no remorse] then I'd feel like I had to report it" (9)	admit/feel bad Reporting will depend on reaction of error-committing nurse. Attitude of the error-committing nurse matters.	and attitude of the error-committing nurse influences the decision to report. I need to communicate the situation in some manner. The experience and attitude of the error-committing nurse influences the decision to report.	characteristic of the error-committing person impacts the decision to report errors. Caring for my patient is the priority.
Question 2: Will the person who made the mistake know who reported it?				
ADMINISTERING Omission: Error but no harm				

Committer is known, but not present Nursing Vignette #1: Antibiotic did not infuse.				
	"No, they'd know that someone reported it, but not who" (7)	The specific person reporting this error will not be known.		
	"It's hard to say, they could assume it was the next nurse, [but it could have been the patient, a family member or tech." (1) "I think so, it'd be on the MAR" (2) "I believe so, b/c the charge nurse would know what happened" (4) "I think so" (5) "I think the nurse would be able to figure it out…because of who that patient was assigned to" (8)	It could be determined who reported this error.		
	"She would know b/c the other nurse would need to talk to her first" (1) "Yes, because	It is obvious who reported this error.		

	I'd talk to her" (5) "Yes, the nurse was just covering" (7) "…they'd know because I'd be the only nurse who would've known it didn't go in" (9) "She would have talked to the other nurse" (10)			
ADMINISTERING Error, caused harm Committer is known, not present Nursing Vignette 2: Heparin at incorrect rate				
	"Yes, no one else would be looking, it would be clear who reported it." (1) "Yes, b/c they will be in trouble" (3) "Yes, this is a high risk incident and it would be talked about" (4) "She probably will because when they ask her she will know since she gave report to that nurse" (8) "In this case,	Circumstances will lead to identification of the reporting nurse.		

	there's just too many people involved and consequences like blood draws and patient's lab values" (10)			
	"I do believe so" (5) "Yes, since I told her that I fixed it" (6) "Yes, because it'd be the only other nurse I the line of care for the patient" (9)	It is obvious who reported this error		
DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette 3: Pyxis is incorrect				
	"They'd know b/c there'd have to be a formal type of report." (4)	Circumstances will lead to identification of the reporting nurse.		
	"How would they know? There could be other people who needed that med" (1) "Probably not, just that someone did…they just need to know they made a mistake, not who reported them" (2)	The specific person reporting this error will not be known.		

	"Not in this situation because there are so may nurses in and out" (5) "I'm not sure since there are not two nurses working together, I don't think communication is strong enough for the pharmacy to know who the nurse was" (6) "I don't think so, it's not a one on one thing" (7) "It's harder to know in this case because there's so many nurses who use the Pyxis" (8) "No, I think it would be confidential reporting in this case, because it wouldn't matter who told" (9)			
ADMINISTERING Committer is known, not present, will likely know who reported the error Vignette 4: Patient allergy and pill left				
	"You'd have to			

	report that you found the mistake, so it'd be you reporting it" (1) "Yes. Everything is computerized these days, so if they wanted to find out, they could" (3) "Probably, yes" (6) "Again, they'd figure it out because of handoff" (8)	Circumstances will lead to identification of the reporting nurse.		
	"I don't think so, I don't think management would let someone know that someone went and told on them" (2)	The specific person reporting this error will not be known.		
	"Yes. They would definitely be getting in trouble for it. The charge would have to tell who reported it" (3) "It would be an anonymous report, but they could figure it out" (10)	Circumstances will lead to identification of the reporting nurse.		
TRANSCRIBING Committer is not known, not present and likely will not be known.				

Vignette 5: eMAR is transcribed incorrect				
	"I don't think so" (2) "Not in this situation, not the specific person. They'd know it was reported, but not by the specific person" (3) "I don't know about this one. I think it should be reported but it's the pharmacy and it could just be miscommunication." (4) "If there's not a formal report, probably not…I'm not sure in this case" (10)	The specific person reporting this error will not be known.		
	"Yes, I do. I don't think it can stay confidential because you know what patient is taking the allopurinol" (9)	Circumstances will lead to identification of the reporting nurse.		
ADMINISTERING Committer is known, is present Will obviously know who reported error Vignette 6: wrong				

route				
	"Yes" (3) "She was just at lunch" (4) "I think she would because of who the patient was assigned to" (8) "There'd be no way to be confidential" (9) "She's just being covered for lunch" (10)	It is obvious who reported this error		
Question 3: What should happen?				
ADMINISTERING Omission: Error but no harm Committer is known, but not present Nursing Vignette #1: Antibiotic did not infuse.				
	"She should chart it in the patient's chart, not an incident report. Just report it to the charge" (3) "I feel like I should say more, but just the same [report it to supervisor and risk management" (5)	Report it to the charge. Report to a supervisor	Sometimes it's easier and expected to fix the error if you can. I need to communicate the situation in some manner.	Error reporting impacts relationships Caring for my patient is the priority

	"In that case, since the nurse didn't make the mistake herself, what she would do and what she should do probably wouldn't change that much" (8)			
	"Absolutely report it to the facility." (1) "Report it. Absolutely. It is heparin…tell the charge nurse, make a note" (2) "The nurse should report it to her supervisor and someone in risk management in the hospital" (5) "…she would report the mistake so the person who made the mistake will know they shouldn't do that again. Report it to the charge nurse" (6) "…go to the next level if the nurse didn't hold themselves accountable for the mistake" (9)	Report to the "facility". Report to charge. Report to supervisor or "risk management" Report to "next level"	I know I should report all errors. I need to communicate the situation in some manner. Caring for my patient is the priority The experience and attitude of the error-committing nurse influences the decision to report. I will report all serious errors.	Caring for my patient is the priority. Caring for my patient is the priority The characteristic of the error-committing person impacts the decision to report errors. I know all errors should

	"Figure out what the med was for and if there were worsening symptoms…report it to the charge nurse" (10)			be reported.
	"I guess it depends on the full policy, they should definitely follow that" (7)	Follow policy	I know I should report all errors. →	
	"If you make a mistake, you have to own up to it" (1) "I think talking to that other nurse and finding out what happened" (4) "Let the coworker know to prevent future errors with that coworker" (9)	Error committing nurses need to admit mistakes. Find out what happened.	In order to determine what to do, I need to understand what happened. The experience and attitude of the error-committing nurse influences the decision to report.	The characteristic of the error-committing person impacts the decision to report errors. The characteristic of the error-committing person impacts the decision to report errors.
ADMINISTERING Error, caused harm Committer is known, not present Nursing Vignette 2: Heparin at incorrect rate				
	"Report it immediately to the head nurse or doctor" (1)	Report to charge or doctor.	Caring for my patient is the priority. →	

	"Just as long as someone knew the patient got the wrong medication. I'd just be concerned something would be wrong with the patient" (1)	Report to "someone" patient concerns are primary concern.	I need to communicate the situation in some manner.	Caring for my patient is the priority
DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette 3: Pyxis is incorrect				
	"I don't know, to somebody in charge. I guess the head nurse" (1) "Reporting it is all you can do since you don't know who actually stocked the Pyxis" (4)	Report to "head nurse"	I need to communicate the situation in some manner.	Caring for my patient is the priority.
ADMINISTERING				
Committer is known, not present, will likely know who reported the error Vignette 4: Patient allergy and pill left	"Any nurse would report this kind of mistake" (10)	Report any error.	I know I should report all errors.	Caring for my patient is the priority.
	"She should report it b/c there are	Report b/c of "serious"	The experience and attitude	The characteristic of the error-

	multiple mistakes here…a lot of possible serious mistakes in this scenario" (2) "I think the nurse should report it, it is dangerous and could cause harm to the patient, the nurse and be a liability to everyone, so it should be reported." (9)	mistakes. Report b/c dangerous, harm	of the error committing nurse influences the decision to report. I will report all serious errors.	committing person impacts the decision to report errors. Caring for my patient is the priority. .
	"Maybe try to find out why she gave he wrong med? Was it ordered wrong or something" (1)	Find out what happened.	In order to determine what to do, I need to understand what happened.	The characteristic of the error-committing person impacts the decision to report errors.
TRANSCRIBING Committer is not known, not present and likely will not be known. Vignette 5: eMAR is transcribed incorrect				
	"Report it and follow up" (1) "Ideally, they should report it" (7)	Report and follow up.	I need to communicate the situation in some manner.	Caring for my patient is the priority.
ADMINISTERING Committer is known, is present Will obviously know who reported error				

Vignette 6: wrong route				
	"Same thing, since all these scenarios are about what someone else did, all the same things is what they would do and what they should do…Not telling on yourself is more likely than not telling on someone else" (8) "Tell the nurse that she's covering and say 'hey what happened? That was supposed to be discontinued'. Tell her that she should call the provider" (10)	Not telling on self is more likely than not telling on others. Find out what happened.	I need to communicate the situation in some manner. In order to determined what to do, I need to understand what happened. The experience and attitude of the error-committing nurse influences the decision to report.	Caring for my patient is the priority. The characteristic of the error-committing person impacts the decision to report errors. The characteristic of the error-committing person impacts the decision to report errors.
	"I do think she needs to tell someone, report it at least to the charge nurse" (2) "I think the nurse should report it no matter what. That's what I've been taught, that all medication errors need to be reported no	Tell someone. Report all medication errors. This is serious "narcotic"	I need to communicate the situation in some manner. I know I should report all errors.	Caring for my patient is the priority. Caring for my patient is the priority. .

	matter what. And this involved narcotics" (9)			
	"It was a minor mistake, just let the nurse know the order was changed, she probably just didn't see it" (1)	It was just a mistake and not worth reporting.	In order to determine what to do, I need to understand what happened. I will report all serious errors.	The characteristic of the error-committing person impacts the decision to report errors.
Question 4: If there is a difference b/t what "will happen" and "should happen, why?				
ADMINISTERING Omission: Error but no harm Committer is known, but not present Nursing Vignette #1: Antibiotic did not infuse.				
	"It's a difficult situation b/c you can just fix it…but you still want to do everything that's right" (1) "I think sometimes we assume it's a no harm no foul, we keep from saying anything b/c we just go ahead and start	You can just fix it. (Fix it) 'No harm, no foul' (fix it)	Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships.

	it" (2)			
	"Maybe a conflict, you don't want conflict or tension between coworkers…the charge nurse should be there to manage all and try to be fair and understanding …I guess having someone to oversee conflict" (4) "Some nurses would be afraid to rat out a friend, and if there weren't any bad consequences to the patient, then just go around it, not create more work and problems by dealing with it directly" (10)	Reporting will cause conflict Reporting will cause conflict. Reporting creates work. Reporting causes conflict.	Sometimes it's easier and expected to fix the error if you can. I believe error reporting has a negative impact on peer relationships. I believe error reporting has a negative impact on peer relationships. I believe error reporting has a negative impact on peer relationships. Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships Error reporting impacts relationships Error reporting impacts relationships Error reporting impacts relationships Error reporting impacts relationships
ADMINISTERING				

Error, caused harm Committer is known, not present Nursing Vignette 2: Heparin at incorrect rate				
	"I think she should adjust it and immediately report it, b/c heparin is important" (2)	Heparin is a critical medication. Report b/c this is "serious"	I will report all serious errors.	Caring for my patient is the priority. .
DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette 3: Pyxis is incorrect				
	"You can't just go opening all the drawers up yourself, you will have to tell someone in charge" (2)	Sometimes you have to tell someone to get the problem fixed.	I need to communicate the situation in some manner.	Caring for my patient is the priority.
ADMINISTERING Committer is known, not present, will likely know who reported the error Vignette 4: Patient allergy and pill left				
	"Not much difference, just why did it happen and get the right medication" (1) "No difference,	Find out why it happened. Follow procedure.	Caring for my patient is the priority.	

	just follow the procedure " (7)			
	"…first instinct is to take it out…again, no harm no foul." (2) "It wouldn't be reported because it was not consumed, could be put back and self corrected, you know, no need to bring in upper authority." (9)	'No harm, no foul' (fix it)	Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships
TRANSCRIBING Committer is not known, not present and likely will not be known. Vignette 5: eMAR is transcribed incorrect				
	'In these situations, I've seen the nurse just adjust the dose. I think that if there is an error, they should always report it. Personally, I would still tell someone so it is not on my hands completely." (7)	Nurses fix errors from other departments	Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships
	"what will happen is they will correct the order without any sort of report…miscommunication b/t pharmacy and nursing…pharmacy is not dealing with the patient. They	Nurses fix errors from other departments.	Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships

	won't be held accountable b/c it's the doctor or pharmacy…but it should be reported…we should all be accountable." (4)			
ADMINISTERING Committer is known, is present Will obviously know who reported error Vignette 6: wrong route				
	"I think it comes down to the relationship on this one. I am answering your next question, but if she tells, it will hurt the relationship, if not, it could effect the patient's discharge schedule" (2) "Probably not, depends on relationship. Maybe just confront the other girl. I don't know. It shouldn't be a big scene" (3) "The textbook is answer is to report them, but	Reporting will cause conflict. Report b/c could be serious. Nurses are expected to cover. Fix it. Nurses cover for each other because they have sympathy.	In order to determine what to do, I need to understand what happened. Sometimes it's easier and expected to fix the error if you can. The experience and attitude of the error-committing nurse influences my decision to report.	The characteristics of the error-committing person impacts the decision to report errors. Error reporting impacts relationships The characteristics of the error-committing person impacts the decision to report errors.

	as people we have sympathy and as long as the nurse isn't consistently making mistakes, feels bad about this one and wants to correct it, then humans have sympathy and it wouldn't be reported" (9)			
Question 5: How will the person who made the mistake react to the mistake being reported?				
ADMINISTERING Omission: Error but no harm Committer is known, but not present Nursing Vignette #1: Antibiotic did not infuse.				
	"They'd beat themselves up" (1) "Maybe not sleep that night' (1) "Be apologetic and promise it wouldn't happen again" (1) "Probably beat themselves up	Error-committing persons will feel badly about committing the error.	The experience and attitude of the error-committing nurse influences my decision to report.	The characteristics of the error-committing person impacts the decision to report errors.

	b/c they've been doing this for a while and don't believe they did this" (4) "Upset and embarrassed" (5) "Initially not happy that they made the mistake, so that could come off as hostile" (9) "Extremely upset that they miscalculated" (10)			
	"They won't be happy about it" (6) "Depends on how close they are. If they're close, they may be upset the nurse didn't cover for them, if they don't have that kind of relationship, maybe more concerned about their job" (8) "They wouldn't be happy with their coworker reporting the mistake, and might try to minimize what the value of the mistake was and try to take	Reporting will cause conflict. Nurses are expected t cover for one another.	The experience and attitude of the error-committing nurse influences my decision to report. I believe error reporting has a negative impact on peer relationships.	The characteristics of the error-committing person impacts the decision to report errors. Error reporting impacts relationships

	the blame off themselves" (9)			
	"It could go one of 2 ways. It could be a fear thing…or maybe more of a lesson" (2) "Not bad. Probably thankful" (3) "I wouldn't think it would be the best scenario ever and they wouldn't be on good terms. It all depends on how comfortable that person was reporting a mistake and dealing with the consequences from their peers" (6) If it's the first time they made the mistake, I'd say, 'hey, I fixed that mistake for you, but be aware next time', but if it's the third or fourth time, I think I'd report it" (6) "I think that would be depending on how long the nurse had been a nurse, like if	Nurses are afraid of getting into trouble. Reporting will depend on the characteristics of the error-committing nurse. Reporting will depend on the characteristics of the error-committing nurse.	I believe error reporting has a negative impact on peer relationships I will report all serious errors. The experience and attitude of the error-committing nurse influences my decision to report. I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships The characteristics of the error-committing person impacts the decision to report errors. Error reporting impacts

	the nurse was a new nurse, they'd figure it was their fault and try to correct themselves next time, but a more seasoned nurse, I feel they might feel targeted in a way.(7) "Again, it's a situational basis, …A young nurse would be like 'oh gee' but a more seasoned nurse would be defensive about it" (7) "Depends on the person. It might be different with a friend. A friend might get angry." (10)			relationships.
	"I think that is this case it was kinda a costly mistake but it wasn't life threatening so I don't think their job would be in jeopardy…I hope the person would be genuinely sorry…and take constructive criticism" (8)	Serious errors need to be reported. Nurses are afraid of getting into trouble.	I will report all serious errors. I believe error reporting has a negative impact on peer relationships.	Caring for my patient is the priority. Error reporting impacts relationships.

	"…maybe afraid that a write up could cost them their job…upset at first, but all in all its' about taking care of the patients" (4) "I don't think the person would admit to the mistake because you couldn't prove it was for sure one person versus another. They'd probably know they did it, but just let it slide" (9) "Probably scared that they'd be in trouble for this kind of mistake" (10)	Nurses are afraid of getting into trouble. Patient needs are the primary concern. Nurses are afraid of getting in 'trouble' (write up)	I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships.
ADMINISTERING Error, caused harm Committer is known, not present Nursing Vignette 2: Heparin at incorrect rate			The experience and attitude of the error-committing nurse influences my decision to report.	The characteristics of the error-committing person impacts the decision to report errors.
	"same as before, fear or learning experience" (2) "Definitely be upset with themselves b/c 800 and 1400	Nurses are afraid of getting in trouble. Some nurses are receptive to being reported for errors.	I will report all serious errors.	Caring for my patient is the priority. .

	are two different things and they'll beat themselves up a lot probably" (4) "Embarrassed, just like before" (5)	Nurses are afraid of getting in 'trouble' (write up)		
	"…a young nurse would be more receptive to it being reported…[a seasoned nurse would] see it as more of an attack on them" (7)	The response of error-committing persons is variable.	I will report all serious errors.	Caring for my patient is the priority. .
.	"…kinda frustrated with themselves that they made that mistake, but also kinda angry because this is a bigger mistake than the last one, so they may be more worried about being written up or something like that, they may take it differently" (8)	Error-committing persons will feel badly about committing the error. People are afraid of getting into trouble. People are afraid of getting in 'trouble' (write up)	I will report all serious errors.	Caring for my patient is the priority. .
	"Not as bad in this situation b/c its more serious, could hurt the patient. This is patient safety." (3) "I feel like I would be kind	Error-committing persons are more receptive to reporting for "serious" mistakes	I expect friends should be more accepting of being reported.	The characteristics of the error-committing person impacts the decision to report errors.

	of upset that I was reported, but still happy that the patient is okay and my mistake was caught. Me being in trouble is not as bad as someone else dying" (6) "Heparin is a high alert drug, so you'd have to expect to be written up, so I'd expect the person to not be as hostile as the last person…but their not going to be enthused about a bad report" (9)	Heparin is a critical medication.		
DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette 3: Pyxis is incorrect				
	"Embarrassed because a supervisor would have to tell them it was reported" (5) "Upset with themselves for messing up, it could have been really bad if the nurse hadn't caught the mistake first. Be extra cautious" (10)	Error-committing persons will feel badly about committing the error.	I believe error reporting has a negative impact on peer relationships. I will report all serious errors.	Error reporting impacts relationships Caring for my patient is the priority. .
	"I don't think they'd react much because they wouldn't	Error-committing persons will not have as much	I will report all serious errors.	Caring for my patient is the priority. .

	know who it was, so there's no personal feelings involved" (6)	of a reaction if they don't know who reported the error.		
	"I think this would be about getting into trouble. That is a big mistake, potentially fatal or something" (2) "A little overwhelmed b/c a lot of other patients could have been affected. Something they won't forget." (4) "A little embarrassed, its kinda a big mistake, kinda thing you could be written up for, so they might be a little angry" (8) "Maybe concerned that their job could be in jeopardy" (10)	The response of error-committing persons depends on the consequences of the error. People are afraid of getting in 'trouble' (write up)	I will report all serious errors.	Caring for my patient is the priority. .
ADMINISTERING Committer is known, not present, will likely know who reported the error Vignette 4: Patient allergy and pill left				

	"The nurse would be embarrassed. I think the nurse would want to know how she made the mistake" (1) "Probably be really upset if they went into the room, it'd be very frustrating…really beat themselves up over it?" (4) "Embarrassed, just feeling really bad and embarrassed" (5)	Error-committing persons will feel badly about committing the error.	I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relsationships.
	"I think they'd be angry, probably more in this situation than others because they'd not really been exposed to anything wrong, no harm, no foul" (9)	Error-committing person would be more angry because the error was "not significant"	I will report all serious errors. In order to determine what to do, I need to understand what happened.	Error reporting impacts relationships. The characteristics of the error-committing person impacts the decision to report errors.
	"…frustrated, but could be angry or could be thankful, appreciative because they feel remorseful" (10)	The response of error-committing persons depends on the consequences of the error.	The experience and attitude of the error-committing nurse influences the decision	The characteristics of the error-committing person impacts the decision to report errors.

			to report.	
	"This is a big fear one, b/c they made so many mistakes…they did a lot of 'no-no's' and would at least have a discussion" (2)	The response of error-committing persons depends on the consequences of the error.	I will report all serious errors.	Caring for my patient is the priority. .
TRANSCRIBING Committer is not known, not present and likely will not be known. Vignette 5: eMAR is transcribed incorrect			I believe error reporting has a negative impact on peer relationships. Reporting errors depends on the experience and attitude of the error-committing nurse. I expect friends should be more accepting of being reported.	Error reporting impacts relationships. The characteristics of the error-committing person impacts the decision to report errors. The characteristics of the error-committing person impacts the decision to report errors.
	"Embarrassed and careless, it	Error-committing	Reporting	The

	should've been double checked or even triple checked. That's it, just very careless" (5)	persons will feel badly about committing the error.	errors depends on the experience and attitude of the error-committing nurse.	characteristics of the error-committing person impacts the decision to report errors.
	"They'd have to correct the mistake, it happens, you correct your mistakes" (1) "Not bad b/c this is a definite report thing. They'd expect it to be reported. It's a patient safety thing. Maybe I just wouldn't feel bad if someone reported me for that…I hope it would be reported, I'd expect it to." (3)	Error-committing persons are more receptive to reporting for "serious" mistakes	Sometimes it's easier and expected to fix the error if you can. I expect friends should be more accepting of being reported. I know I should report all errors. I know I should report all errors	Error reporting impacts relationships. The characteristics of the error-committing person impacts the decision to report errors.
	"I think it'd be the same. I think anyone who gets reported doesn't get too happy about it" (6) "I think they'd say 'hey, there was no need to	Error-committing person would be more angry because the error was "not significant" Not worthy of being reported.	I will report all serious errors. I believe error reporting has a negative impact on peer	Caring for my patient is the priority. . Error reporting impacts relationships.

	report this" (9) "Annoyed that it was reported. It was just an input error with different doses, if was fixed, they'd think 'why bother with all this trouble?' They'd be appreciative it was caught, but annoyed it was reported." (10)		relationships.	
	"I don't think they'd treat this as a very serious matter…you're only human…just a numbers mistake…just a lower dose is not that big of a deal" (2) "This may not have been negligence, it may just have been a typing mistake…you can't say it was done blatantly…a small mistake and in this case it won't cause the patient their life or anything (8)	Error-committing person would be more angry because the error was "not significant" Not worthy of being reported.	I will report all serious errors.	Caring for my patient is the priority. .
ADMINISTERING Committer is known, is present				

Will obviously know who reported error Vignette 6: wrong route				
	"Probably be like 'oh, it was?'….not angry, more upset than angry." (4)	Error-committing persons will feel badly about committing the error.	I expect friends should be more accepting of being reported. The experience and attitude of the error-committing nurse influences the decision to report.	The characteristics of the error-committing person impacts the decision to report errors. The characteristics of the error-committing person impacts the decision to report errors.
	"I think there'd be a lot of tension…and that nurse wouldn't want to the other nurse covering for her anymore" (2) "Maybe at first b/c they may be upset, but if they really cared about their job they'd realize the other nurse was doing what they had to care for the patient. "(4) "I don't think anyone wants to	Error-committing person would be more angry because the error was "not significant" Not worthy of being reported.	I believe error reporting negatively influences the work environment. The experience and attitude of the error-committing nurse influences the decision to report. I believe error reporting has	Error reporting impacts relationships. The characteristics of the error-committing person impacts the decision to report errors.

	get in trouble at work" (6) "They may be angry and frustrated. Angry that the other nurse didn't just let it go, 'I misread, couldn't you just let it go this time"'(8) "…one extra dose of IV instead of oral isn't that big of a deal is what the nurse would be thinking" (9) "They'd be annoyed, it's the same medication and be like 'what the heck, you didn't have to report that, you didn't need to do that, it was just a different route" (10)		a negative relational result. I will report all serious errors.	Error reporting impacts relationships Caring for my patient is the priority. .
Question 6: How would the relationship be affected?				"Serious" errors should be reported.
ADMINISTERING Omission: Error but no harm Committer is known, but not present Nursing Vignette #1: Antibiotic did not			I know I should report all errors.	Caring for my patient is the priority. .
	"It depends on the relationship the two nurses had to start with." (1) "It definitely depends on that person. If	The response of the error-committing person depends on the characteristics of the error-committing	The experience and attitude	The characteristics of the error-

infuse.	you're a nurse who cares about your job…you understand…yo u wouldn't want that to happen to you…if you were doing this for awhile you'd think you don't make mistakes…but if it is a younger nurse who makes mistakes, it could cause tension." (4) "Like before, if they were good friends they'd be more accepting about hearing about their mistake. Say if it's someone they don't like, they'd think they were just finding ways to get them in trouble" (7) "I would hope not, but for a short period, yes, but it really depends on the personality of the person making the mistake, but most likely, yes. (8) "Maybe they'd be angry, but maybe they'd	person A friend would be more accepting. People are afraid of getting in 'trouble' (write up) The response of the error-committing person depends on the characteristics of the error-committing person	of the error-committing nurse influences the decision to report. I expect friends should be more accepting of being reported.	committing person impacts the decision to report errors. The characteristics of the error-committing person impacts the decision to report errors.

	be positive too" (10)			
	" I think this one could hurt the relationship…they'd be in trouble and say 'hey, why did you go and tell on me…why didn't you just fix it?" (2) "Maybe less upset if they didn't have a chance to report it with them and be part of the whole process." (4) "It depends on the type of person you're dealing with, but no I don't think it will…[pauses] …but it will, so yes, it will even though it shouldn't. The nurse who made the mistake would be upset	The response of error-committing persons depends on the consequences of the error. Fix it. Nurses cover for each other The response of the error-committing person depends on the characteristics of the error-committing person Nurses are afraid of getting into trouble.	I know I should report all errors. In order to determine what to do, I need to understand what happened. Sometimes it's easier and expected to fix the error if you can. In order to determine what to do, I need to understand what happened.	Caring for my patient is the priority. . The characteristics of the error-committing person impacts the decision to report errors. Error reporting impacts relationships The characteristics of the error-

	that the other nurse didn't cover for her" (5) "Nobody wants to get into trouble, so if someone got me in trouble I would kinda be upset with them if they didn't give me a heads up…unless it's the third or fourth time I made the mistake, then it's understandable" (6) "It might change the way the nurse feels about the [pharmacy] tech, even if the tech doesn't know the nurse" (8)* "They may feel judged, like the other nurse thinks they're incompetent" (10)	Reporting will cause conflict.		committing person impacts the decision to report errors.
	"If it was someone I was close to, I wouldn't have bad feelings" (1) "You can't be angry at someone for doing	A friend would be more accepting Error committing nurses need to admit mistakes. There is no	I expect friends should be more accepting of being reported.	The characteristics of the error-committing person impacts the decision to report errors.

	something you should have done" (2) "I guess I'd feel embarrassed, but I wouldn't hold it against them" (1) "The nurse who found the mistake doesn't have a choice" (1) "…the feelings of being mad aren't there cause there's no personal feelings involved" (6) "…it would depend on the relationship…but I think they'd be genuinely grateful that someone found the mistake and corrected the mistake" (8) "It's different this time, because it's a different department. It's not the nurses fault at all" (10)	choice except to report the error (report any error) Reporting will depend on the characteristics of the error-committing nurse.	I know I should report all errors. In order to determine what to do, I need to understand what happened.	Caring for my patient is the priority. . The characteristics of the error-committing person impacts the decision to report errors.
ADMINISTERING Error, caused harm Committer is known, not present Nursing Vignette 2: Heparin at incorrect rate			Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships

			I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships
	"I hope not" (2) "…she should go to the nurse and say 'hey, I'm sorry that this happened but I just have to tell for everyone's safety', you know, just so they can be on good terms and have a good atmosphere at work" (6)	Report all errors.	In order to determine what to do, I need to understand what happened.	The characteristics of the error-committing person impacts the decision to report errors.
	"Depends on the degree of trouble they get in and the degree of relationship that is there" (3) "If they already had kind of a feud, then it would make it worse. If they were more friends it wouldn't" (7)	People are afraid of getting in 'trouble' (write up) The response of the error-committing person depends on the characteristics of the error-committing person Reporting will cause conflict.	I will report all serious errors.	Caring for my patient is the priority.
	"That is a hard question…some people are like 'we're supposed to be	A friend would expect you to cover for them (nurses are expected to	I believe error reporting has a negative relational	Error reporting impacts relationships.

	friends and you should have just told me and kept it between us. Some people just have that type of personality." (5) "I think it could…I think it might because some friends look to other friends to cover up their mistakes…"(8) "You wouldn't be able to feel like yourself at work, and you'd be really second guessing yourself that you're following exactly by the book and always have your shield up" (9)	cover for one another) Reporting errors makes work situations harder (Reporting will cause conflict)	result. I believe error reporting has a negative impact on peer relationships. I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships. Error reporting impacts relationships
DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette 3: Pyxis is incorrect				
	"The amount of effect it would have on the relationship would depend on how much it affected the	Nurses are afraid of getting into trouble.	I will report all serious errors.	Caring for my patient is the priority. .

	position" (2)			
	"Why would they be upset with me?" (1) "No, I think she'd be more upset with herself, not upset with the other nurses" (4)	Report all errors.	I expect friends should be more accepting of being reported.	The characteristics of the error-committing person impacts the decision to report errors.
ADMINISTERING Committer is known, not present, will likely know who reported the error Vignette 4: Patient allergy and pill left				
	"No. It's their job to give the right medication. Any nurse would understand another nurse doing the same thing" (1) "Same as my other answers, depends on the relationship but this is a patient safety thing for sure, so hopefully it won't too much, really." (3) "I don't think so at this point b/c it is something that	Report all errors. Patient needs are primary concern.	I know I should report all errors. Caring for my patient is the priority. I know I should report all errors.	Caring for my patient is the priority. . Caring for my patient is the priority. Caring for my patient is the priority. .

	is completely on that other nurse" (4)			
	"It'd be like it was. Friends, we're friends, neutral we're just the same" (7)	A friend would be more accepting	I expect friends should be more accepting of being reported..	The characteristics of the error-committing person impacts the decision to report errors.
	"Yes, it will affect the relationship…nurses help each other out and I don't feel like that relationship would be there and they wouldn't be able to care for each other or help each other…it's be like 'she reported me so I'm not going to deal with her or help her and that's it" (6) "I could affect the relationship because you work so closely with other nurses, both the way you view the other nurse and the way the other nurse views you" (8)	Nurses are expected to cover for each other Reporting will cause conflict	I believe error reporting has a negative impact on peer relationships. I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships Error reporting impacts relationships.
TRANSCRIBING Committer is not			The experience	The characteristics

known, not present and likely will not be known. Vignette 5: eMAR is transcribed incorrect			and attitude of the error-committing nurse influences the decision to report.	of the error-committing person impacts the decision to report errors.
	"It was just a mistake, the nurse just needs clarification" (1) "It could or not, depends" (7) "It's not neglect, just a small error that a person made" (8) "In this scenario they'd think "it was handled so why did you have to report it?" (10)	It was just a mistake-not worth reporting. Reporting will cause conflict.	I will report all serious errors. Sometimes it's easier and expected to fix the error, if you can.	Caring for my patient is the priority. . Error reporting impacts relationships
ADMINISTERING Committer is known, is present Will obviously know who reported error Vignette 6: wrong route				
	"It depends on the relationship with the other person, if they were friends, probably. Short term, I'm sure, not saying they'd never be friends again.	Nurses are expected to cover for one another.	I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships
	"It is a professional	Patient needs are the primary	Caring for my patient is	Caring for my patient is the

	relationship and she would realize I was only advocating for the patient" (1) "Even if they were friends, not very much" (3) "I feel like it shouldn't because the nurse was just looking out for the patient, so she shouldn't take it personally" (5)	concern.	the priority. I know I should report all errors Caring for my patient is the priority.	priority. Caring for my patient is the priority. .
	"They'd probably be annoyed, maybe mad at me" (1) "She was at lunch and helping her out, that might not happen again, she might not want that same person to cover anymore"(6)	Reporting will cause conflict.	I believe error reporting has a negative impact on peer relationships.	Error reports impacts relationships
	"There'd be some tension there" (2) "In this case, it is more of a transitional case, I just gave something that was recently changed. I think its' something that some people would just	Nurses are expected to cover for each other Reporting errors will cause conflict.	I believe error reporting has a negative impact on peer relationships. Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships Error reporting impacts

	expect to let go. The patient wasn't in any real danger" (8) "The nurse would feel unsafe around that other nurse, like they have to be perfect and always by the book…and then they'd tell the other nurses about what happened and that they were told on, it wouldn't go unnoticed" (9) "It would. They'd for sure know who it was and think it was overkill" (10)	It was just a mistake-not worth reporting.		relationships.
Question 7: Would you report this mistake?				
ADMINISTERING Omission: Error but no harm Committer is known, but not present Nursing Vignette 1: Antibiotics did not infuse				
	"Yes, b/c the patient could really be injured a lot" (1) "Yes, the nurse doesn't realize	Patient needs are primary concern.	Caring for my patient is the priority.	Caring for my patient is the priority

	it is happening [wrong] but the patient can still get an infection" (2) "I would report this because I have been taught it's all about patient advocacy and helping the patient out and maintaining care and for the future of care too." (9)			
	"If that nurse was not there, I'd talk to the charge nurse, if that nurse was still there, I'd have both of us go talk to the charge" (4) "I would. Maybe I'd give them some education about it, maybe help them out if they're new nurse." (7)	It's best to allow the error-committing nurse to be a part of the reporting process	I will report all serious errors. In order to determine what to do, I need to understand what happened.	Caring for my patient is the priority. . The characteristics of the error-committing person impacts the decision to report errors.
	"I would have to, it's the rules" (1) "Just follow the procedures of what I was supposed to do" (7) "I would. Strictly on the basis that if anything could	Follow policy	I know I should report all errors. I know I should report all errors.	Caring for my patient is the priority. . Caring for my patient is the priority. .

	go wrong and it got back that I just gave it and didn't report it, then I could get into trouble…there's legality, safety and morality issues" (10)			
	"I would adjust, assess, inform" (2) "No. (and this participant said "it is a patient safety thing") (3) "It depends, like I said if it's the first time, then I wouldn't, I'd just tell them, but if it's the second or third time, then I'd report it." (6) "…being blind to it, I'd report it…meaning unless it was like my best friend, then I would report the Paamistake" (9)	Patient needs are the priority. Reporting depends on the error-committing nurse. I wouldn't report my best friend (nurses are expected to cover for one another)	In order to determine what to do, I need to understand what happened. The experience and attitude of the error-committing nurse influences the decision to report. I just won't report it.	The characteristics of the error-committing person impacts the decision to report errors. The characteristics of the error-committing person impacts the decision to report errors. Caring for my patient is the priority. .
ADMINISTERING Error, caused harm Committer is known, not present Nursing Vignette2: Heparin at incorrect rate			I will report all serious errors.	Caring for my patient is the priority. .
	"I would report	Patient needs		The

	this mistake and make sure the patient is okay" (8) "This can't go unaccounted for and could really hurt the patient and I'd want to prevent future errors like this from occurring" (9)	are the priority. "future errors"	Reporting errors depends on the experience and attitude of the error-committing nurse.	characteristics of the error-committing person impacts the decision to report errors.
	"No, I would not report it probably" (6)			
DISPENSING Capacity for error Committer is not known, unlikely to be known Vignette3: Pyxis is incorrect			Reporting errors depends on the experience and attitude of the error-committing nurse. I just won't report it.	The characteristics of the error-committing person impacts the decision to report errors.
	"Absolutely…it could have been a big deal " (1) "I'd talk with my lead b/c there is no way of knowing who stocked it so you don't have another choice." (4)	I'd report it because it was serious	I know I should report all errors.	Caring for my patient is the priority. .
	"No formal report or anything, I'd just call the			

	pharmacy" (10)			
ADMINISTERING Committer is known, not present, will likely know who reported the error Vignette 4: Patient allergy and pill left				
	"Yes, this is a big mistake…could be life or death" (1) "I would, and do some digging myself to figure out why it was there in the first place" (2)	I'd report it because it was serious	Caring for my patient is the priority. I will report all serious errors.	Caring for my patient is the priority Caring for my patient is the priority. .
	"I want to say yes…it just depends, I don't think I'd report it. They'd know that is was me, there wouldn't be any confidentiality and that relationship might be ended" (9)	Reporting will cause conflict.	I believe error reporting has a negative impact on peer relationships.	Error reporting impacts relationships.
TRANSCRIBING Committer is not known, not present and likely will not be known. Vignette5: eMar is transcribed incorrectly				
	"Yes, you	I'd report it	I will report	Caring for my

	figure it out and tell the right people to help you figure it out" (1) "Yes, I would…go back to what I said should happen, regardless of department" (4)	because it was serious	all serious errors.	patient is the priority. .
	"I think I'd just clarify the order" (2) "If I felt like they knew what they did, I wouldn't like, write a formal incident report" (9) "I don't think so, unless it was more severe. It was handled before anything bad happened" (10)	Reporting will depend on the characteristics of the error-committing nurse.	Sometimes it's easier and expected to fix the error if you can.	Error reporting impacts relationships
ADMINISTERING Committer is known, is present Will obviously know who reported error Vignette 6: wrong route				
	"Depends on the other nurses reaction, if they saw no problem with it, then yes, I'd report it. But if I felt it wouldn't	Reporting will depend on the characteristics of the error-committing nurse.	The experience and attitude of the error-committing nurse influences the decision	The characteristics of the error-committing person impacts the decision to report errors.

	happen in the future, then no, honestly, I probably wouldn't" (9) "All med errors should be reported and it was a discontinued med and it was a narcotic. Narcotics are a big deal. It could have lead to a serious accident, maybe an overdose. If I felt like the patient was in danger, I would, but honestly, I'd try to avoid it, …it wasn't my mistake…it's really not my issue" (10)	it was just a mistake-not worth reporting. Not my concern.	to report. I just won't report.	Caring for my patient is the priority. .
	"Yes" (2) "I wouldn't have any problem reporting any mistake on anybody. Friends or not" (7)	Report any error.	I know I should report all errors.	Caring for my patient is the priority. .

APPENDIX H

FORMULATED MEANINGS: EXAMPLE FROM ONE PARTICIPANT INTERVIEW

Participant	Vignette	Interview Question	Transcript	Significant Statements	Formulated Meaning(s)
8	1	1	"Take antibiotic down, and report it not given. Report it usually to the charge nurse, probably try to find out which nurse stated the medication had been given and then try to do education to that nurse, so she knew what happened.	Take the abx down Report it	Make sure the patient is getting the correct medication Report to the charge nurse.
		2	I think that the nurse would be able to figure it out, since she transferred it over to that nurse, she'd be able to figure out if it was reported, who reported it because of who that patient was assigned to.	The nurse would know who "told"	Interact with the nurse who made the error
		3	In that case, since the nurse didn't make the mistake herself, what she would do and what she should probably do wouldn't change that much.		
		4	N/A (no difference)		
		5	I think that is this case it was kinda a costly mistake but it wasn't a life threatening mistake, so I don't think their job was in jeopardy but they may be kinda embarrassed because they left the clamp closed, in this case I hope the person would be genuinely sorry that they made that mistake and take constructive criticism that	It was costly but not life threatening Job was not in jeopardy I hope the person would be genuinely sorry and	The "seriousness" mistake matters There may be serious consequences The committer should be genuinely sorry.

			they made that mistake.	open to feedback.	The committer needs to be willing to change.
		6	In this case I think it would depend on the person who made the mistake, but I think they'd be genuinely grateful that someone found the mistake and corrected the mistake.	May be grateful	Some people will be thankful
		7	I would report it because you need to know the antibiotics weren't given and then you know when to give the next dose and what the right schedule is, time is a precious thing. I would make sure everything was right….sometimes antibiotics can go bad if left out too long.	I would report this error. Make sure the patient is getting the correct medication.	