Walden University

College of Health Sciences

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Walden University
2015

Abstract

The Effect of a Culture of Safety on Patient Throughput

by

Laurie Lee Dawn Dillon

Project Submitted for Fulfillment

of the Requirements of the Degree of

Doctor of Nursing Practice

Walden University

November 2015

Abstract

There is a national movement to create improvements in patient safety and outcomes due to evolutionary changes in the healthcare. Many health care organizations are using the framework of *a culture of safety* in order to create a reliable and stable work environment that emphasizes safety and improves patient outcomes. Patient throughput, defined as the active management of the supply of patient beds (rooms for occupation) to the demand of patients to beds and the length of time it takes for this action to occur, has been identified as one of the areas in need of improvement. This study considered if the use of an interdisciplinary team to execute patient rounds improves patient throughput, helping to expedite the patient discharge process while decreasing needless readmissions to the health care organization. A quantitative longitudinal retrospective data analysis of time stamps obtained from the electronic health record was examined to determine what impact interdisciplinary rounds had on patient throughput. It was determined that a discrepancy existed between the actual planning of a patient's discharge and the execution of the discharge, which contributed to unwanted readmissions to the health care organization. A secondary factor affecting the readmission rate was excluding the patient as a member of the interdisciplinary team. The social significance of the research is how health care organizations engage patients, empowering patients to actively participate in their own care including them in the decision-making process that affects patient care and improves outcomes.

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Dedication

I would like to dedicate this paper to my husband Stephen; without his love and support, my accomplishments would not have been possible. I would also like to dedicate this to my professor Dr. Allison Terry. Her unwavering support and encouragement allowed me to meet my goal.

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Section 1: Overview of Evidence-Based Practice Project

The Effect of a Culture of Safety on Patient Throughput

The business of healthcare is changing due to rapidly rising health care costs and changes in federal legislation (Burchill, 2010). In 2008 the cost of health care in the United States was 2.4 trillion dollars, and it is forecasted that this cost will exceed that number by 7.5% in 2014 (U.S. Department of Health and Human Services, 2010). To change the tide on the rising cost of health care, the federal government made changes in health care regulations (Office of the National Coordinator, 2012). Through improvements in patient safety and outcomes, the federal government hopes to create a culture of safety while attempting to control or drive down the cost of health care.

Changes in federal legislation were created to control rapidly rising health care costs while generating improvements in patient outcomes (U.S. Department of Health and Human Services, 2012). Improvements in patient safety and outcomes contribute to a culture of safety, thus controlling the cost of patient care (Chassin, 2013). To remain viable, health care organizations must change to comply with the new federal standards (Burchill, 2010). Monetary reimbursements to health care organizations have changed. Payments have shifted from diagnosis-based payments for care to outcome-based payments for care (Office of the National Coordinator, 2012).

The change in monetary reimbursements has created turmoil among many health care organizations. Old rules for monetary reimbursement allowed payments for a patient who was readmitted to the hospital after discharge. Insurance companies were billed for the readmission, and these bills were paid (U.S. Department of Health and Human

Services, 2010). With new rules created as a result of changes in federal programs, insurance companies no longer pay for a readmission to a health care organization less than 30 days after discharge except under special circumstances (U.S. Department of Health and Human Services, 2012).

Failure to meet the outcome standards set by the federal government and managed by the Centers for Medicaid and Medicare Services results in a reduction in the monetary payments received for the care the patient care provided (U.S. Department of Health and Human Services, 2010). The purpose of these regulatory changes is to create improvements in patient safety, which contributes to quality improvements in patient care and outcomes, thus supporting a culture of safety (U.S. Department of Health and Human Services, 2012). These initiatives directly impact frontline nurses, many of whom support the initiatives though the creation of improvements in patient care and patient safety standards (American Nurses Association, 2012).

A culture of safety is achieved through improvements in patient safety and outcomes (Hellings, Schrooten, Klazinga, & Vleugels, 2010). Improvements in patient safety and outcomes are occurring as a result of new standards for patient care and the management of disease processes (Chassin, 2013). Organizations like the Joint Commission, National Quality Forum, and the Centers for Medicare and Medicaid Services have changed their standards for patient care, aligning their recommendations to improve the adoption of new patient safety mandates (The Joint Commission, 2009).

These standards have shifted management of disease processes from one in which the provider is the primary decision maker to one in which the patient actively

participates in their health care decisions (U.S. Department of Health and Human Services, 2012). The new standards allow for the incorporation of evidence-based practice in the disease management process (Domrose, 2010). Effective disease management is obtained through the practice of gathering, sharing, and comparing healthcare data (Sensmeier, 2010). Federal regulators use the comparison of national disease management data to set the benchmarks in health care quality and outcomes (Office of the National Coordinator, 2012).

The Centers for Medicare and Medicaid Services (2010) no longer pays health care organizations for treatment of infections and/or injuries that occur in the hospital as a result of poor or improper patient care; this includes nosocomial infections. Compliance to these new standards and initiatives are monitored by the Center for Medicare and Medicaid Services (Burchill, 2010). The Joint Commission and the Centers for Medicare and Medicaid Services audit for compliance when they perform inspections of a health care organization as a result of the data provided to the national database (Office of the National Coordinator, 2012). The transparency created by these initiatives will improve patient outcomes and contribute to advances in the culture of safety while driving down health care costs (Domrose, 2010).

Problem Statement

The problem directing the progression of this project is that of a culture of safety utilized in the inpatient healthcare setting. A culture of safety is defined as the creation of individual and group principles, perceptions, and attitudes that are reflected in the competencies and behavior patterns that determine the commitment and proficiency of an

organization's health and safety management (U.S. Department of Health and Human Services, 2012). The question asked in this study was: Does the use of interdisciplinary rounds contribute to improvements in the culture of safety on the inpatient unit? The interdisciplinary team is made up of multiple members of the health care organization including but not limited to physicians, advance practice nurses, residents, respiratory therapists, occupational therapists, physical therapists, speech therapists, social workers, and case managers (Kelly, 2011).

Each specialty works in collaboration with the patient to determine the plan of care and plan for a successful discharge from the health care organization. Though the individual members of the interdisciplinary team may vary, each specialty is represented as needed to improve the coordination of care the patient receives (Kelly, 2011). The improvements in the coordination of care are achieved as a direct result of the collaboration of care between the interdisciplinary team and the patient (Domrose, 2010). To determine the effectiveness of interdisciplinary rounds, the analysis of patient throughput data needs to be performed. Analysis of patient throughput data allows the investigator to determine whether a decrease in readmissions to the health care organization occurs as well as whether any improvements occur in the quality of care provided to patients (Chassin, 2013).

A thorough data analysis allows the investigator to identify patterns and trends in the data that help to support improvements in the culture of safety in the health care organization. Heath care organizations endeavor to control the cost of care while creating improvements in the care provided for indigent patient populations (Seton Healthcare

Family, 2012). Patient throughput is defined as the active management of the supply of patient beds (rooms for occupation) to the demand of patients to beds and the length of time it takes for this action to occur. The project will be implemented at a 150-bed facility, on a 34-bed unit located in Texas.

Purpose

The purpose of the project is to determine if the current practice utilizing interdisciplinary rounds appropriately safeguards patients, thereby improving the culture of safety. The collaboration of the members of the interdisciplinary team creates a safe environment, prevents medical errors, and allows patients to actively participate in their care decision-making process, thereby creating transparency in the health care organization (Office of the National Coordinator, 2012). The safe environment is measured by a decrease in any medical error that reaches the patient while giving the patients an increased comprehension of their medical care and the ability to determine their own course of treatment (Chassin, 2013). The improvements in patient care occur as a result of the combined efforts of the interdisciplinary team (Ryden, et al., 2000).

According to the Agency of Healthcare Research and Quality (2004), "Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures" (p.). Placing the patients at the center of the care decisions and giving the patients the power to influence the decisions in their health care improves patient compliance (Benn et al., 2012). Patient-centric care increases transparency as the patients are now privy to their provider's decision-making

processes (Office of the National Coordinator, 2012). There are no secrets; nothing is hidden from patients' view (Ryden, et al., 2000).

Effective communication is a struggle for most health care organizations. It is imperative that providers and clinicians speak the same language. Effective communication among all members of the interdisciplinary health care team as well as with patients drives the improvements of a culture of safety (Zwarenstein et al., 2007). Creating a level playing field among health care professionals is just one component that influences the communication among team members. Removing the hierarchy and giving all members of the interdisciplinary team, including the patient, an equal voice is an essential element of change needed to support effective communication. Messages lost in translation as they are passed from provider to provider can and do impact patient safety and outcomes (Office of the National Coordinator, 2012).

Goals and Objectives

According to Polit and Beck (2008), the objectives for nursing research support and define the scope of the project. An objective for this project is to analyze the effectiveness and impact of the interdisciplinary team on inpatient rounds. Effectively supporting a culture of safety through a thorough process analysis will help the health care organization to become a leader in the creation of patient safety improvements and in the creation of quality improvements (Domrose, 2010). The objectives selected for this project are imperative to create and maintain the culture of safety of a health care organization.

The examination of the time to complete the tasks in each step of the discharge process will be the unit of measure. It will demonstrate the effectiveness of the interdisciplinary team. It will also help to demonstrate the quality of the instruction provided to patients during the discharge process (Lindblad et al., 2010). The ability to ascertain the quality and effectiveness of the instruction provided to patients on discharge will determine the effectiveness of the discharge process as well as identify gaps that may contribute to recidivism, which occurs when patients are readmitted to the healthcare organization less than 30 days after discharge (Ryden et al., 2000).

The elements of the discharge process should come from each member of the interdisciplinary team. These elements include but are not limited to individualized discharge instructions, patient education, a summary of care from the current hospital encounter, and customized communication from members of the interdisciplinary team related to patient care goals and objectives (O'Leary et al., 2011). Understanding the elements involved in the culture of safety enhances and improves the patient outcomes (Feng et al., 2008).

The attitudes of practitioners can create an increase in the obstacles and confusion among team members, which increase the safety risk to patients (Grant, 2011). The context of change itself creates difficulty for the interdisciplinary team, increasing barriers to the achievement of a functional culture of safety (Grant, 2011). The shared values, beliefs, and behaviors of nurses can be utilized to set the norm for a sound patient safety culture (Feng, Bobay, & Weiss, 2008). It can also lead to an increase in

transparency for the health care organization, which may increase monetary reimbursement (Feng et al., 2008).

The mission of the health care organization has influence on the culture of safety. Achievement of a successful safety culture helps health care organizations maintain their mission (Seton Healthcare Family, 2012). The beliefs and values of the health care organization have the ability to influence members of the health care team (Grant, 2011).

Project Framework and Conceptual Model

The framework and model used to support a project helps to build the foundation that will support the project to its conclusion (Kettner et al., 2013). Leininger's theory of culture care diversity and universality utilized with the high reliability model created by the Department of Health and Human Services are molded together, creating an unwavering foundation to support this doctor of nursing practice project. Applying the core principles of Leininger's theory and the high reliability model helps to remove any barriers that may exist among members of the interdisciplinary team (Riley, Davis, Miller, & McCullough, 2010).

Leininger's theory of culture care diversity and universality was created in the 1960s, a time of great upheaval in U.S. culture (Leininger, 2006). Conceptual models help researchers discover new evidence bases, and their theoretical applications often contribute to improvements in health care (U.S. Nuclear Regulatory Commission, 2013). Leininger's model, derived from her anthropological background, sought to provide care that was culturally sensitive and congruent to the practices of the culture embodied by the individual (Leininger, 2006).

When the checks and balances from evidence-based practice are applied to a doctor of nursing practice project, it increases focus on patient safety and improving patient outcomes through the use of a highly reliable system (Doucette, 2006). Leininger considered understanding and caring for people of different cultures to be a critical and essential need for patients (Leininger, 2006). It allows health care professionals to concentrate more precisely on the events that influence patient safety and outcomes through specific processes.

Applied to patient care, evidence-based practice determines when professionals know and care for patients and explains how to integrate their cultural, spiritual, political, and economic needs to influence patient outcomes (Leininger, 2006). When used by all members of the interdisciplinary team, these checks and balances afford team members seamless communication, thereby decreasing the risk of hand off errors, creating changes in their attitudes about errors, improving situational awareness, and creating a nonpunitive cross-monitoring process (Doucette, 2006). Moving from a theoretical concept to the implementation of a practice change with sound evidence base to support the research allows for the translation of evidence base to assist those in healthcare to better care for patients (Kettner et al., 2013).

The high reliability model supported the mechanisms of this project (Riley et al., 2010). Created by the U.S. Department of Health and Human Services as a result of the Institute of Medicine (IOM) reports on patient safety, organizations can join this program to improve their outcomes and the quality of their patient care (U.S. Department of Health and Human Services, 2008). Employing the strategies of the high reliability model

ensures health care organizations actively and aggressively work to improve patient safety and outcomes (Riley et al., 2010). Health care organizations are expected to improve their culture of safety through the implementation of effective and efficient processes that support the IOM goals (Doucette, 2006).

Nature of the Project

Organizations are evolving to meet federal standards while attempting to provide care that is safe, efficient, and effective, increasing the quality of care they provide while generating improvements in patient outcomes (Sensmeier, 2010). Focusing on patient safety and outcomes, health care organizations are attempting to manage the new health care environment. Many organizations are focusing on high reliability programs to improve the culture of safety in their establishments.

High reliability programs were created to ensure health care organizations actively participate and support patient safety initiatives while engaging organizations to create process changes to improve outcomes, thereby creating a sustainable culture of safety (Riley et al., 2010). To determine the effectiveness of such programs, several data elements will be analyzed. A focal point of this project is to determine if the use of interdisciplinary rounds improves patient throughput. Measurements for this will be accessed through time measurements obtained from patient charts. The examination of the measures of time between the events that occur during the discharge process will help to determine if the current discharge process is effective.

Definitions

Research regarding the culture of safety and how patient outcomes improve when this culture is incorporated into a health care organization is prevalent (U.S. Department of Health and Human Services, 2012). A culture of safety is defined as the promotion of safety through the identification of risk and control of that risk across a diverse range of high-risk environments that traverse the continuum of care (Leiter & Maslach, 2012).

A *culture of safety* is the creation of individual and group principles, perceptions, and attitudes that are reflected in the competencies and behavior patterns that determine the commitment and proficiency of an organization's health and safety management (U.S. Department of Health and Human Services, 2012).

An *interdisciplinary team* is made up of multiple members of the health care organization including but not limited to physicians, advance practice nurses, residents, respiratory therapists, occupational therapists, physical therapists, speech therapists, social workers, and case managers (Kelly, 2011).

Interdisciplinary rounds occur when an ensemble of team members working together on the inpatient care units to improve the collaboration in patient care (O'Leary, et al., 2011).

Throughput is the cause and effect impacting the length of time it takes to discharge a patient from a health care organization (Domrose, 2010).

A *timestamp* is the digital capture of a mark of time in the electronic health record, which identifies when events have been executed and/or documented.

Through the use of evidence-based practice, a culture of safety can be achieved (Duke University, 2005). Deploying an interdisciplinary team, a team of health care professionals who work together with the patient to manage the patient's disease process, identifies and creates change. (Orchard, 2010) It will take this collaborative team environment unifying health care professionals and the patient to create a successful patient safety culture (Office of the National Coordinator, 2012).

Assumptions

Nursing theories are supported by an abundance of journal articles, which support professionals' endeavors when performing research (Polit & Beck, 2008). Creating a system comprised of a series of checks and balances that when adhered to provide the improved outcomes needed and the evidence base to support it will provide a true safety culture (Chassin, 2013). When applied in the operating room, such evidence appears in the form of a preoperative checklist with surgeons, nurses, and surgical personnel working in concert to ensure improved patient surgical outcomes as a result of right site surgery, accurate instrument counts, and full preoperative disclosure of the risk and benefits of the surgical procedure (Doucette, 2006).

It is the hope that the same theoretical applications of such teamwork in the form of interdisciplinary rounds will advance patient care into the 22nd century. The view of patient care for the next century allows for benchmarks set higher than current standards that will drive outcome improvements (American Nurses Association, 2012). To achieve these benchmarks, all members of the health care team must work in concert to create improvements in patient care, safety, and outcomes (Riley et al., 2010). Effective

communication contributes to this process, creating equality among all members of the interdisciplinary team and the patient removing the hierarchal barriers that contribute to errors in patient care (Sheehan et al., 2007).

Scopes and Delimitations

Examining the culture of safety and focusing on the discharge process allows professionals to identify the factors that influence or hinder the discharge process in a health care organization (Polit & Beck, 2007). Creating a more effective discharge process will determine the creation of processes for effective patient management (U.S. Department of Health and Human Services, 2012).

Patients are waiting on stretchers to get to their final destination, a real bed, or a life-saving procedure (Domrose, 2010). The proper protection of patients, staff, and health care providers who are impacted by the doctor of nursing practice project will be considered (White, 2012). This has a direct effect on patient safety and outcomes, as well as revenue, patient satisfaction, and potentially the readmission rates of the health care organization (Warburton, 2009).

The protection of human subjects will be obtained as a result of the Collaborative Institutional Training Initiative (CITI) training, which authorized me as the investigator to perform this research (Kettner et al., 2013). Eliminating contact with patients and working diligently to protect privacy as a result of this project is paramount (White, 2012). No information will be gathered that will allow anyone to identify a patient or personnel (Kettner et al., 2013).

Limitations

The general philosophy of the health care organization has the ability to impose limitations while influencing assumptions of research that could impact the culture of safety (Doucette, 2006). The limitations of this research occur if there is resistance within the health care organization. If leadership does not buy in to this approach, the project will not succeed. The buy in of leadership can directly impact who participates and refuses; this can greatly influence the outcome (Nayer, Ozcan, Yu, & Nguyen, 2013). However, if acceptance is obtained and leadership is actively engaged in such a project, their open support allows staff and providers to contribute to something that will give them a more effective and personally satisfying work life (Bearden, 2009). When leadership openly supports the work of the interdisciplinary team, leadership actively demonstrates its support of hospital personnel, attaining a great deal of good will in the process (Burchill, 2010). Creating buy in at this level will improve morale among clinicians and providers on the inpatient unit, which could lead to improvements in patient satisfaction scores. The evidence generated contributes to improve patient outcomes and create potentially decrease hospital readmission rates (Chassin, 2013).

Another limitation occurs through the inability to change the attitudes and beliefs of the medical hierarchy (Duke University, 2005). Researchers have identified junior physicians who want to participate in patient safety and culture change management programs, yet they are made to feel inadequate when opposing the wishes of senior medical leadership (Grant, 2011). The behavior ingrained in the senior leadership of the

medical hierarchy creates obstacles that can interfere with the ability of the interdisciplinary team to function and create change (Magid, Forrer, & Shaha, 2012).

A dynamic involved in their beliefs and attitudes is how they serve the health care organization at large. Junior physicians feel a desire to work within the existing structure of the health care organization while senior providers do not; they feel the need to keep themselves separate from the larger health care organization, feeling they retain more autonomy by doing so (Grant, 2011). If investigators are unable to obtain the buy in needed from senior health care providers, health care organizations will suffer the consequences in the form of decreased payments from the Centers for Medicare and Medicaid Services. Organizations may also incur additional penalties from individual states when the health care organization is unable to meet the goals set by the Meaningful Use initiatives and other federal legislation (U.S. Department of Health and Human Services, 2010).

Significance of the Project

The science created as a result of an evidence-based practice project could assist in the national transformation of health care (Slater, Lawton, Armitage, Bibby, & Wright, 2012). A greater number of health care organizations could adopt the interdisciplinary team approach to patient care with a focus on improving the culture of safety (Riley et al., 2010). The significance of the influence of a sound patient safety culture has been identified by organizations like the Joint Commission, the Center for Medicare and Medicaid Services, as well as the Agency for Healthcare Research and Quality as a key

element in improving the quality of care provided to patients (U.S. Department of Health and Human Services, 2008).

A demonstrated influence on a patient safety culture is an organization that becomes a high reliability organization (HRO; U.S. Department of Health and Human Services, 2008). A health care organization that becomes a HRO has to work aggressively to maintain and improve the culture of safety in the organization (Clark, 2008). Employing the strategies of a HRO ensures health care organizations actively and aggressively work to improve patient safety and outcomes (Slater et al., 2012).

Health care organizations are also expected to improve their culture of safety through the implementation of effective and efficient processes (Riley, et al., 2010). To support the implementation of effective and efficient processes, health care organizations must use statistical data and models (White, 2012). Through the use of statistical data and models, the information needed to support the benefits of research is generated.

Examining the benefits of research allows evidence-based practice models to be fine-tuned and focused, thereby concentrating improvements in care where they are most needed (Kettner, Moroney, & Martin, 2013). For example, an investigator may have evidence that demonstrates the care needed for diabetic patients to prevent hospital readmissions. Then the investigator gathers health care data for the city, based on the DRG for that geographic area, and discovers through the statistical analysis that the east side of the city has a large population of diabetic patients, yet there are no diabetic clinics

or outpatient educators located in that geographic location to assist these patients; a gap in care is identified (Shanmuganthan & Claster, 2009).

Researchers can then increase the focus of their data to examine the populations or cultures in that geographic location (White, 2012). This will allow health care establishments to design a program or place a specialty clinic in that area that would target that specific area and population while creating a greater understanding of the community's socioeconomic needs (Shanmuganthan & Claster, 2009). Determining if interdisciplinary rounds influence the culture of safety will utilize and add to evidence-based practice (Kettner, Moroney, & Martin, 2013). When the approach of interdisciplinary rounds is shared with others upon completion of this project, this research could have a far-reaching effect, and that effect is not limited to the health care profession.

Summary

The approaches and methods developed to execute an evidence-based practice project supported the infrastructure of this project. The tools utilized to evaluate the research will determine the accuracy of the outcomes. Evidence-based research exists to support the endeavors of nursing through the examination of theoretical concept designs relevant to nursing and used to implement research. When appropriately analyzed, the data obtained as a result of the research performed by the doctor of nursing practice offer the nursing profession a new path to examine the theoretical concepts of nursing.

Section 2: Review of Scholarly Evidence

Changes in federal legislation were created to control rapidly health care costs while generating improvements in patient outcomes (U.S. Department of Health and Human Services, 2012). Improvements in patient safety and outcomes contribute to a culture of safety, thus controlling the cost of patient care (Chassin, 2013). To remain viable, health care organizations must change to comply with the new federal standards (Burchill, 2010). Monetary reimbursements to health care organizations have changed. Payments have shifted from diagnosis-based payments for care to outcome-based payments for care (Office of the National Coordinator, 2012).

The change in monetary reimbursements has created turmoil among many health care organizations. Old rules for monetary reimbursement allowed payments for a patient who was readmitted to the hospital after discharge. Insurance companies were billed for the readmission and these bills were paid (U.S. Department of Health and Human Services, 2010). New rules created as a result of changes in federal programs, no longer pay for a readmission to a health care organization less than 30 days after discharge except under special circumstances (U.S. Department of Health and Human Services, 2012).

Failure to meet the outcome standards set by the federal government and managed by the Centers for Medicaid and Medicare Service's will result in a reduction in the monetary payments received for the care the patient care provided (U.S. Department of Health and Human Services, 2010). Many nurses support these initiatives and regulatory changes as they directly impact frontline nurses (American Nurses Association, 2012).

The purpose of these regulatory changes is to create improvements in patient safety, which contributes to quality improvements in patient care and outcomes thus supporting a culture of safety (U.S. Department of Health and Human Services, 2012).

Literature Search Strategy

A thorough literature review provides the support needed for research to be effective (Oermann & Hays, 2011). Through the use of nursing research, nurses can expand and enhance their critical thinking skills, thereby creating improvements in their knowledge base (American Nurses Association, 2012). Current literature on the new practices established to support a culture of safety has identified multiple factors that support and influence the success or failure of a sound patient safety culture (Chassin, 2013).

The practice changes recommended to influence components such as throughput, communication among health care professionals, and readmission rates are varied; however, a common theme among several research articles has identified the need to for additional education and training (Sheehan et al., 2007). This education and training need to focus on leadership, teamwork, evidence-based practice, patient centered learning, and communication (Sammer, Lykens, Signh, Mains, & Lackan, 2010). Another article recommended simulation training to contribute to the training of the members of the interdisciplinary team (McKeon, Cunningham, & Detty-Oswaks, 2009).

Many of the articles described methods to embed the behaviors learned as a result of training through positive reinforcement from all levels of leadership (Zwarenstein et al., 2007). Researchers have also recommended the use of teamwork, giving everyone on

the team an equal voice (Sammer et al., 2010). Such teamwork creates an increase in nursing satisfaction as well as patient satisfaction (Roller, 2012).

Facilitating teamwork creates an inclusive and collaborative process, improving the delivery of care and thereby improving the quality of care and patient outcomes (Armellino, Griffin-Quinn, & Fitzpatrick, 2010). Planning and implementing improvement initiatives include but are not limited to changing approaches to how work is done, how work is measured, and spreading improvements to other healthcare units and facilities (U.S. Department of Health and Human Services, 2012). Change of this magnitude is often met with resistance; however, if leadership is openly supportive, a greater degree of success can be obtained with leadership's buy in and good will from staff (Benn, Burnett, Parand, Pinto, & Vincent, 2012).

Numerous articles reviewed identified the benefits of a culture of safety. Parker (2009) identified the need for a culture of safety that focused on the needs of the patient, allowing patients to participate in the decisions that impact their health care (Parker, 2009). Groves, Meisenbach, and Scott-Cawiezell (2011), recognized the need to keep patients safe in a health care organization and thought a culture of safety would achieve this goal (Groves, Meisenbach, & Scott-Cawiezell, 2011). Feng, Acord, Cheng, Zeng, and Song (2011) acknowledged the relationship between the commitment of management to safety improvements and a patient safety culture.

Zwarenstein et al. (2007) described the need for structuring communication and the relationships needed for interprofessional teamwork to obtain a successful patient safety culture. El-Jardali, Dimassi, Jamal, Jaafar, and Hemadeh (2011) observed in their

research the predictors to create a successful culture of safety and the outcome improvements associated as a result. Orchard (2010) described how a culture of safety is influenced through active collaboration of leadership and the consequences of isolation as well as the high cost of working in silos. Both synergetic and fragile, the creation of an interdisciplinary team can thwart a frangible environment, creating improvements in patient safety and outcomes while helping to decrease the cost of care through the improved coordination of care (Roller, 2012).

Concepts and Models

Through the application of theoretical models, a sound foundation is provided for a research project (Polit & Beck, 2007). With the appraisal of the literature, the identification of the processes needed to contribute to and support active change management in the health care organization were obtained (Kettner et al., 2013). Materials needed to appropriately execute an evidence-based practice research project were used to identify the mechanisms that influence the safety culture (Polit & Beck, 2008). One such mechanism is the high reliability model, a program created by the U.S. Department of Health and Human Services (2008).

Riley et al. (2010) recognized a model for developing high reliability teams; these teams work to promote patient safety and improvements in patient outcomes (Riley et al., 2010). Such teams promote the standards of high reliability, including the participation of all members of the interdisciplinary health care team in rounds (Quigley & White, 2013). These rounds are created to promote open communication among team members in an

attempt to decrease or prevent errors among health care providers (Needleman & Hassmiller, 2009).

Through the use of a high reliability model, Riley et al. (2010) acknowledged that health care workers are human and therefore make mistakes while providing patient care. When members of the health care community work together as a team in a health care organization, this interdisciplinary team creates continuity in care (Needleman & Hassmiller, 2009). This continuity in care prevents or reduces the risk of error, thereby improving patient safety and outcomes (Quigley & White, 2013).

Literature Review for Frameworks

Groves, Meisenbach, and Scott-Cawiezell (2011) explored the meaning and understanding of patient-centered care through the use of the interdisciplinary team. The purpose and role of the interdisciplinary team as identified by Orchard (2010) are to create a truly collaborative environment in which the needs of the patient are met through their participation as a member of the team. Many authors discussed how nurses become a positive voice as members of the interdisciplinary team, acting as advocates to support their patients and create improvements in patient outcomes (Domrose, 2010).

Improvements are achieved through the resocialization of nurses, giving them an equal voice as members of the interdisciplinary team (Nayer et al., 2013). Teaching nurses how to articulate their knowledge and skill in a manner that allows them to actively participate as a team member, while acknowledging that all members of the interdisciplinary team are important and needed, increases the effectiveness of support for the patient (Domrose, 2010). Orchard (2010) explained it takes all health care

professionals working in concert to deliver a collaborative, patient-centered approach to care instead of service-focused care that often leaves gaps in the continuity of care the patient receives. McKeon, Cunningham, and Detty-Oswaks (2009) discussed the need for improvement in patient safety and that such improvements can be achieved through the creation and implementation of an interdisciplinary team.

Nayer et al. (2013) associated improvements in patient safety and outcomes through the use of a patient-focused interdisciplinary team.

The use of an interdisciplinary team can contribute to the decrease in health care costs through the reduction of costly medical errors (Groves et al., 2011). Researchers have identified how nursing often works around failure points on the continuum of care without truly decreasing the risk of errors (Domrose, 2010). Through their identification of the *human factor*, McKeon et al. (2009) described how to teach nurses the principles of high reliability to improve the care provided by front line staff.

Literature Review Related to Methods

Hellings, Schrooten, Klazinga, and Vleugels (2010) stated that by measuring a safety culture in hospitals, the dimensions needed to create improvements in a health care organization will be revealed, thereby contributing to improvements in patient safety and patient outcomes. Their research executed at five hospitals in Belgium illustrated that hospital staff were highly motivated to improve their patient safety culture (Hellings et al., 2010). By creating a nonpunitive response to error and staffing, health care organizations can identify the gaps that exist in the care they provide and determine the means necessary to close these gaps (Reinertsen, Bisognano, & Pugh, 2008).

Warburton (2009) explains the economic perspective on the role of nursing in the health care organization when seeking to improve patient safety and outcomes (Warburton, 2009). Safety cultures are described as hard to achieve in any industry that contains an element of risk and entails the economic impact of that risk (Orchard, 2010). Health care organizations are classified at a particularly high risk (McKeon, et al., 2009)

Health care organizations share many similarities in their struggle to remain profitable. There are too many demands on health care workers to make safety the only priority in the workplace while there is difficulty implementing concepts like *high reliability* in the clinical settings as they require abstract thought where work roles are often fragmented and compartmentalized (Warburton, 2009). Nayer et al. (2009) observed the contradicting forces that undermine patient safety goals and the expense incurred as a result.

Sheehan et al. described the issue at stake and the apparent disparities in communication between members of the health care team. Sheehan et al. conducted interviews and analyzed the data from a symbolic interactionist perspective to better describe the language and communication patterns used among members of the interdisciplinary team. The differences identified by researchers appeared to be parallel and could be used to identify distinctions between members of the interdisciplinary team (Sheehan et al., 2007). Sheehan et al. (2007) explained the implications of the differences in communication among team members and identified the need for future research on this topic.

Feng et al. (2011) identified the relationship between the commitments of the management team and the health care organization's commitment to a patient culture of safety. They provided evidence of the success and failure of such cultures in nursing based on the commitment of management to change (Feng et al., 2011).

Feng, Bobay, and Weiss (2008) performed a dimensional concept analysis to describe the impact of a patient safety culture and its influence on the profession of nursing. Through their analysis, they were able to identify the shared values, beliefs, and behavioral norms in nursing. They also explained the correlation of this belief system and its influence on the culture of safety experienced by patients. The hope for culture of safety research is to identify the strategies that could be used to build a sound patient safety culture (Botwinick, Bisognano, & Haraden, 2006). Groves et al. (2011) explained that a safety culture is a system involving exchanges between individuals and the health care organization (Groves et al., 2011).

Health care organizations share their values through communication, and nurses perform these values in practice (Groves et al., 2011). It is through the demonstration of nursing practice that a patient safety culture is produced (Orchard, 2010). Reproducing that patient safety culture can reciprocally constrain and enable the actions of the organization and its members (Nayer et al., 2013). Researchers identified the need for nursing leaders to remain aware of competing value-based systems in their geographic area (Reinertsen et al., 2008).

Nurses are essential for health care organizations to effectively compete in the value-based market because they continue to support and create change (Groves et al.,

2011). Nayer et al. (2013) found the changes that have occurred in health care in the last decade have put pressure on health care organizations to decrease costs. Focusing on the pressure placed on hospitals in the United States by new federal legislation, including programs like Meaningful Use, hospitals are now expected to maximize their performance in terms of production, efficiency, and quality (Burchill, 2010).

An ever-increasing emphasis is now being placed on value-based purchasing, which has been identified by researchers as one of the stressors placed by third party payers (Nayer et al., 2013). The other is a prevalence of pay for performance initiatives, which creates the expectation for more accurate assessments of health care provider performance and measurement (U.S. Department of Health and Human Services, 2012). Utilizing a cross-sectional study, Nayer et al. (2013) analyzed 371 acute care urban hospitals to determine their performance while attempting to meet these measures. They were able to ascertain the hospital performance through the evaluation of full-time equivalent staffing and nonpayroll operating expenses. Nayer et al. found that less than 20% of the hospitals they examined were optimally performing for efficiency and quality. Through their benchmarking process, they were able to identify the aspects of performance, efficiency, and quality for the facilities they evaluated. They were able to identify the need for additional research based on the model they chose to utilize for their assessment.

Through a compilation of the literature, this research determined the effectiveness of the data that will be gathered and analyzed for this project. Discoveries will contribute

to patient safety and improvements in patient outcomes, which contribute to improvements to the culture of safety for health care organizations (Domrose, 2010).

The analytical review of evidence-based practice literature prevents issues when implementing the evidence-based practice project and thwarts a misinterpretation of the literature (White, 2012). It is how organizations interpret the literature and apply evidence-based practice that will determine if an organization is truly effective in establishing sound practices to support their clinicians, providers, and patients (Dudley-Brown, 2012). Through the use of models, meta-analysis, and the accurate interpretation of evidence-based practice literature, researchers provide options to improve patient care and provide strong evidence to support the theoretical applications of the evidence base they acquire (Oermann & Hays, 2011).

The focus of this project will be on empirical data to supply the results for this project. Quantitative research utilizes experimental and nonexperimental methods to achieve precise results (Polit & Beck, 2007). Investigators have the ability to gather empirical data on the culture of safety and the elements that impact it. Quantitative data also assists to identify if advances in the safety culture do in fact create improvements in patient outcomes (Slater et al., 2012). Quantitative data determine if interventions put into place to create improvements in the patient safety environment are adequate to meet the needs of the interdisciplinary team (Murthy et al., 2012).

Background and Context

Every individual in a health care organization is responsible for patient safety and is expected to participate in quality improvements or in initiatives that support and

promote patient safety (Reinertsen et al., 2008). Seton Family of Hospitals is building a culture of safety and quality improvement for their patients on a daily basis. Nursing has had a strong influence on quality, evidence-based practice, and interdisciplinary teams through their shared governance model (Seton Healthcare Family, 2012). Seton is involved in the High Reliability Program (U.S. Department of Health and Human Services, 2008).

Incorporating programs like Plan, Do, Check and Act (PCDA) has become an effective tool for many health care organizations and the program's name is a mantra for the high reliability model at my health care organization (Tague, 2004). It is a method that supports a double check: Every provider and clinician is expected to take this view when performing any function or procedure on or to a patient (U.S. Department of Health and Human Services, 2008). Taking this highly critical viewpoint affords patients that extra layer of safety to improve patient outcomes. This four-step model promotes and supports change by allowing for constant reevaluation of any program implemented (Tague, 2004).

Through the application of this model and other measures taken to create quality improvements, the need for change is identified; small tests of change are executed, then the process is reviewed and analyzed, identifying any lessons learned (Langley, Nolan, Nolan, Norman, & Provost, 2009). The last step is to take action; that action could be to either execute the attempted change or to modify the attempted change. Using PDCA a revaluation will determine if the change method is most effective and if the method used added any benefit to the health care organization, allowing for the successful application

of several models and processes that contribute to positive improvements in patient outcomes (Tague, 2004).

The elements of a culture of safety were identified first by other areas in industry, including aviation, railroad, and nuclear power (U.S. Nuclear Regulatory Commission, 2013). Through the use of checklists, coordination of teams and a conscious effort to increase transparency, these organizations have been successful in becoming among the safest industries in the world (U.S. Nuclear Regulatory Commission, 2013). Led by the changes in aviation, health care organizations strive to become proactive in creating improvement in their culture of safety, which creates improvements in patient safety, outcomes, and decreased recidivism of patient readmissions through the creation of a blame-free environment (Botwinick et al., 2006).

According to the literature obtained for the purpose of this research, the use of interdisciplinary rounds can create improvements in patient safety and outcomes. Duke University (2005) described the accomplishments of a culture of safety as care that is safe, equitable, timely, effective, efficient, and patient centered. A culture of safety is achieved through a coordinated effort to assess the culture of the health care organization and to create transparency through increased accountability, teamwork, and patient involvement (Domrose, 2010).

The improvements created as a result of the increase in teamwork can improve the coordination of care and communication among health care providers (Benn et al., 2012). Some hospitals in the United Kingdom incorporated interdisciplinary rounds, and as a result a decrease of 50% in the cases of methicillin-resistant *Staphylococcus aureus*

(MRSA) infections was noted within their health care organization, as well as a 30% decrease in crash code calls and a 50% reduction in adverse drug events (Domrose, 2010). Through a culture of safety, all members of the healthcare team know and understand that everyone is responsible for meeting the needs of the patient (U.S. Department of Health and Human Services, 2008).

Answering the questions posed in the beginning of this project will help guide the interdisciplinary team and the health care organization towards the goals they seek to achieve. What affect did these rounds have at the network, site, and specific unit levels will be determined as a result of this project. Do interdisciplinary rounds improve patient throughput and does the role of physician extenders as part of the interdisciplinary team contribute to that success or is there an factor that has yet to be discovered which will lead the health care organization to success.

Does the communication that occurs as a result of interdisciplinary rounds improve patient safety? Does interdisciplinary rounds decrease patient readmission rates and does the use of this rounding technique improve the revenue capture of the health care organization through the ability of the organization to create improvements in patient satisfaction. The role of the student in this project will be substantial as a doctoral student and the sole investigator. Upon completion of this project, the data will be presented to the healthcare network executive council.

A PowerPoint presentation (Appendix A) will be a powerful tool to disseminate the information from this evidence-based practice project, as recommended by Balistreri (2002). PowerPoint presentations contribute to the meaningful distribution of knowledge

(Kettner et al., 2013). A presentation will provide the audience with the visual materials that will provide an increase in comprehension of the evidence base obtained as a result of a research project. That improvement in comprehension allows for the adoption of the evidence base presented as well as improves the support of future evidence-based practice projects (Oermann & Hays, 2011).

Models and Theories

Utilizing change theories and evidence-based practice can be a daunting task but is necessary to support the changes needed to advance research (Polit & Beck, 2008). Advancing nursing research will effectively support the nurse at the bedside, thereby creating improvements in patient safety and patient outcomes (Polit & Beck, 2007). The evidence-based practice and change models implemented to educate and support staff to identify if this health care organization is ready for change will be Lewin's force field analysis (LFFA; White, 2012).

LFFA describes change as driving forces and resisting forces, which work to support and inhibit change (Polit & Beck, 2008). The application of LFFA provides the personnel in the roles of early adopters instructions to define a plan for mitigating the forces that will resist change (White, 2012). It will assist these early adopters in mitigating the risk to advance nursing research (Madsen, Cameron, & Miller, 2006). Through this change management model, members of the interdisciplinary team can be taught to perform a risk-benefit analysis (Polit & Beck, 2008). This analysis will help early adopters determine when they need to intercede (Madsen et al., 2006). Allowing

investigators to achieve their goal in this manner has a beneficial effect on all involved and builds trust with the members of the interdisciplinary (Leininger, 2006).

Summary and Conclusions

These models address change; some focus on the human condition and how understanding change influences behaviors, while other models address the forces that influence and drive change. How investigators disseminate information will ultimately increase or decrease the obstacles that will be experienced throughout the research project as a result of the process changes experienced by staff. Engaging leadership and encouraging open and honest communication will be helpful in mitigating any active dissent to potential change during the introduction of new practices or processes.

Section 3: Approach

Approach and Rationales

Quantitative researchers focus on empirical data to supply the results they seek (Polit & Beck, 2007). Quantitative research utilizes experimental and nonexperimental methods to achieve precise results (Polit & Beck, 2007). Through the use of quantitative data, researchers have the ability to gather empirical data on the culture of safety and the elements that impact it to determine if improvements in the safety culture do in fact create improvements in patient outcomes (Slater et al., 2012).

For this project, quantitative data determine if interventions put into place to create improvements in the patient safety environment are adequate to meet the needs of the interdisciplinary team. The elements that pertain to the quantitative data will be obtained from the patient's electronic health record in the form of time stamps.

The mark of specific time frames maintained within the electronic health record confirms when personnel working within that health record take an action (Burchill, 2010). Timestamps allow identification of when discharge orders are placed, what role is used to place the orders, and when these orders are initiated (Orchard, 2010). The information gathered for this research project will be contained in a report on a secure drive.

To improve the quantitative data obtained for this project, a longitudinal research method will be used for data gathering to improve the accuracy of data gathered (Matthews, Henderson, Farwell, Ho, & Rodgers, 2014; Yoder et al., 2014). Longitudinal

research allows for systematic data review (van der Heide, van Rijn, Robroek, Burdorf, & Proper, 2013).

The obstacles affecting patient throughput will be identified as well as the role of providers and physician extenders in the throughput process (Orchard, 2010). Multiple time measurements will be used for this measure to accurately capture the data. Discovering the elements that will impact the culture of safety will assist healthcare workers in their roles as members of the interdisciplinary team; this will lead the team to greater success (Domrose, 2010). The greater the success obtained by the interdisciplinary team, the greater the improvement in patient safety, patient throughput, and patient outcomes (Groves et al., 2011).

Population and Sampling

Formal data gathering via a throughput report and timestamp data from the electronic health record will assist to find the answer to the research question (Polit & Beck, 2007). The throughput report is a report that pulls metrics from the electronic health record in real time. The report monitors measures in time from the electronic health record and drops these timestamps into a report based on nursing and provider documentation.

The throughput reports focus on key points in the continuum of patient care as a patient moves through the health care organization and measures how long it takes to get a patient into a bed, monitors the time it takes to have a patient seen and cared for by a provider as well as how long it takes to discharge a patient from initiation of patient care orders to the patient being physically escorted to his or her vehicle to go home (Office of

the National Coordinator, 2012). For the purpose of this project, all information gathered will be limited to a 34 bed medical-surgical unit at a hospital in central Texas. The sample size will be 931. That is the estimated number of discharges for one month on this unit.

A longitudinal data review allows for a wider sample to provide a greater opportunity to ascertain what variables impact interdisciplinary rounds and if those variables are significant enough to prevent a full deployment of this type of rounding at other sites in the health care organization. The data review will be very inclusive, there will be no exclusion based on diagnosis code or type. Children (anyone under the age of 17) and senior citizens above the age of 89 will be excluded from this research (Kettner et al., 2013).

Instruments and Tools

A workload tool created by the investigator will be utilized to analyze the throughput data obtained for this research. The tool will strongly mirror the Workload Indicators of Staffing Need (WISN) created by the World Health Organization (WHO) (World Health Organization, 2010). Using an instrument to identify the variables around staffing for the members of the interdisciplinary team will be instrumental in the data analysis (Akscin, Barr, & Towle, 2007). The data analysis should determine if the right people are in the right place, at the right time to execute the indicated task (Benn, et al., 2012).

The Workload Indicator Tool has been measured tested for its validity and reliability (World Health Organization, 2010). When originally planning this project the

Manchester Patient Safety Framework was considered to assist in the identification of patient safety efforts supported by the culture of safety framework, however to identify the issues related to patient throughput it was determined a workload indicator would be more effective and better meet the needs of this project (Parker, 2009). The goal of this tool will be to determine if the correct number of personnel, are in the right place, at the right time, with the precise skills needed to execute the discharge process in a timely and efficient manner (World Health Organization, 2010).

The calculation used will determine the total of number of working days per year (X), 52 weeks in a year (A) multiplied by 3 12-hour shifts per week for each staff member (B), X (A x B) (Bantle, 2007). The calculation identified for use in this project, is a standard staffing calculation used by health care organizations around the world to determine if the correct number of personnel are being appropriately utilized to provide patient care (O'Leary, et al., 2011). By determining the actual number of hours staff work each year any investigator can determine what percentage of the personnel working hours is spent discharging patients and if that time is being utilized efficiently (Zelman, 2003).

Variables

Many of the variables associated with this project are directly associated with the processes used to support interdisciplinary rounds (Hellings, et al., 2010). To determine what impact if any the variables could have on patient outcomes the elements associated with the discharge process will be targeted (Dixon-Woods, et al., 2013). When the variables for this project are identified and cataloged a method could be selected to determine the overall impact of the variables on patient care (Terry, 2012).

Variables for this project include the number of personnel present during the discharge process. An independent variable will identify if all members of the interdisciplinary actively or passively participate in the discharge process. The dependent variable will determine if the patient obtains a faster more efficient discharge as a result of the utilization of an interdisciplinary team.

Another independent variable will determine if the number of readmissions decreased as a result of the patient education and discharge summaries provided by members of the interdisciplinary team. While addressing if the use of Advance Practice Nurses (APN's) as members of the interdisciplinary team decrease the amount of time needed for the patient discharge process. Is there an improvement in revenue capture as a result of a decrease in readmissions due to members of the interdisciplinary team actively participating in the discharge process.

There will be a recommendation upon completion of this research project to continue to research this issue (Terry, 2012). Continued research will determine if the variable(s) identified have an impact on any health care organization that attempted to implement interdisciplinary rounds (Kettner, et al., 2013).

Planning, Implementing and Evaluating Evidence-Based Practice Projects

To sustain a strong foundation the planning, implementation and evaluation of an evidence-based practice project must answer the questions investigators have posed (White, 2012). Answering the questions posted can be achieved utilizing specific techniques to support a research project (Dudley-Brown, 2012). Research for this project will utilize several nursing models all supported by evidence-based practice (Kettner, et

al., 2013). The application of theoretical models provides the foundational support needed to sustain this research project. Specific tools will be utilized to obtain, access, and analyze data adding validity to the research (Quigley & White, 2013).

When approaches are appropriately applied to patient care change models, investigators can determine how to best care for the patients in their care while explaining how to integrate their cultural, spiritual, political, and economic needs to influence their outcomes (Leininger, 2006). When we understand the elements surrounding the issues of a specific patient population investigators are afforded another opportunity. It is to develop an increased comprehension of the social problems that surround the patient population they hope to impact (Kettner, et al., 2013). If investigators fail to address the issues surrounding the patient population impacted by their research they could potentially forfeit a valid outcome to their study creating a variable that skews their data (White, 2012).

The research for this project will use formative and a summative evaluation. Formative evaluation will occur as a continuous process throughout the design of this practicum project (White, 2012). According to Polit & Beck (2008), the formative evaluation process is used "to describe a program carefully so it can be replicated by others" (p. 317). The formative method of assessment will also be used to determine the effectiveness of this project as well as to ensure a project does not deviate from its objective(s) (Kettner, et al., 2013). Diligence in managing short-term goals is imperative for continuous performance improvement and growth therefore constant evaluation is needed (Bearden, 2009).

Formative evaluation will occur at defined points in the scope of this project (Kettner, et al., 2013). A summative evaluation will focus on the objectives of the project and if those objectives were met (Polit & Beck, 2008). The purpose of the summative evaluation is to determine the viability of the program/policy created and to determine if it is of use to an organization (Polit & Beck, 2008). The summative evaluation for this project will occur in several forms. A formal adoption of the interdisciplinary rounds will indicate if there is acceptance, providing a purposeful measure upon completion of the evaluation (Bearden, 2009).

Planning and Assessing for Change

Before a program can be evaluated; an organization must plan for change (White, 2012). To appropriately execute any evidence-based practice research project a change assessment must be performed (Dudley-Brown, 2012). To achieve change it must be planned for, managed and have internal support ensuring leadership is interested in creating improvements in the organizational culture using evidence-based practice (Kettner, et al., 2013).

Hospital leaders are facing an increase in pressure to demonstrate an organizational culture of safety by federal, state, regulatory, and consumer groups (Sammer, et al., 2010). Through a change management assessment a health care organization can determine what change is needed, where change is needed as well as how any proposed change will impact the health care organization (Dudley-Brown, 2012). When a researcher finds an innovation that is believed to affect positive change inpatient outcomes, they must find support for that innovation (Kettner, et al., 2013). As

doctoral prepared nurses we must be prepared to lead by example to demonstrate that change is not as frightening as others might perceive but instead a means to an end (White, 2012).

Desired Outcomes

A desired outcome for this project will be to create improvements in the culture of safety for the health care organization, and spread these achievements among other facilities within the healthcare network (Bearden, 2009). Included in the creation of a culture of safety will be an improvement in patient throughput. A decrease in medical errors that reach the patient, improved coordination of patient care resulting in a decrease in hospital readmission rates and improved communication among members of the health care team (Feng, et al., 2011).

When the interdisciplinary team works together, with all members of the health care organization actively participating, new standards will be achieved in the management of the patient's disease process (Bearden, 2009). The achievement of new patient care standards will create significant improvements in the care the patient receives (Benn, et al., 2012). These improvements will be the direct result of enhancements in patient outcomes and throughput as well as increased transparency in the health care organization, allowing the healthcare organization to achieve a viable culture of safety (Domrose, 2010).

Obstacles and Barriers

The interdisciplinary team in its ability to determine the appropriateness of the change needed, have the ability to thwart any obstacles that might arise during this

research project while promoting improvements in a culture of safety (Grant, 2011). Will the unit (s) or site(s) where this project is to occur, prepare for change or will they become overwhelmed by change, thereby leading to resistance to change (Chassin, 2013). When organizational leadership supports change, that change will be appropriately managed and others will come to the table as a result of their leaders example (Needleman & Hassmiller, 2009). The example created by leadership does lead to greater success of any change achieved (White, 2012).

The shared values, beliefs, and behaviors of nurses can be utilized to set the norm for a sound patient safety culture (Feng, et al., 2008). Understanding the components in a culture of safety and their role as members of the interdisciplinary team will allow nursing to actively participate in the change process, which will enhance and improve the outcomes of their patients (Reinertsen, et al., 2008). Identification of barriers prior to the initiation of nursing research decreases the obstacles experienced by investigators as well as decreasing the risk of those obstacles unduly influencing the variables of that research (Dudley-Brown, 2012). Through a problem assessment an analysis of the cost/value of the research and the quality improvements identified as a result some barriers can be diminished or removed (Ridenour & Trautman, 2009).

Sharing the evidence-based interventions with teams of early adopters can assist in the translation of the evidence while providing a strong foundation to support a change (White, 2012). How investigators disseminate information will ultimately increase or decrease the number of barriers experienced throughout the research project (Feng, et al., 2011). Engaging leadership, encouraging open and honest communication can all be

helpful in mitigating any active descent to potential change while introducing new practices or processes (Dudley-Brown, 2012).

Creating Quality Improvements

Discovering the features that impact/influence the culture of safety assist healthcare workers in their roles as members of the interdisciplinary team, leading the team to greater success (Orchard, 2010). The greater the success obtained by the interdisciplinary team, should translate to an improvement in patient safety, patient throughput and patient outcomes. Utilizing the strategies of the high reliability model is one step in the process that will create improvements in safety and outcomes (Riley, et al., 2010).

Under new federal guidelines health care organizations are also expected to continue to create improvements in their culture of safety, keeping this process fluid to prevent stagnation (Riley, et al., 2010). Through the utilization of nursing research, using an evidenced based model approach and methodology can generate numerous changes in nursing practice while influencing changes in the practices of others (Chassin, 2013). As we are able to expand and improve the nurse's knowledge base, improving critical thinking skills and actively demonstrating there is more than one way to look at any problem (Doucette, 2006).

Evaluating Evidence-Based Practice Projects

The completion of the data analysis should help to identify the needs of the human condition, while at the same time empirically examine the issues surrounding patient safety and outcomes (Roy & Zhan, 2006). Polit and Beck (2008) state, "The

purpose of data analysis is to organize, provide structure to, and elicit meaning from research data" (p. 507). Choosing the correct approach or method in which to execute a research project can determine how the data is analyzed, thereby directly impacting the effectiveness of the project (Chassin, 2013).

Evaluation Strategies

The tool that will be used to evaluate the outcomes of this project strongly resembles the Workload Indicators of Staffing Needs (WISN) created by the World Health Organization (World Health Organization, 2010). This tool evaluates the components of throughput that are influenced by nursing and provider workflow (White, 2012). It will contribute to the evaluation of an effective culture of safety (Parker, 2009). It will lend substance to supposition, which is what is needed to determine if the outcomes obtained as a result of research will be meaningful (Dudley-Brown, 2012).

The workload tool created by the investigator will evaluate the climate of safety within the health care organization, determining if the organization maintains a proactive patient safety environment (Tingle, 2011). It will also assist in the examination of the health care organization's commitment to patient safety as well as recognize the proliferation of a collaborative environment in the health care organization (Grant, 2011). Performing an evaluation of the health care organization's environment will allow for a thorough and meaning appraisal (White, 2012). The workload tool will measure staffing acuities, staffing needs, as well as nursing workloads (World Health Organization, 2010).

Taking into account the number of days worked annually by nursing staff, the amount of hours in overtime, the number of days not worked (due to illness or injury),

staffing requirements as well as standard nursing workloads will demonstrate the actual workload experienced by unit staff (Reinertsen, et al., 2008). Nursing workload is then compared to patient throughput, which will allow us to determine if there is a correlation between nursing workload and the delay in a patient's discharge from the inpatient facility (Bantle, 2007). Through the analysis of this type of information investigators have the ability to determine if nursing staff is working at peak efficiency (Chassin, 2013).

It can then be determined if staff is overworked or underworked and how these measures impact or influence the culture of safety in a health care organization. If there is a correlation between staffing and patient safety, it should be discovered as a result of this research project (World Health Organization, 2010). Most research states unequivocally there is a direct correlation between these elements (Hellings, et al., 2010). If there is a direct correlation, then it can be proven, providing meaningful substantiation for the health care organization on a more personal level (White, 2012).

Human Interactions

The potential risk of this research is low. The greatest risk identified as a result of this research is the exposure of confidential information (Dudley-Brown, 2012). To minimize this the data for this research will be maintained on a secure password protected server and laptop. No private and/or personal information that would allow for the identification of any patient or person will be gathered to support this research (White, 2012). No demographic information or other information that could lead to the

identification of any subject who chooses to participate in this research study will be gathered or maintained.

No children will participate in this research. The utilization of children for this research is not acceptable in the academic community or in the health care organization where the research is to be executed (Kettner, et al., 2013). The benefits to such research will be profound. The identification of improvements in patient safety and outcomes, with a decrease in the cost of care provided to the patient will be an invaluable asset. Decreasing health care costs will allow the health care organization to come one step closer to its mission, supporting care of the poor (Seton Healthcare Family, 2012).

Data will be obtained from the electronic health record as well as a throughput report created for this Central Texas hospital. The only data to be obtained from the electronic health record and the throughput report will be time stamps (Kettner, et al., 2013). A timestamp is the digital capture of a mark of time in the electronic health record, which identifies when events have been executed and/or documented. Marks of specific time frames maintained within the electronic health record when personnel working within that health record take an action (Burchill, 2010). A measure of the period of time between the placement of the discharge orders and the actual execution of those orders will be examined (Bearden, 2009).

Each phase of execution for this ordering process will tell us how long it takes to complete all the steps in the discharge process (Dudley-Brown, 2012). Once those elements are identified there will be an opportunity to determine if there is any delay in the discharge process and if so, we can determine the reason for the delay (Riley, et al.,

2010). Execution of the orders in the discharge power plan includes the discharge power plan being placed in a planned state, the initiation of the discharge power plan, what type of health care professional places the order for the power plan (APN, PA, MD, RN) and when the discharge education for this patient is provided as well as when the patient is formally released from the hospital and physically removed from their room (Chassin, 2013).

The amount of time between each interaction will be retrieved and logged (Bearden, 2009). The data gathered as a result of chart audits and the throughput report will contain only timestamp information (Langley, et al., 2009). No personal or private data will be gathered for the purpose of this research. Patient throughput will be measured as a result of timestamps placed at specific locations within the patient's electronic health record as well as in the throughput report utilized by the hospital in Central Texas (Dudley-Brown, 2012).

The longitudinal retrospective review to obtain project data will be six weeks (Polit & Beck, 2008). The data harvesting from the electronic health record will occur via the throughput report (Nayer, et al., 2013). Data analysis will begin immediately upon harvesting of the data. It will take approximately 2-4 weeks to correlate the data gathered, identify trends, and determine the impact of the direct observations (Bearden, 2009).

All information for this research will be kept safe and secure (Kettner, et al., 2013). No one will obtain, keep and/or store any personal health information, secure patient information and/or subject demographic data for this project (Dudley-Brown, 2012). To minimize human error the data gathered for this project will be kept on a

secured password-protected laptop (Chassin, 2013). Files will only be kept/stored on secure drives.

The timestamp data gathered from the electronic heath record will be placed into a spreadsheet. The timestamp data will provide a unit of measure for the actions taken to move the patient throughout the organization and capture the amount of time needed for the discharge process (Domrose, 2010). That spreadsheet will be password protected (Kettner, et al., 2013).

Upon completion of the research, the file for this spreadsheet will be encrypted and coded for appropriate storage (White, 2012). No hard copies of this data will be kept or maintained (Dudley-Brown, 2012). Resources for this project are very limited. Two laptops will be utilized for data gathering and storage. All data harvested in the form of time stamps from the electronic health record will remain on these devices (Chassin, 2013).

The time needed for this research project will be a total of 100-200 hours (White, 2012). Time spent harvesting data (timestamps from the electronic health record) is included in this time projection (Kettner, et al., 2013). No emergency facilities will be needed for this project, however as a portion of this research occurs in health care facilities emergency services are immediately available if needed (Dudley-Brown, 2012).

Potential Risks and Benefits

There are few risks associated with this research project. A breech of confidentiality is the largest risk (Dudley-Brown, 2012). Hence the reason no confidential or personal health information will be gathered kept or stored for this project (Kettner,

Moroney, & Martin, 2013). The project will not bring any harm to patients or staff who choose to participate in any phase of this project.

Benefits of this project could be considerable as this project has the ability to create substantial monetary savings for the health care organization (Hellings, et al., 2010). While providing patients and their families a significant increase in the quality of the care they receive through improved disease management as all members of the health care team participate in interdisciplinary rounds (Dixon-Woods, et al., 2013). Improvements in the management of disease processes will lead to definitive progression to increase the quality of care and the quality of patient outcomes obtained achieved (Chassin, 2013).

Summary

The outcomes anticipated for this project will contribute to improvements in patient outcomes (Armellino, et al., 2010). Improving patient throughput, patient outcomes, and decreasing medical errors while increasing transparency will contribute to achieving a sound culture of safety (U.S. Department of Health and Human Services, 2012). When the research is completed and provides the evidence that supports the elements identified in the anticipated outcomes of this project, the first change to be recommended will be the formal adoption of a patient care policy that mandates the use of interdisciplinary rounds (Chassin, 2013). To maintain the role of a high reliability organization, a culture of safety will be needed to increase transparency while creating innovative improvements in patient safety supported by evidence-based practice (U.S. Department of Health and Human Services, 2008).

Conclusion

Mandating interdisciplinary rounds will help to create a new and higher standard of patient care (Chassin, 2013). Health care professionals engaging as members of the interdisciplinary team working in concert will change the future of patient care, influencing all the elements that contribute to improved patient safety and outcomes, while redefining teamwork (Groves, et al., 2011). The approaches and methods developed to execute this evidence-based practice project will support the infrastructure of the project (Dixon-Woods, et al., 2013).

Evidence based research exists to support the endeavors of investigators as they examine nursing's theoretical concept designs (Kettner, et al., 2013). These articles are peer reviewed, lending validity to the data, allowing for greater analytical support (Polit & Beck, 2008). When blended with the models acquired as a result of the aforementioned literature review, they offer nursing a new path in which to examine the theoretical concepts of a research project; putting forth the best we have to offer (Dudley-Brown, 2012).

Section 4: Summary of Findings

The purpose of interdisciplinary rounds is to ensure patients were cared for in a safe environment, to prevent medical errors, and to allow patients to actively participate in their care decision-making process. A patients participation in the decision making process of their care contributes to improved transparency and a highly reliable yet stable care environment. Do interdisciplinary rounds contribute to improvements in the culture of safety? The components of a culture of safety include teamwork, group and individual dynamics, communication, and behavior patterns placing an emphasis on safety and improvements in patient outcomes.

Utilizing a quantitative data analysis afforded the investigator an opportunity to construct a broad platform to identify the components that influenced a culture of safety. The application of a longitudinal data review was used to identify the mechanisms that contribute to a culture of safety. As a result of the use of interdisciplinary rounds a decrease in patient safety events was anecdotally noted. Through data analysis the investigator was able to identify some trends of improvements in patient care, safety, and outcomes.

Data Analysis

When the data was reviewed the investigator was able to gain some striking insight into the functionality of the interdisciplinary team and how that team influences patient outcomes. Data from nine hundred thirty-one charts were reviewed which included data over a 12 week span of time. Advance practice nurses are responsible for 28% of all discharges on the inpatient unit with a readmission rate of < 1%. Advance

practice nurses place their discharge orders earlier in the patient stay on average greater than 30 hours prior to the patient actually discharging from the inpatient facility. Medical providers place their discharge orders on average 6 hours prior to the patient discharging from the health care facility.

Based on research the quality and the effectiveness of the education instruction provided to the patient contribute to a decrease in the recidivism. When examining patient education generated during the patient stay, 90% of discharge education was performed just prior to discharge. Most of the discharge education provided to the patient was completed 30 minutes to an hour before the patient was physically out the door of the facility.

The remainder of the education provided during the patients hospital stay was incremental and included information about the patient diagnosis/nursing problem, plan of care, goals, and expectations for the patient during their hospital stay and education about hospital procedures. Greater than ninety-nine percent of all the education given to the patient and was provided solely by nursing. Education titled “discharge education” did include some diagnostic information however based on this research it is difficult to determine if that education was truly effective in preventing readmissions to the health care organization as there were no independent patient assessments performed by the researcher to determine if the education provided was understood, more research will be needed to make that determination.

For the 12-week data review twenty two percent of patients discharged from the health care organization returned for readmission. Of the 22% that returned for

readmission, 11% of those returned within 7 days of their discharge. The remainder was spread evenly over the remaining 21-day time frame. Staffing during this time frame was consistent. Nursing performs >90% of the tasks involved in the discharge process this includes but is not limited to coordination of care across service departments, providing patient education, ensuring all necessary medication has been given or prescriptions written for the patient, coordinating with family members or care givers that all home care decisions have been executed and confirming all patient needs are met prior to discharge from the facility.

The coordination of discharge events is extremely labor intensive. The primary nurse caring for the patient manages the current discharge process. In most cases discharge occurred within 60 minutes of the signing of the discharge orders. However the time frame utilized for the discharge process ranged from 60 minutes to 360 minutes with best practice identified at 120 minutes or less.

The average unit staffing on the day shift is a 5:1 ratio increasing to a 7:1 ratio on the night shift. Based on the literature at an 8:1 ratio an increase in patient mortality is noted (American Nursing Association, 2014). Most discharges occur during the day shift the average nurse can care for as many as 7 unique patients during each day shift worked. No exception in staffing is made for a change in acuity, or based on the number of discharges or new admissions a nurse might receive in any given shift. The FTE's needed for this unit to meet basic patient needs is 6.8 nurses per day shift if the unit census is full.

Discussion of Findings

The discrepancy between the action of planning the discharge and the actual execution of the discharge is a contributing factor to the readmission rate. It does not appear that patient's discharge earlier from the inpatient unit as a result of the use of interdisciplinary rounds though there were significant improvements in patient safety anecdotally noted. Improvements in patient safety were created as a result of an increase in transparency on the patient care unit and at the organizational level.

As a result of the High Reliability Model created by the U.S. Department of Health and Human Services, as a result of the Institute of Medicine (IOM) reports on patient safety, this organization began to improve their outcomes and the quality of the patient care they provide (U.S. Department of Health and Human Services, 2008). Through the deployment of the strategies of the high reliability model, this health care organization actively and aggressively works to improve patient safety and outcomes (Riley, et al., 2010). Improvements and patient safety and outcomes occur as a result of the implementation of effective and efficient processes that support the Institute of Medicine goals, which supports the culture of safety (Doucette, 2006).

The use of a daily operations meeting has contributed to a sound foundation to the organizations patient safety structure (U.S. Department of Health and Human Services, 2012). Coupled with the use of interdisciplinary rounds patient's issues are reported and escalated at a much faster rate throughout the health care organization (Riley, et al., 2010). The readmission rate is reported daily to all organizational leaders as well as all nursing units. Most reasons for readmission were directly associated to the previous

reason for admission. Reasons for readmission will need to be a component considered in future research to determine if the readmission could have been prevented or not. No error is too small to report therefore all errors or issues whether they reach the patient or not are reported daily at a site level operational meeting (U.S. Department of Health and Human Services, 2008).

An additional factor contributing to the readmission rate at this health care organization is the process of interdisciplinary rounds they have chosen to deploy. Patients are not included in the rounding process though there is substantial evidence demonstrating the benefits. Providers excluded patients from their rounding process though all contributing specialties and service departments actively participate. They are often in a room off the main hallway with the service departments including nursing reporting any issues, concerns, or thoughts they might have regarding the patient under their care. The exchange between providers of varying specialties is collegial. The dynamics of the exchange between the provider and the service departments vary based on personnel involved.

Group dynamics are a contributory factor in interdisciplinary rounds and determine if the rounds are effective. Those members of the service departments who actively participated in the rounding process who were seasoned and well thought of by the providers were able to participate at a higher level than their counterparts who were lacking in seniority or status affecting the ability of the less senior staff to effectively communicate the needs of their patients. The politics between service departments do play an influential role in the how members of the interdisciplinary team communicate

and determine if that communication is truly effective. This social dynamic needs greater analysis to determine effective methods to overcome such obstacles; this element was not examined due to the confines of the research project.

Implications

The issues identified as a result of this research bring forth significant implications for the healthcare community. Health care organizations need to find ways to leverage their needs against the needs of private providers. Organizations need to gain the compliance needed from all providers to meet new goals set forth at federal and local levels. Health care organizations need to meet the expectations of health care consumers who are becoming savvier in their comprehension of the health care system while looking for improvements in the standard of care they receive for a better price.

Excluding patients from participating in interdisciplinary rounds for any reason is a serious restriction to the patient's ability to actively participate in the care they receive and the decision making process about that care. Impeding that ability has ramifications. Those consumers who are well educated and socioeconomically stable will have a much greater advantage navigating the landscape of the health care organization to receive the care they need. While those who are socioeconomically disadvantaged will have a greater disparity thereby increasing their risk of complications and putting them at an increased rate of recidivism. This issue will need to be addressed by many health care organizations and will be examined closely by the federal government as they continue to make changes to Medicare and Medicaid rules and laws.

Staffing ratios are an influential factor in the patient's ability to actively participate in their care. Based on current staffing standards this organization is in the norm for the number of FTE's allocated for day shift, though multiple nursing organizations have called for a reduction in medical surgical staffing from a 5:1 ratio to a 4:1 ratio (American Nursing Association, 2014). If each nurse on this unit cares for 7 unique patients per day then these nurses are actually caring for patients at a 7:1, though the charge nurse or the assistant charge nurse periodically take patients in an attempt to help shift the workload of the nurses providing direct patient care, this unit appears to be over optimizing their staff (World Health Organization, 2010). Over optimization of staff can lead to an increase in significant safety events for the patient while contributing to the risk of burn out for the nurse (World Health Organization, 2010).

The reduction in the number of patients cared for by a nurse in the average day shift could decrease the risk of a serious safety event for the patient while decreasing the risk of nursing burnout (World Health Organization, 2010). When examining throughput in the health care organization the staffing ratios utilized by the organization need to be taken into consideration as delays in discharge create a logjam of patients waiting for beds on the inpatient unit (American Nursing Association, 2014). Such logjams contribute to less than optimal patient outcomes and can contribute to recidivism for the health care organization (Hellings, Schrooten, Klazinga, & Vleugels, 2010).

Project Strengths and Limitations

The strengths and limitations of any research project should be measured. When measured they should guide the researcher to their conclusions while establishing a firm

foundation for future research. The effects of an interdisciplinary team on the culture of safety in a health care organization are quite profound. Forming interdisciplinary teams is only the first step in improving patient safety and outcomes. Getting those teams to work in a succinct and effective manner is a much larger effort and can be an obstacle to their performance. More research is needed to thoroughly evaluate team dynamics, how the interdisciplinary team communicates, and how that communication impacts patient outcomes.

An additional limitation when the attitudes and beliefs of the medical hierarchy remain unchanged (Duke University, 2005). Research identified junior physicians who want to participate in patient safety and culture change management programs, are made to feel inadequate when opposing the wishes of senior medical leadership (Grant, 2011). The behavior ingrained in the senior leadership of the medical hierarchy creates obstacles that can interfere with the ability of the interdisciplinary team to function and create change (Magid, Forrer, & Shaha, 2012). However it was observed in this research that though the change management process was impeded due to the hierarchy in place, it occurred with greater frequency among senior nurses to junior nurses than it did from senior providers to their junior counterparts.

Future Research Recommendations

As nursing leaders and scholarly practitioners it is imperative that any time we display an organizational fault or a shortcoming that we offer an alternative solution (American Organization of Nurse Executives, 2010). We cannot simply critique without offering hope. As a scholar, practitioner and a future project developer/manager we must

be able to envision these successes and failures together (Kettner, Moroney, & Martin, 2013). If we are unable to achieve that goal, then the ability to develop new projects will become stagnate impeding the ability to change the face of health care or nursing (Kettner, Moroney, & Martin, 2013). We will cease to evolve and if we cease to evolve the death of the profession of nursing will be inevitable.

That statement by itself might sound a bit melodramatic however it is extremely accurate as we have seen other professions and organizations pronounced dead and buried due to their failure to adequately adapt to change and meet the needs of the public. Kodak, Polaroid, Pan Am, Circuit City, Enron and Bethlehem Steel are just a few examples of major corporations that failed to evolved resulting in their end, if nursing thinks they are safe they are wrong. As a profession we must work hard with health care organizations as they struggle to make they changes they need to make to survive (American Organization of Nurse Executives, 2010).

Recommendations for future research based on the body of this work should allow nursing to evolve. We need to determine the threshold between safe staffing numbers and a fiscally responsible health care organization. Future research needs to identify that balance and determine what number of staff in what role is most effective and cost efficient. Current state has patient care nurses performing multiple functions discharging patients from the inpatient unit, is there a more effective process to perform a patient discharge that will decrease recidivism to the health care organization. Will the addition of a discharge coordinator to execute the steps needed in the discharge process be an effective tool to ensure better patient outcomes while decreasing recidivism.

The formula used to create the threshold used to determine safe staffing numbers must be variable based on the unit it is applied and the acuity of the patient in the bed. Future research will need to identify the variables for such a formula and how such a formula could and should be applied to the inpatient unit. A standard FTE calculation should be used to compare any new staffing formula to determine its overall effectiveness. Once this has been achieved that formula should be field tested at multiple health care organizations to allow for fine-tuning and the establishment of sound evidence based practice to allow for it's practical application to improve the standard of patient care.

Once improvements in the coordination of care occur then research needs to further examine the reason for readmission to the health care organization and perform a gap analysis to determine if there is a way to mitigate the risk of readmission with patient throughput throughout all patient care units in the organization. The examination of how patient flow can bottleneck in the emergency department needs exploration. How that bottleneck occurs in the emergency department affects how patient discharges occur on the inpatient unit, do those units expedite discharges to open a bed at the risk of the patient currently in the bed?

Analysis of Self

My overall performance on this project has been satisfactory. Executing any change management project is difficult; with success there will be failure. I expect moving forward to have a great deal of both. My hope is that the result of any success or failure incurred will shine a light on the work that has yet to be done.

The complexities and challenges that await us as doctoral prepared nursing leaders will be quite profound. The challenges are multifaceted; they are as different as the people who lead the organizations or the regions those organizations reside. However, there is a common denominator that is a guiding light for all organizations; that is the individual mission and vision of the organization itself.

Summary and Conclusions

A health care organization needs to be a living, breathing entity to survive. All leaders must share the vision and the action of their mission, to meet the needs of their community, their patients, and their staff (American Organization of Nurse Executives, 2010). The effects of interdisciplinary rounds on a culture of safety helps to identify the priorities of the organization (El-Jardali, et al., 2011). It identifies their values and their strategies. It shines a bright light on their faults but then acts as a guiding light to illuminate an alternative route to correct those faults, which gives research purpose.

The use of interdisciplinary rounds contributes to improvements in the culture of safety on the inpatient unit however more work needs to be done. Patients need to be included in the rounding process as full members of the interdisciplinary team (El-Jardali, et al., 2011). They are the most important members of the team without whom we would be unsuccessful in the endeavors to resolve the issues that impact and influence their outcomes. We cannot improve patient safety and outcomes without contributions from the patient.

Health care organizations should consider other options to include patients in the decision-making processes for their organizations. The impact and influence on patient

care from the patient perspective could help organizations meet the goals needed to be successful in the future. An interdisciplinary panel could create improvements in patient throughput, patient handling, patient safety, and even decrease recidivism. Excluding patients from any decision making process could prove to be extremely costly for health care organizations as the educated consumer is asking much harder questions and are willing to take their business elsewhere when they are not happy, without patients health care organizations have no future.

Section 5: Scholarly Product

Aim: The use of an interdisciplinary team, to execute patient rounds to improve patient throughput helping to expedite the patient discharge process, while decreasing needless readmissions for health care organizations.

Purpose: The purpose of interdisciplinary rounds is to ensure patients are cared for in a safe environment, to prevent medical errors, and to allow patients to actively participate in their care decision-making process creating transparency in the health care organization.

Background: The catalyst to create these improvements is the result of evolutionary changes in health care. A culture of safety is needed to create a highly reliable and stable patient care environment. The components of a culture of safety include teamwork, group and individual dynamics, communication, and behavior patterns placing an emphasis on safety and improvements in patient outcomes.

Methods: Focusing on interdisciplinary rounds the investigator will determine if such rounds contribute to improvements in the culture of safety on the inpatient unit. Patient throughput, defined as the active management of the supply of patient beds (rooms for occupation) to the demand of patients to beds and the length of time it takes for this action to occur, has been identified as one of the areas in need of improvement. Utilizing the time stamps located in the electronic health record the investigator will attempt to answer that question through a longitudinal retrospective review of the data obtained as a result of this project.

Results: The use of interdisciplinary rounds contributes to improvements in the culture of safety on the inpatient unit. Though patients are not included as members of the interdisciplinary team at this organization, a decrease in patient safety events was noted. Thorough data analysis allowed for the identification of patterns and trends contributing to the culture of safety on the inpatient unit and helped to identify the improvements needed to support patient care, safety, and outcomes.

Conclusions: The use of interdisciplinary rounds contributes to improvements in the culture of safety on the inpatient unit. Though patients are not included as members of the interdisciplinary team at this organization, a decrease in patient safety events was noted. Thorough data analysis allowed for the identification of patterns and trends contributing to the culture of safety on the inpatient unit and helped to identify the improvements needed to support patient care, safety, and outcomes.

The Effect of a Culture of Safety on Patient Throughput

The business of healthcare is changing due to rapidly rising health care costs and changes in federal legislation (Burchill, 2010). In 2008 the cost of health care in the United States was 2.4 trillion dollars and it is forecasted that this cost will exceed that number by 7.5% in 2014 (U.S. Department of Health and Human Services, 2010). To change the tide on the rising cost of health care the federal government made changes in health care regulations (Office of the National Coordinator, 2012). Through improvements in patient safety and outcomes the federal government hopes to create a culture of safety while attempting to control or drive down the cost of health care.

Overview

Changes in federal legislation were created to control rapidly rising health care costs while generating improvements in patient outcomes (U.S. Department of Health and Human Services, 2012). It is improvements in patient safety and outcomes that contribute to a culture of safety thus controlling the cost of patient care (Chassin, 2013). To remain viable health care organizations must change to comply with the new federal standards (Burchill, 2010). Monetary reimbursements to health care organizations have changed. Payments have shifted from diagnosis-based payments for care to outcome-based payments for care (Office of the National Coordinator, 2012).

The change in monetary reimbursements has created turmoil among many health care organizations. Old rules for monetary reimbursement allowed payments for a patient who was readmitted to the hospital after discharge. Insurance companies were billed for the readmission and these bills were paid (U.S. Department of Health and Human Services, 2010). New rules created as a result of changes in federal programs, no longer pay for a readmission to a health care organization less than 30 days after discharge except under special circumstances (U.S. Department of Health and Human Services, 2012).

Failure to meet the outcome standards set by the federal government and managed by the Centers for Medicaid and Medicare Service's will result in a reduction in the monetary payments received for the care the patient care provided (U.S. Department of Health and Human Services, 2010). The purpose of these regulatory changes is to create improvements in patient safety, which contributes to quality improvements in patient care

and outcomes thus supporting a culture of safety (U.S. Department of Health and Human Services, 2012). Many nurses support these initiatives as they directly impact frontline nurses though the creation of improvements in patient care and patient safety standards (American Nurses Association, 2012).

Background

A culture of safety is achieved through improvements in patient safety and outcomes (Hellings, Schrooten, Klazinga, & Vleugels, 2010). Improvements in patient safety and outcomes are occurring as a result of new standards for patient care and the management of disease processes (Chassin, 2013). Organizations like the Joint Commission, National Quality Forum and the Centers for Medicare and Medicaid Services, have changed their standards for patient care, aligning their recommendations to improve the adoption of new patient safety mandates (The Joint Commission, 2009).

These standards have shifted management of disease processes from one in which the provider is the primary decision maker to one in which the patient actively participates in their health care decisions (U.S. Department of Health and Human Services, 2012). The new standards allow for the incorporation of evidence-based practice in the disease management process (Domrose, 2010). Effective disease management is obtained through the practice of gathering, sharing, and the comparison of healthcare data (Sensmeier, 2010). Federal regulators will use the comparison of national disease management data to set the benchmarks in health care quality and outcomes (Office of the National Coordinator, 2012).

The Centers for Medicare and Medicaid Services will no longer pay health care organizations for infections and/or injuries that occur in the hospital as a result of poor or improper patient care this includes nosocomial infections (Centers for Medicare and Medicaid Services, 2010). Compliance to these new standards and initiatives will be monitored by the Center for Medicare and Medicaid Services (Burchill, 2010). The Joint Commission and the Centers for Medicare and Medicaid Services will audit for compliance when they perform inspections of a health care organization as a result of the data provided to the national database (Office of the National Coordinator, 2012). The transparency created by these initiatives will improve patient outcomes and contribute to advances in the culture of safety while driving down health care costs (Domrose, 2010).

Problem Statement

The problem directing the progression of this project is that of a culture of safety utilized in the inpatient healthcare setting. A culture of safety is defined as the creation of individual and group principles, perceptions and attitudes that are reflected in the competencies, and behavior patterns that determine the commitment and proficiency of an organization's health and safety management (U.S. Department of Health and Human Services, 2012). Does the use of interdisciplinary rounds contribute to improvements in the culture of safety on the inpatient unit? The interdisciplinary team is made up of multiple members of the health care organization including but not limited to physician(s), advance practice nurse(s), residents, respiratory therapy, occupational therapy, physical therapy, speech therapy, social work, and case management (Kelly, 2011).

Each specialty works in collaboration with the patient to determine the plan of care and plan for a successful discharge from the health care organization. Though the individual members of the interdisciplinary team may vary each specialty is represented as needed to improve the coordination of care the patient receives (Kelly, 2011). The improvements in the coordination of care are achieved as a direct result of the collaboration of care between the interdisciplinary team and the patient (Domrose, 2010). To determine the effectiveness of interdisciplinary rounds, the analysis of patient throughput data will need to be performed. Analysis of patient throughput data will allow the investigator to determine whether a decrease in readmissions to the health care organization occurs as well as whether any improvements occur in the quality of care provided to patients (Chassin, 2013).

A thorough data analysis, will allow the investigator to identify patterns and trends in the data that will help to support improvements in the culture of safety in the health care organization. Heath care organizations endeavor to control the cost of care while creating improvements in the care provided while supporting indigent patient populations (Seton Healthcare Family, 2012). Patient throughput is defined as the active management of the supply of patient beds (rooms for occupation) to the demand of patients to beds and the length of time it takes for this action to occur. The project will be implemented at a 150-bed facility, on a 34-bed unit located in Texas.

Purpose

The purpose of the project is to determine if the current practice utilizing interdisciplinary rounds appropriately safeguards patients thereby improving the culture

of safety. The collaboration of the members of the interdisciplinary team creates a safe environment, prevent medical errors, and allow patients to actively participate in their care decision-making process thereby, creating transparency in the health care organization (Office of the National Coordinator, 2012). The safe environment is measured by a decrease in any medical error that reach's the patient while giving the patient an increase comprehension of their medical care and the ability to determine their own course of treatment (Chassin, 2013). The improvements in patient care occur as a result of the combined efforts of the interdisciplinary team (Ryden, et al., 2000).

According to the Agency of Healthcare Research and Quality (2004), "Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures". Placing the patient at the center of the care decisions and giving the patient the power to influence the decisions in their health care improves patient compliance (Benn, et al, 2012). Patient centric care increases transparency as the patient is now privy to their provider's decision-making processes (Office of the National Coordinator, 2012). There are no secrets; nothing is hidden from the patient's purview (Ryden, et al., 2000).

Effective communication is a struggle for most health care organizations. It is imperative that providers and clinicians speak the same language. Effective communication among all members of the interdisciplinary health care team as well as patient's drives the improvements of a culture of safety (Zwarenstein, et al., 2007). Creating a level playing field among health care professionals is just one component that

influences the communication among team members. Removing the hierarchy, giving all members of the interdisciplinary team including the patient, an equal voice is an essential element of change needed to support effective communication. Messages lost in the translation as they are passed from provider to provider can and do impact patient safety and outcomes (Office of the National Coordinator, 2012).

Goals and Objectives

According to Polit & Beck (2008), the objectives for nursing research support and define the scope of the project. An objective for this project is to analyze the effectiveness and impact of the interdisciplinary team on inpatient rounds. Effectively supporting a culture of safety through a thorough process analysis will help the health care organization to become leaders in the creation of patient safety improvements and in the creation of quality improvements (Domrose, 2010). The objectives selected for this project are imperative to create and maintain the culture of safety of a health care organization.

The examination of the time to complete the tasks in each step of the discharge process will be the unit of measure. It will demonstrate the effectiveness of the interdisciplinary team. It will also help to demonstrate the quality of the instruction provide to patients during the discharge process (Lindblad, et al, 2010). The ability to ascertain the quality and effectiveness of the instruction provided to patients on discharge will determine the effectiveness of the discharge process as well as identify gaps that may contribute to recidivism, which occurs when patients are readmitted to the healthcare organization less than 30 days after discharge (Ryden, et al., 2000).

The elements of the discharge process should come from each member of the interdisciplinary team. These elements include but are not limited to individualized discharge instructions, patient education, a summary of care from the current hospital encounter and customized communication from member(s) of the interdisciplinary team related to patient care goals and objectives (O'Leary, et al., 2011). Understanding the elements involved in the culture of safety enhances and improves the patient outcomes (Feng, et al., 2008).

The attitudes of practitioners can create an increase in the obstacles and confusion among team members, which increased the safety risk to patients (Grant, 2011). The context of change itself creates difficulty for the interdisciplinary team increasing barriers to the achievement of a functional culture of safety (Grant, 2011). The shared values, beliefs, and behaviors of nurses can be utilized to set the norm for a sound patient safety culture (Feng, Bobay, & Weiss, 2008). It can also lead to an increase in transparency for the health care organization, which may increase monetary reimbursement (Feng, et al., 2008).

The mission of the health care organization has influence on the culture of safety. Achievement of a successful safety culture helps health care organizations maintain their mission (Seton Healthcare Family, 2012). The beliefs and values of the health care organization have the ability to influence members of the health care team (Grant, 2011).

Nature of the Project

Organizations are evolving to meet federal standards while attempting to provide care that is safe, efficient, and effective, increasing the quality of care they provide, while

generating improvements in patient outcomes (Sensmeier, 2010). Focusing on patient safety and outcomes health care organizations are attempting to manage the new health care environment. Many organizations are focusing on high reliability programs to improve the culture of safety in their establishments.

High reliability programs were created to ensure health care organizations actively participate and support patient safety initiatives while engaging organizations to create process changes to improve outcomes, thereby creating a sustainable culture of safety (Riley, et al., 2010). To determine the effectiveness of such programs several data elements will be analyzed. A focal point of this project is to determine if the use of interdisciplinary rounds improves patient throughput. Measurements for this will be accessed through time measurements obtained from patient charts. The examination of the measures of time between the events that occur during the discharge process will help to determine if the current discharge process effective.

Definitions

Research regarding the culture of safety and how patient outcomes improve when this culture is incorporated into a health care organization is prevalent (U.S. Department of Health and Human Services, 2012). A culture of safety is defined as the promotion of safety through the identification of risk, and control of that risk across a diverse range of high-risk environments that traverse the continuum of care (Leiter & Maslach, 2012).

- A *culture of safety* is defined as the creation of individual and group principles, perceptions and attitudes that are reflected in the competencies, and behavior patterns that determine the commitment and proficiency of an organization's

health and safety management (U.S. Department of Health and Human Services, 2012).

- An *interdisciplinary team* is made up of multiple members of the health care organization including but not limited to physician(s), advance practice nurse(s), residents, respiratory therapy, occupational therapy, physical therapy, speech therapy, social work, and case management (Kelly, 2011).
- *Interdisciplinary rounds* occur when an ensemble of team members working together on the inpatient care units to improve the collaboration in patient care (O'Leary, et al., 2011).
- *Throughput* is defined as the cause and effect impacting the length of time it takes to discharge a patient from a health care organization influences throughput, throughout the entire organization (Domrose, 2010).
- A *timestamp* is the digital capture of a mark of time in the electronic health record, which identifies when events have been executed and/or documented.

Through the use and utilization of evidence-based practice, a culture of safety can be achieved (Duke University, 2005). Deploying an interdisciplinary team, a team of health care professionals who work together with the patient to manage the patient's disease process, identifies and creates change. (Orchard, 2010) It will take this collaborative team environment unifying health care professionals and the patient to create a successful patient safety culture (Office of the National Coordinator, 2012).

Scopes and Delimitations

Examining the culture of safety, focusing on the discharge process allows us to identify the factors that influence or hinder the discharge process in a health care organization (Polit & Beck, 2007). Creating a more effective discharge process will determine where the rubber meets the road in the creation of processes for effective patient management (U.S. Department of Health and Human Services, 2012). The cause and effect impacting the length of time it takes to discharge a patient from a health care organization influences throughput, throughout the entire organization (Domrose, 2010).

Creating a situation much like a highway traffic jam, instead of cars waiting to arrive at their destination, patients are waiting on stretchers to get to their final destination, a real bed, or a life saving procedure (Domrose, 2010). The proper protection of patients, staff, and health care providers who are impacted by the Doctor of Nursing practice project will be protected (White, 2012). This has a direct effect on patient safety and outcomes, as well as revenue, patient satisfaction and potentially the readmission rates of the health care organization (Warburton, 2009).

The protection of human subjects will be obtained as a result of the Collaborative Institutional Training Initiative (CITI) training obtained which authorized the investigator to perform such research (Kettner, et al., 2013). Eliminating contact with patients and working diligently to protect privacy as a result of this project is paramount (White, 2012). No information will be gathered that will allow anyone to identify a patient or personnel (Kettner, et al., 2013).

Limitations

The general philosophy of the health care organization has the ability to impose limitations while influencing assumptions of research that could impact the culture of safety (Doucette, 2006). The limitations of this research occur if there is resistance within the health care organization. If leadership does not buy-in, the project will not proliferate. The buy-in of leadership can directly impact who participates and refuses this can greatly influence the outcome we hope to achieve (Nayer, Ozcan, Yu, & Nguyen, 2013).

However, if acceptance is obtained and leadership is actively engaged in such a project, providing open support provides the assumption for staff and providers that they are contributing to something that will give them a more effective and personally satisfying work life (Bearden, 2009). When leadership openly supports the work of the interdisciplinary team, leadership actively demonstrates their support of hospital personnel attaining a great deal of good will in the process (Burchill, 2010). Creating buy-in at this level will improve morale among clinicians and providers on the inpatient unit, which could lead to improvements in patient satisfaction scores. The evidence base generated would contribute to improve patient outcomes and create potentially decrease hospital readmission rates (Chassin, 2013).

Another limitation occurs through the inability to change the attitudes and beliefs of the medical hierarchy (Duke University, 2005). Research identified junior physicians who want to participate in patient safety and culture change management programs, yet they are made to feel inadequate when opposing the wishes of senior medical leadership (Grant, 2011). The behavior ingrained in the senior leadership of the medical hierarchy

creates obstacles that can interfere with the ability of the interdisciplinary team to function and create change (Magid, Forrer, & Shaha, 2012).

A dynamic involved in their beliefs and attitudes is how they served the health care organization at large. Junior physicians feel a desire to work within the existing structure of the health care organization, while senior providers do not, they feel the need to keep themselves separate from the larger health care organization feeling they retain more autonomy by doing so (Grant, 2011). If investigators are unable to obtain the buy-in needed from senior health care providers, health care organizations will suffer the consequences in the form of decrease payments from the Centers for Medicare and Medicaid Services. Organizations may also incur additional penalties from individual states when the health care organization is unable to meet the goals set by the Meaningful Use initiatives and other federal legislation (U.S. Department of Health and Human Services, 2010).

Literature Review

Hellings, Schrooten, Klazinga, and Vleugels (2010), state that by measuring a safety culture in hospitals, the dimensions needed to create improvements in a health care organization will be revealed thereby contributing to improvements in patient safety and patient outcomes (Hellings, et al., 2010). Their research executed at five hospitals in Belgium illustrated that hospital staff were highly motivated to improve their patient safety culture (Hellings, et al., 2010). By creating a non-punitive response to error and staffing, health care organizations can identify the gaps that exist in the care they provide

and determine the means necessary to close these gaps (Reinertsen, Bisognano, & Pugh, 2008).

Warburton (2009) explains the economic perspective on the role of nursing in the health care organization when seeking to improve patient safety and outcomes (Warburton, 2009). Safety cultures are described as hard to achieve in any industry that contains an element of risk and entails the economic impact of that risk (Orchard, 2010). Health care organizations are classified at a particularly high risk (McKeon, et al., 2009)

Health care organizations share many similarities in their struggle to remain profitable. There are too many demands on health care workers competing to make safety the only priority in the workplace while there is difficulty implementing concepts like "high reliability" in the clinical settings as they require abstract thought where work roles are often fragmented and compartmentalized (Warburton, 2009). Nayer, et al., (2009) observed the contradicting forces that undermine patient safety goals and the expense incurred as a result (Nayer, et al., 2013).

Sheehan, et al., succeeded in their description of the issue at stake and the apparent disparity in which members of the health care team communicate (Sheehan, et al., 2007). Researchers conducted interviews and analyzed the data from a symbolic interactionist perspective to better describe the language and communication patterns used among members of the interdisciplinary team (Sheehan, et al., 2007). They did this in an attempt to identify and compare any visible patterns (Sheehan, et al., 2007).

The differences identified by researchers appeared to be parallel and could be used to identify distinctions between members of the interdisciplinary team (Sheehan, et

al., 2007). Sheehan, et al., (2007) explains the implications of the differences in communication among team members, and identify the need for future research on this topic (Sheehan, et al., 2007). Feng, Acord, Cheng, Zeng, and Song (2011), identified the relationship between the commitments of the management team, to the health care organizations commitment to a patient culture of safety (Feng, et al., 2011).

Researchers identified the correlation between the commitment of management to a patient safety culture and provided evidence that described the success and failure of such cultures in nursing based on the commitment of their management structure to change (Feng, et al., 2011). Feng, Bobay, and Weiss (2008), performed a dimensional concept analysis to describe the impact of a patient safety culture and its influence on the profession of nursing (Feng, et al., 2008). Through their analysis researchers were able to identify the shared values, beliefs, and behavioral norms shared by nursing (Feng, et al., 2008).

Researchers explained the correlation of this belief system and its influence on the culture of safety experienced by patients (Feng, et al., 2008). The hope for culture of safety research was to identify the strategies that could be used to build a sound patient safety culture (Botwinick, Bisognano, & Haraden, 2006). Groves, et al., (2011) explained that a safety culture was a system involving exchanges between individuals and the health care organization (Groves, et al., 2011).

Health care organizations, shared their values through communication and nursing performed those values in practice (Groves, et al., 2011). It is through the demonstration of nursing practice, that a patient safety culture is produced (Orchard, 2010).

Reproducing that patient safety culture can reciprocally constrain and enable the actions of the organization and its members (Nayer, et al., 2013). Researchers identified the need for nursing leaders to remain aware of competing value-based systems in their geographic area (Reinertsen, et al., 2008).

Acknowledging nurses are essential to effectively compete in the value-based market, as they continue to support and create change (Groves, et al., 2011). Nayer, et al., (2013) found the changes that have occurred in health care in the last decade has put pressure on health care organizations to decrease costs (Nayer, et al., 2013). Focusing on the pressure placed on hospitals in the United States by new federal legislation including programs like Meaningful Use, hospitals are now expected to maximize their performance in terms of production, efficiency, and quality (Burchill, 2010).

An ever-increasing emphasis is now being placed on value-based purchasing which has been identified by researchers as one of the stressors placed by third party payers (Nayer, et al., 2013). The other is a prevalence of pay for performance initiatives, which creates the expectation for more accurate assessments of health care provider performance and measurement (U.S. Department of Health and Human Services, 2012). Utilizing a cross sectional study these researchers analyzed three hundred and seventy one acute care urban hospitals to determine their performance while attempting to meet these measures (Nayer, et al., 2013).

They were able to ascertain the hospital performance through the evaluation of full time equivalent staffing and non-payroll operating expenses (Nayer, et al., 2013). Authors found that less than 20% of the hospitals they examined were optimally

performing for efficiency and quality (Nayer, et al., 2013). Through their benchmarking process they were able to identify the aspects of performance, efficiency and quality for the facilities they evaluated (Nayer, et al., 2013). Authors were able to identify the need for additional research based on the model they chose to utilize for their assessment (Nayer, et al., 2013)

Through a compilation of the literature this research we will determine the effectiveness of the data that will be gathered and analyzed for this project. Did the analysis of the data gathered as a result of this project align with the data gathered by other researchers or will a new avenue be discovered in the continuum of patient care (Polit & Beck, 2008). Discoveries will contribute to patient safety and improvements in patient outcomes, which contributes to improvements to the culture of safety for health care organizations (Domrose, 2010).

The analytical review of evidence-based practice literature prevents issues when implementing the evidence-based practice project and thwarts a misinterpretation of the literature (White, 2012). It is how organizations interpret the literature and apply evidence-based practice that will determine if an organization is truly effective in establishing sound practices to support their clinicians, providers, and patients (Dudley-Brown, 2012). Through the use and utilization of models, meta-analysis, and the accurate interpretation of evidence-based practice literature, the investigator was able to give us options to improve patient care and provide strong evidence to support the theoretical applications of the evidence base they acquire (Oermann & Hays, 2011).

The focus of this project will be on empirical data to supply the results for this project. Quantitative research utilizes experimental and non-experimental methods to achieve precise results (Polit & Beck, 2007). Through the utilization of quantitative data investigators have the ability to gather empirical data on the culture of safety and the elements that impact it. Quantitative data also assists to identify if advances in the safety culture do in fact create improvements in patient outcomes (Slater, et al., 2012). Quantitative data will be used to determine if interventions put into place to create improvements in the patient safety environment are adequate to meet the needs of the interdisciplinary team (Murthy, et al., 2012).

Background and Context

Every individual in a health care organization is responsible for patient safety and expected to participate in quality improvements or in initiatives that support and promote patient safety (Reinertsen, et al., 2008). Seton Family of Hospitals is building a culture of safety and quality improvement for their patients on a daily basis. Nursing has had a strong influence on quality, evidence-based practice, and interdisciplinary teams through their shared governance model (Seton Healthcare Family, 2012). Seton is involved in the High Reliability Program (U.S. Department of Health and Human Services, 2008).

Incorporating programs like Plan, Do, Check and Act (PCDA) has become an effective tool for many health care organizations and the mantra to the high reliability model at my health care organization (Tague, 2004). It is a method that supports a double check, every provider, and clinician is expected to take this view when performing any function or procedure on or to a patient (U.S. Department of Health and Human Services,

2008). Taking this highly critical viewpoint affords patients that extra layer of safety that assisted to improve patient outcomes. This four-step model promotes and supports change by allowing for constant reevaluation of any program implemented (Tague, 2004).

Through the application of this model and other measures taken to create quality improvements, the need for change is identified; small tests of change are executed, then the process will be reviewed and analyzed, identifying any lessons learned (Langley, Nolan, Nolan, Norman, & Provost, 2009). The last step is to take action, that action could be to either execute the attempted change or to modify the attempted change. Using PDCA a revaluation will determine if the change method is most effective and if the method used added any benefit to the health care organization allowing for the successful application of several models and processes that contribute to positive improvements in patient outcomes (Tague, 2004).

The elements used to create a culture of safety were created first by other areas in industry, including but not limited to aviation, railroad, and the nuclear power (U.S. Nuclear Regulatory Commission, 2013). Through the use of checklists, coordination of teams and a conscience effort to increase transparency these organizations have been successful in becoming among the safest industries in the world (U.S. Nuclear Regulatory Commission, 2013). Led by the changes in aviation, health care organizations strive to become proactive in creating improvement in their culture of safety, which creates improvements in patient safety, outcomes, and decreased the recidivism of patient readmissions through the creation of a blame free environment (Botwinick, et al., 2006).

According to the literature obtained for the purpose of this research the utilization of interdisciplinary rounds can be used to create improvements in patient safety and outcomes. Duke University describes the accomplishments of a culture of safety as care that is safe, equitable, timely, effective, efficient and patient centered (Duke University, 2005). A culture of safety is achieved through a coordinated effort to assess the culture of the health care organization, to create transparency, through increased accountability, teamwork and patient involvement (Domrose, 2010).

The improvements created as a result of the increase in teamwork, can improve the coordination of care and communication among health care providers (Benn, et al., 2012). Some hospitals in the United Kingdom incorporated interdisciplinary rounds as a result a decrease of 50% in the cases of Methicillin Resistant Staphylococcus Aureus (MRSA) infections was noted within their health care organization, as well as a 30% decrease in crash code calls and a 50% reduction in adverse drug events (Domrose, 2010). Through a culture of safety all members of the healthcare team know and understand that everyone is responsible for meeting the needs of the patient (U.S. Department of Health and Human Services, 2008).

Approach and Rationales

Quantitative researchers focus on empirical data, to supply the results they seek (Polit & Beck, 2007). Quantitative research utilizes experimental and non-experimental methods to achieve precise results (Polit & Beck, 2007). Through the utilization of quantitative data researchers will have the ability to gather empirical data on the culture

of safety and the elements that impact it and determine if improves in the safety culture do in fact create improvements in patient outcomes (Slater, et al., 2012).

Quantitative data will be used to determine if interventions put into place to create improvements in the patient safety environment are adequate to meet the needs of the interdisciplinary team (Murthy, et al., 2012). The elements that pertain to the quantitative data will be obtained from the patient's electronic health record in the form of time stamps. A timestamp is the digital capture of a mark of time in the electronic health record, which identifies when events have been executed and/or documented.

The mark of specific time frames maintained within the electronic health record confirms when personnel working within that health record take an action (Burchill, 2010). The investigator will identify when discharge orders are placed, what role is used to place the orders, and when these orders are initiated (Orchard, 2010). The information gathered for the research project will be contained in a report on a secure "G" drive.

To improve the quantitative data obtained for this project a longitudinal research method will be used for data gathering (Yoder, et al., 2014). Utilizing a longitudinal research method for data collection will improve the accuracy of the data obtained (Matthews, Henderson, Farewell, Ho, & Rodgers, 2014). Longitudinal research allows for systematic data review (van der Heide, van Rijn, Robroek, Burdorf, & Proper, 2013).

The obstacles affecting patient throughput will be identified as well as the role of providers and physician extenders in the throughput process (Orchard, 2010). Multiple time measurements will be used for this measure to accurately capture the data. Discovering the elements that will impact the culture of safety will assist healthcare

workers in their roles as members of the interdisciplinary team; this will lead the team to greater success (Domrose, 2010). The greater the success obtained by the interdisciplinary team, will translate to an improvement in patient safety, patient throughput and patient outcomes (Groves, et al., 2011).

Population and Sampling

Formal data gathering via a throughput report and timestamp data from the electronic health record will assist to find the answer to the research question (Polit & Beck, 2007). The throughput report is a report that pulls metrics from the electronic health record in real time. The report monitors measures in time from the electronic health record and drops these timestamps into a report based on nursing and provider documentation.

The throughput reports focuses on key points in the continuum of patient care as a patient moves through the health care organization and measures how long it takes to get a patient into a bed, monitors the time it takes to have a patient seen and cared for by a provider as well as how long it takes to discharge a patient from initiation of patient care orders to the patient being physically escorted to their vehicle to go home (Office of the National Coordinator, 2012). For the purpose of this project all information gathered will be limited to a 34 bed medical-surgical unit at a hospital in Central Texas. The sample size will be 931. That is the estimated number of discharges for one month on this unit.

A longitudinal data review will allow for a wider sample which will provide a greater opportunity to ascertain what variables impact interdisciplinary rounds and if those variables are significant enough to prevent a full deployment of this type of

rounding at other sites in the health care organization (White, 2012). The data review will be very inclusive, there will be no exclusion based on diagnosis code or type. Children (anyone under the age of 17) and senior citizens above the age of 89 will be excluded from this research (Kettner, et al., 2013).

Instruments and Tools

A workload tool created by the investigator will be utilized to analyze the throughput data obtained for this research. The tool will strongly mirror the Workload Indicators of Staffing Need (WISN) created by the World Health Organization (WHO) (World Health Organization, 2010). Using an instrument to identify the variables around staffing for the members of the interdisciplinary team will be instrumental in the data analysis (Akscin, Barr, & Towle, 2007). The data analysis should determine if the right people are in the right place, at the right time to execute the indicated task (Benn, et al., 2012).

The Workload Indicator Tool has been measured tested for its validity and reliability (World Health Organization, 2010). When originally planning this project the Manchester Patient Safety Framework was considered to assist in the identification of patient safety efforts supported by the culture of safety framework, however to identify the issues related to patient throughput it was determined a workload indicator would be more effective and better meet the needs of this project (Parker, 2009). The goal of this tool will be to determine if the correct number of personnel, are in the right place, at the right time, with the precise skills needed to execute the discharge process in a timely and efficient manner (World Health Organization, 2010).

The calculation used will determine the total of number of working days per year (X), 52 weeks in a year (A) multiplied by 3 12-hour shifts per week for each staff member (B), X (A x B) (Bantle, 2007). The calculation identified for use in this project, is a standard staffing calculation used by health care organizations around the world to determine if the correct number of personnel are being appropriately utilized to provide patient care (O'Leary, et al., 2011). By determining the actual number of hours staff work each year any investigator can determine what percentage of the personnel working hours is spent discharging patients and if that time is being utilized efficiently (Zelman, 2003).

Variables

Many of the variables associated with this project are directly associated with the processes used to support interdisciplinary rounds (Hellings, et al., 2010). To determine what impact if any the variables could have on patient outcomes the elements associated with the discharge process will be targeted (Dixon-Woods, et al., 2013). When the variables for this project are identified and cataloged a method could be selected to determine the overall impact of the variables on patient care (Terry, 2012).

Variables for this project include the number of personnel present during the discharge process. An independent variable will identify if all members of the interdisciplinary actively or passively participate in the discharge process. The dependent variable will determine if the patient obtains a faster more efficient discharge as a result of the utilization of an interdisciplinary team.

Another independent variable will determine if the number of readmissions decreased as a result of the patient education and discharge summaries provided by

members of the interdisciplinary team. While addressing if the use of Advance Practice Nurses (APN's) as members of the interdisciplinary team decrease the amount of time needed for the patient discharge process. Is there an improvement in revenue capture as a result of a decrease in readmissions due to members of the interdisciplinary team actively participating in the discharge process.

There will be a recommendation upon completion of this research project to continue to research this issue (Terry, 2012). Continued research will determine if the variable(s) identified have an impact on any health care organization that attempted to implement interdisciplinary rounds (Kettner, et al., 2013).

The purpose of interdisciplinary rounds is to ensure patients were cared for in a safe environment, to prevent medical errors, and to allow patients to actively participate in their care decision-making process. A patients participation in the decision making process of their care contributes to improved transparency and a highly reliable yet stable care environment. Do interdisciplinary rounds contribute to improvements in the culture of safety? The components of a culture of safety include teamwork, group and individual dynamics, communication, and behavior patterns placing an emphasis on safety and improvements in patient outcomes.

Utilizing a quantitative data analysis afforded the investigator an opportunity to construct a broad platform to identify the components that influenced a culture of safety. The application of a longitudinal data review was used to identify the mechanisms that contribute to a culture of safety. As a result of the use of interdisciplinary rounds a decrease in patient safety events was anecdotally noted. Through data analysis the

investigator was able to identify some trends of improvements in patient care, safety, and outcomes.

Data Analysis

When the data was reviewed the investigator was able to gain some striking insight into the functionality of the interdisciplinary team and how that team influences patient outcomes. Data from nine hundred thirty-one charts were reviewed which included data over a 12 week time period. Advance practice nurses are responsible for 28% of all discharges on the inpatient unit with a readmission rate of < 1%. Advance practice nurses place their discharge orders earlier in the patient stay on average greater than 30 hours prior to the patient actually discharging from the inpatient facility. Medical providers place their discharge orders on average 6 hours prior to the patient discharging from the health care facility.

Based on research the quality and the effectiveness of the education instruction provided to the patient contribute to a decrease in the recidivism. When examining patient education generated during the patient stay, 90% of discharge education was performed just prior to discharge. Most of the discharge education provided to the patient was completed 30 minutes to an hour before the patient was physically out the door of the facility.

The remainder of the education provided during the patients hospital stay was incremental and included information about the patient diagnosis/nursing problem, plan of care, goals, and expectations for the patient during their hospital stay and education about hospital procedures. Greater than ninety-nine percent of all the education given to

the patient and was provided solely by nursing. Education titled “discharge education” did include some diagnostic information however based on this research it is difficult to determine if that education was truly effective in preventing readmissions to the health care organization as there were no independent patient assessments performed by the researcher to determine if the education provided was understood, more research will be needed to make that determination.

For the 12-week data review twenty two percent of patients discharged from the health care organization returned for readmission. Of the 22% that returned for readmission, 11% of those returned within 7 days of their discharge. The remainder was spread evenly over the remaining 21-day time frame. Staffing during this time frame was consistent. Nursing performs >90% of the tasks involved in the discharge process this includes but is not limited to coordination of care across service departments, providing patient education, ensuring all necessary medication has been given or prescriptions written for the patient, coordinating with family members or care givers that all home care decisions have been executed and confirming all patient needs are met prior to discharge from the facility.

The coordination of discharge events is extremely labor intensive. The primary nurse caring for the patient manages the current discharge process. In most cases discharge occurred within 60 minutes of the signing of the discharge orders. However the time frame utilized for the discharge process ranged from 60 minutes to 360 minutes with best practice identified at 120 minutes or less.

The average unit staffing on the day shift is a 5:1 ratio increasing to a 7:1 ratio on the night shift. Based on the literature at an 8:1 ratio an increase in patient mortality is noted (American Nursing Association, 2014). Most discharges occur during the day shift the average nurse can care for as many as 7 unique patients during each day shift worked. No exception in staffing is made for a change in acuity, or based on the number of discharges or new admissions a nurse might receive in any given shift. The FTE's needed for this unit to meet basic patient needs is 6.8 nurses per day shift if the unit census is full.

Discussion of Findings

The discrepancy between the action of planning the discharge and the actual execution of the discharge is a contributing factor to the readmission rate. It does not appear that patient's discharge earlier from the inpatient unit as a result of the use of interdisciplinary rounds though there were significant improvements in patient safety anecdotally noted. Improvements in patient safety were created as a result of an increase in transparency on the patient care unit and at the organizational level.

As a result of the High Reliability Model created by the U.S. Department of Health and Human Services, as a result of the Institute of Medicine (IOM) reports on patient safety, this organization began to improve their outcomes and the quality of the patient care they provide (U.S. Department of Health and Human Services, 2008). Through the deployment of the strategies of the high reliability model, this health care organization actively and aggressively works to improve patient safety and outcomes (Riley, et al., 2010). Improvements and patient safety and outcomes occur as a result of

the implementation of effective and efficient processes that support the Institute of Medicine goals, which supports the culture of safety (Doucette, 2006).

The use of a daily operations meeting has contributed to a sound foundation to the organizations patient safety structure (U.S. Department of Health and Human Services, 2012). Coupled with the use of interdisciplinary rounds patient's issues are reported and escalated at a much faster rate throughout the health care organization (Riley, et al., 2010). The readmission rate is reported daily to all organizational leaders as well as all nursing units. Most reasons for readmission were directly associated to the previous reason for admission. Reasons for readmission will need to be a component considered in future research to determine if the readmission could have been prevented or not. No error is too small to report therefore all errors or issues whether they reach the patient or not are reported daily at a site level operational meeting (U.S. Department of Health and Human Services, 2008).

An additional factor contributing to the readmission rate at this health care organization is the process of interdisciplinary rounds they have chosen to deploy. Patients are not included in the rounding process though there is substantial evidence demonstrating the benefits. Providers excluded patients from their rounding process though all contributing specialties and service departments actively participate. They are often in a room off the main hallway with the service departments including nursing reporting any issues, concerns, or thoughts they might have regarding the patient under their care. The exchange between providers of varying specialties is collegial. The

dynamics of the exchange between the provider and the service departments vary based on personnel involved.

Benchmark data has been generated for this research subject. The time period examined for the purpose of this research project indicated that 22% of patients discharged were readmitted to the healthcare organization. The benchmark for this time frame nationally was 18% (VanBooven, 2013). Health care organizations that utilize interdisciplinary rounds that include patients as members of the interdisciplinary team and allow those patients to actively participate as team members have a reduced readmission rate of approximately 5% less than the national benchmark (Lemieux, Sennett, Wang, Mulligan, & Bumbaugh, 2012). The current readmission rate for this health care organization is 18%. The national benchmark is 15% (VanBooven, 2013). Therefore it can be theorized if the healthcare organization engaged patients to actively participate as members of the interdisciplinary team and allowed them to actively participate the organization could reduce its recidivism to 13%. The healthcare organization would be below the national benchmark for readmissions and contribute to a significant reduction in the national average while generating potential cost savings in excess of one million dollars (U.S. Department of Health and Human Services, 2012).

Group dynamics are a contributory factor in interdisciplinary rounds and determine if the rounds are effective. Those members of the service departments who actively participated in the rounding process who were seasoned and well thought of by the providers were able to participate at a higher level than their counterparts who were lacking in seniority or status affecting the ability of the less senior staff to effectively

communicate the needs of their patients. The politics between service departments do play an influential role in the how members of the interdisciplinary team communicate and determine if that communication is truly effective. This social dynamic needs greater analysis to determine effective methods to overcome such obstacles; this element was not examined due to the confines of the research project.

Implications

The issues identified as a result of this research bring forth significant implications for the healthcare community. Health care organizations need to find ways to leverage their needs against the needs of private providers. Organizations need to gain the compliance needed from all providers to meet new goals set forth at federal and local levels. Health care organizations need to meet the expectations of health care consumers who are becoming savvier in their comprehension of the health care system while looking for improvements in the standard of care they receive for a better price.

Excluding patients from participating in interdisciplinary rounds for any reason is a serious restriction to the patient's ability to actively participate in the care they receive and the decision making process about that care. Impeding that ability has ramifications. Those consumers who are well educated and socioeconomically stable will have a much greater advantage navigating the landscape of the health care organization to receive the care they need. While those who are socioeconomically disadvantaged will have a greater disparity thereby increasing their risk of complications and putting them at an increased rate of recidivism. This issue will need to be addressed by many health care organizations

and will be examined closely by the federal government as they continue to make changes to Medicare and Medicaid rules and laws.

Staffing ratios are an influential factor in the patient's ability to actively participate in their care. Based on current staffing standards this organization is in the norm for the number of FTE's allocated for day shift, though multiple nursing organizations have called for a reduction in medical surgical staffing from a 5:1 ratio to a 4:1 ratio (American Nursing Association, 2014). If each nurse on this unit cares for 7 unique patients per day then these nurses are actually caring for patients at a 7:1, though the charge nurse or the assistant charge nurse periodically take patients in an attempt to help shift the workload of the nurses providing direct patient care, this unit appears to be over optimizing their staff (World Health Organization, 2010). Over optimization of staff can lead to an increase in significant safety events for the patient while contributing to the risk of burn out for the nurse (World Health Organization, 2010).

The reduction in the number of patients cared for by a nurse in the average day shift could decrease the risk of a serious safety event for the patient while decreasing the risk of nursing burnout (World Health Organization, 2010). When examining throughput in the health care organization the staffing ratios utilized by the organization need to be taken into consideration as delays in discharge create a logjam of patients waiting for beds on the inpatient unit (American Nursing Association, 2014). Such logjams contribute to less than optimal patient outcomes and can contribute to recidivism for the health care organization (Hellings, Schrooten, Klazinga, & Vleugels, 2010).

Project Strengths and Limitations

The strengths and limitations of any research project should be measured. When measured they should guide the researcher to their conclusions while establishing a firm foundation for future research. The effects of an interdisciplinary team on the culture of safety in a health care organization are quite profound. Forming interdisciplinary teams is only the first step in improving patient safety and outcomes. Getting those teams to work in a succinct and effective manner is a much larger effort and can be an obstacle to their performance. More research is needed to thoroughly evaluate team dynamics, how the interdisciplinary team communicates, and how that communication impacts patient outcomes.

An additional limitation when the attitudes and beliefs of the medical hierarchy remain unchanged (Duke University, 2005). Research identified junior physicians who want to participate in patient safety and culture change management programs, are made to feel inadequate when opposing the wishes of senior medical leadership (Grant, 2011). The behavior ingrained in the senior leadership of the medical hierarchy creates obstacles that can interfere with the ability of the interdisciplinary team to function and create change (Magid, Forrer, & Shaha, 2012). However it was observed in this research that though the change management process was impeded due to the hierarchy in place, it occurred with greater frequency among senior nurses to junior nurses than it did from senior providers to their junior counterparts.

Future Research Recommendations

As nursing leaders and scholarly practitioners it is imperative that any time we

display an organizational fault or a shortcoming that we offer an alternative solution (American Organization of Nurse Executives, 2010). We cannot simply critique without offering hope. As a scholar, practitioner and a future project developer/manager we must be able to envision all successes and failures together (Kettner, Moroney, & Martin, 2013). If we are unable to achieve that goal, then the ability to develop new projects will become stagnate impeding the ability to change the face of health care or nursing (Kettner, Moroney, & Martin, 2013). We will cease to evolve and if we cease to evolve the death of the profession of nursing will be inevitable.

That statement by itself might sound a bit melodramatic however it is extremely accurate as we have seen other professions and organizations pronounced dead and buried due to their failure to adequately adapt to change and meet the needs of the public. Kodak, Polaroid, Pan Am, Circuit City, Enron and Bethlehem Steel are just a few examples of major corporations that failed to evolved resulting in their end, if nursing thinks they are safe they are wrong. As a profession we must work hard with health care organizations as they struggle to make they changes they need to make to survive (American Organization of Nurse Executives, 2010).

Recommendations for future research based on the body of this work should allow nursing to evolve. We need to determine the threshold between safe staffing numbers and a fiscally responsible health care organization. Future research needs to identify that balance and determine what number of staff in what role is most effective and cost efficient. Current state has patient care nurses performing multiple functions discharging patients from the inpatient unit, is there a more effective process to perform a

patient discharge that will decrease recidivism to the health care organization. Will the addition of a discharge coordinator to execute the steps needed in the discharge process be an effective tool to ensure better patient outcomes while decreasing recidivism.

The formula used to create the threshold used to determine safe staffing numbers must be variable based on the unit it is applied and the acuity of the patient in the bed. Future research will need to identify the variables for such a formula and how such a formula could and should be applied to the inpatient unit. A standard FTE calculation should be used to compare any new staffing formula to determine its overall effectiveness. Once this has been achieved that formula should be field tested at multiple health care organizations to allow for fine-tuning and the establishment of sound evidence based practice to allow for it's practical application to improve the standard of patient care.

Once improvements in the coordination of care occur then research needs to further examine the reason for readmission to the health care organization and perform a gap analysis to determine if there is a way to mitigate the risk of readmission with patient throughput throughout all patient care units in the organization. The examination of how patient flow can bottleneck in the emergency department needs exploration. How that bottleneck occurs in the emergency department affects how patient discharges occur on the inpatient unit, do those units expedite discharges to open a bed at the risk of the patient currently in the bed?

Summary

The outcomes anticipated for this project were created to contribute to

improvements in patient outcomes (Armellino, et al., 2010). Improving patient throughput, patient outcomes, and decreasing medical errors while increasing transparency will contribute to achieving a sound culture of safety (U.S. Department of Health and Human Services, 2012). When the research was completed and provides the evidence that supports the elements identified in the anticipated outcomes of this project, the first change to be recommended will be the formal adoption of a patient care policy that mandates the use of interdisciplinary rounds (Chassin, 2013). To maintain the role of a high reliability organization, a culture of safety will be needed to increase transparency while creating innovative improvements in patient safety supported by evidence-based practice (U.S. Department of Health and Human Services, 2008).

Conclusion

A health care organization needs to be a living, breathing entity to survive. All leaders must share the vision and the action of their mission, to meet the needs of their community, their patients, and their staff (American Organization of Nurse Executives, 2010). The effects of interdisciplinary rounds on a culture of safety helps to identify the priorities of the organization (El-Jardali, et al., 2011). It identifies their values and their strategies. It shines a bright light on their faults but then acts as a guiding light to illuminate an alternative route to correct those faults, which gives research purpose.

Mandating interdisciplinary rounds and including the patient, as a member of the interdisciplinary team will help to create a new and higher standard of patient care (Chassin, 2013). Health care professionals engaging as members of the interdisciplinary team working in concert will change the future of patient care, influencing all the

elements that contribute to improved patient safety and outcomes, while redefining teamwork (Groves, et al., 2011). The approaches and methods developed to execute this evidence-based practice project will support the infrastructure of the project (Dixon-Woods, et al., 2013).

Health care organizations should consider other options to include patients in the decision-making processes for their organizations. The impact and influence on patient care from the patient perspective could help organizations meet the goals needed to be successful in the future. An interdisciplinary panel could create improvements in patient throughput, patient handling, patient safety, and even decrease recidivism. Excluding patients from any decision making process could prove to be extremely costly for health care organizations as the educated consumer is asking much harder questions and are willing to take their business elsewhere when they are not happy, without patients health care organizations have no future.

Appendix A

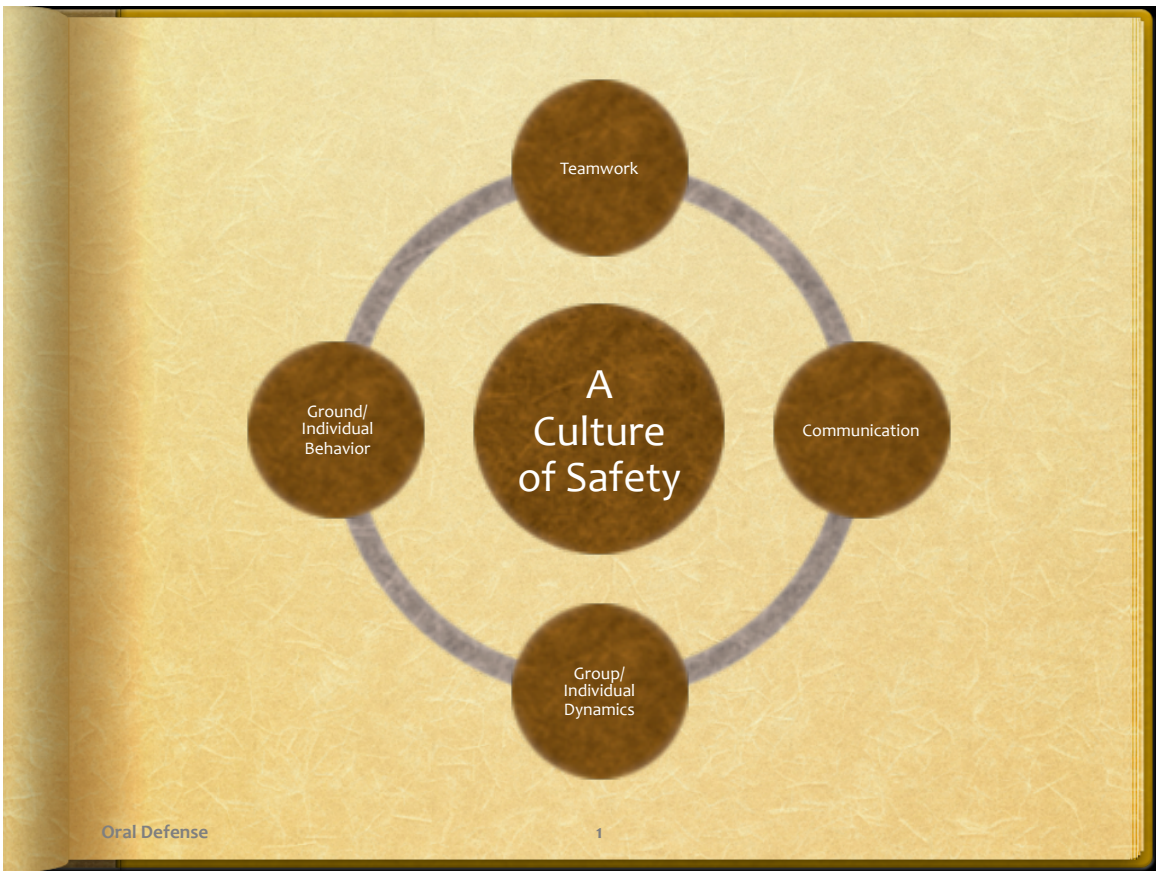

A Culture of Safety Research Results
By Laurie Dillon, MSN, RN
November, 2015

Background

- There is a national movement to create improvements in patient safety and outcomes.
- The catalyst to generate these improvements is the result of evolutionary changes in health care.
- Many health care organizations are using the concept of a culture of safety to establish improvements in patient care.
- A culture of safety is needed to create a highly reliable and stable work environment.

Problem & Hypothesis

- The problem directing the progression of the project is that of the culture of safety utilized in an inpatient healthcare setting.
- Does the use of an interdisciplinary team, to execute patient rounds
  - improve patient throughput helping to expedite the patient discharge process
  - while decreasing needless readmissions for the health care organization


Teamwork
Ground/
Individual
Behavior
A
Culture
of Safety
Communication
Group/
Individual
Dynamics
Oral Defense
1

Purpose

- To determine the effectiveness of interdisciplinary rounds, through the analysis of patient data from the electronic health record.
- Through data analysis, patterns and trends in the data will be identified that will help to support the health care organization.
- And potentially decrease the cost of patient care through improvements in patient safety
- While decreasing or eliminating the expense incurred as a result of needless readmissions.

Purpose & Scope

- Creating a more effective discharge process
- The cause and effect impacting the length of time it takes to discharge a patient from a health care organization
- Ineffective throughput creates untenable situations for patients
- Back ups in patient throughput has a direct impact on patient safety and outcomes

Data Collection Techniques

- A longitudinal retrospective data analysis will occur
  - Utilizing data from the electronic health record
  - In the form of time stamps
- A calculation will be used to determine if the unit is effectively staffed

Data Analysis

- Time stamps at specific points in time (measured in minutes) will be collected to determine the efficiency of the discharge process
  - The time discharge orders were placed will be obtained
  - The time between the placement of discharge orders and when discharge orders were executed will be measured
  - The time between when the placement of the discharge orders and the when the discharge education was provided will be measured
    - as well as what education was provided and by whom

Additional Data Analysis

- The interval between the completion of the activities identified in the discharge process and when the patient physically left the facility will all be measured (Orchard, 2010).
- It will then be determined if patient readmitted to the health care organization less than 30 days after discharge
  - If the patient was readmitted
    - How many days after discharge did the readmission occur
- An FTE calculation will be used to determine if the unit is effectively staffed for their volume of discharges

The Effects of the Data Analysis

- When the analysis of patient throughput data occurs during the discharge process
  - It will be determined
    - If the discharge process used is effective
    - If there is an impact on readmissions at the participating health care facility
    - If there are improvements in the coordination of patient care

The Purpose of the Investigation

- When time stamps taken at each point identified
  - It will determine the total measure of time needed to discharge a patient
  - It will determine the number of FTE's needed to perform a patient discharge
  - It will determine the effectiveness of the discharge process on patient throughput
  - While evaluating the effectiveness of the discharge process
    - Though the examination of the readmission rate at the facility participating in the research.

Research Goals

- It is hoped that
  - Health care professionals engaging as members of the interdisciplinary team
    - Working in concert, will change the future of patient care
    - Influencing all the elements that contribute to improvements in patient safety and outcomes
    - While redefining teamwork (Groves, et al., 2011).
- And that the mandating interdisciplinary rounds will help to create a new and higher standard of care for our patients (Chassin, 2013).

Research Question, Method and Presentation of Findings

- Does the use of interdisciplinary rounds contribute to improvements in the culture of safety on the inpatient unit?
- Focusing on interdisciplinary rounds the investigator determined if interdisciplinary rounds contributed to improvements in the culture of safety on the inpatient unit.
- Patient throughput is one of the areas in need of improvement.
- Utilizing the time stamps located in the electronic health record
  - Data was analyzed through the use of a longitudinal retrospective review allowing for quantitative data analysis

Question 1

- **Does the use of Interdisciplinary Rounds improve patient throughput?**
  - No: interdisciplinary rounds by themselves do not improve patient throughput
- Contributory factors in interdisciplinary rounds determine if the rounds are effective
  - Including but not limited to group dynamics, exclusion of the patient and communication
- Seasoned service department members who were well thought of by the providers were able to participate at a higher level
  - Their counterparts who lacked seniority or status were unable to effectively communicate the needs of their patients

Question 2

- **Does the user of physician extenders as members of the interdisciplinary team improve throughput?**
  - Yes: Advance Practice Nurses do contribute to improvements in patient throughput
- Advance practice nurses are responsible for 28% of all discharges on the inpatient unit with a readmission rate of < 1%
- Advance practice nurses place their discharge orders earlier in the patient stay on average greater than 30 hours prior to the patient actually discharging from the inpatient facility

Question 3

- **Do patients discharge earlier from the inpatient unit?**
  - No: It does not appear that patient's discharge earlier from the inpatient unit as a result of the use of interdisciplinary rounds though significant improvements in patient safety were anecdotally noted
- The discrepancy between the action of planning the discharge and the actual execution of the discharge is a contributing factor to the delay in the discharge process
- The primary nurse caring for the patient manages the current discharge process
- The discrepancy between the action of planning the discharge and the actual execution of the discharge is a contributing factor to the delay in the discharge process

Question 4

- **Does the use of interdisciplinary rounds decrease patient readmission rates?**
  - Yes: the establishment of interdisciplinary rounds has decreased the readmission rate at this organization
  - However, a lower recidivism rate could be obtained with the inclusion of patient as members of the interdisciplinary team
- During the 12-week data review twenty two percent of patients discharged returned for readmission
- Of the 22% that returned for readmission
  - 11% of those returned within 7 days of their discharge
- Staffing during this time frame was consistent

Question 5

- **Does the use of this rounding technique improve the revenue capture of the health care organization?**
- Yes: The average unit staffing on the day shift is a 5:1 ratio increasing to a 7:1 ratio on the night shift
  - Based on the literature at an 8:1 ratio an increase in patient mortality is noted (American Nursing Association, 2014)
- Most discharges occur during the day shift the average nurse can care for as many as 7 unique patients during each day shift worked
- No exception in staffing is made for a change in acuity, or based on the number of discharges or new admissions a nurse might receive in any given shift
  - The FTE's needed for this unit to meet basic patient needs is 6.8 nurses per day shift if the unit census is full

Question 6

- **Is the quality of the instruction provided to patients during the discharge process adequate?**
  - Yes: based on research the quality of the education instruction provided to the patient contributes to a decrease in the recidivism
- When examining patient education generated during the patient stay
  - Final discharge education was completed 30 minutes to an hour before the patient was physically out the door of the facility
    - Leaving a gap for potential questions or true absorption of the material
- The coordination of discharge events is extremely labor intensive
  - Future research should focus on ways to move evenly distribute patient education throughout the entire patient stay, not just at discharge

Question 7

- **Does the quality and effectiveness of the instruction provided to patients on discharge decrease recidivism, which occurs when patients are readmitted to the healthcare organization less than 30 days after discharge?**
  - Yes: Most patient education provided during the patients hospital stay was incremental
- The education included information about the patient diagnosis/nursing problem, plan of care, goals, and expectations for the patient during their hospital stay and education about hospital procedures.
- Greater than ninety-nine percent of all the education given to the patient and was provided solely by nursing
- Education titled "discharge education" did include some diagnostic information however based on this research

Recommendations for Actions Using Benchmarks

- For the time period examined 22% of patients discharged were readmitted to the HCO
  - The bench mark for this time frame was 18%
- When health care organizations utilize interdisciplinary rounds that include the patients participation
  - Their readmission rate is approx. 5% less than the bench mark
- The current readmission rate for this HCO is 18%
  - The bench mark is 15%
- Therefore it can be theorized if a HCO engaged patients in the discharge process
  - The HCO can reduce recidivism to 13%
    - The HCO would be below the benchmark and the national average
    - And a potential cost savings in excess of one million dollars

Implications for Professional Practice

- Future research based on the results of this investigation should allow nursing to advance our professional practice
- Additional Investigation is needed:
  - To determine the threshold between safe staffing numbers and a fiscally responsible health care organization to reduce recidivism
  - Current state has patient care nurses performing multiple functions discharging patients from the inpatient unit
    - is there a more effective process to perform a patient discharge that will decrease recidivism to the health care organization
  - Would the addition of a discharge coordinator to execute the steps needed in the discharge process including patient education be an effective tool to ensure better patient outcomes and decrease recidivism

Conclusion

- The use of interdisciplinary rounds contributes to improvements in the culture of safety on the inpatient unit.
- Though patients are not included as members of the interdisciplinary team at this organization, a decrease in patient safety events was noted.
- Thorough data analysis allowed for the identification of patterns and trends contributing to the culture of safety on the inpatient unit
- helping to identify the improvements needed to support patient care, safety, and outcomes.

Additional Note

- Improvements in patient safety were created as a result of an increase in transparency on the patient care unit and at the organizational level

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