

7-2016

The Structure of Multidisciplinary Rounds and the Effects on Patient Perceptions

Frank Alagna
Gardner-Webb University

Follow this and additional works at: https://digitalcommons.gardner-webb.edu/nursing_etd



Part of the [Perioperative, Operating Room and Surgical Nursing Commons](#)

Recommended Citation

Alagna, Frank, "The Structure of Multidisciplinary Rounds and the Effects on Patient Perceptions" (2016). *Nursing Theses and Capstone Projects*. 252.

https://digitalcommons.gardner-webb.edu/nursing_etd/252

This Thesis is brought to you for free and open access by the Hunt School of Nursing at Digital Commons @ Gardner-Webb University. It has been accepted for inclusion in Nursing Theses and Capstone Projects by an authorized administrator of Digital Commons @ Gardner-Webb University. For more information, please see [Copyright and Publishing Info](#).

The Structure of Multidisciplinary Rounds and the Effects on Patient Perceptions

by

Frank Alagna

A thesis submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
in partial fulfillment of the requirements for the
Master of Science in Nursing Degree

Boiling Springs, North Carolina

2016

Submitted by:

Approved by:

Frank Alagna

Gayle Casterline, PhD, RN

Date

Date

Abstract

Daily rounds is one strategy to improve communication between caregivers and engage patients and families in care decisions. The purpose of this study was to determine if the structure of multidisciplinary rounds affected the patient's perception of care. King's Theory of Goal Attainment guided this study related to the relationship of interaction and outcomes three medical surgical units were identified as using different structures for patient rounding: tabletop rounds, nurse-led rounds, and team -based rounds. Patient perceptions were collected from the Professional Research Consultants (PRC) database, a nationally recognized patient satisfaction survey. Over a six month period, survey data was analyzed from a random sample of 100 discharged patients from each unit, as identified by the PRC. Patient perceptions of five specific questions were analyzed: nurse communication, physician communication, decision-making, teamwork, and safety. Analysis of variance (ANOVA) showed no significant differences ($p > .05$) in patients' perceptions of care on any variable related to the structure of multidisciplinary rounds on the unit. Effective and frequent multidisciplinary communication, which includes patient and family involvement, may be the key to satisfactory outcomes, regardless of the rounding structure.

© Frank Alagna 2016

All Rights Reserved

Table of Contents

CHAPTER I: INTRODUCTION

| | |
|---------------------------|---|
| Significance..... | 1 |
| Problem Statement..... | 1 |
| Purpose..... | 3 |
| Conceptual Framework..... | 3 |
| Research Question | 5 |
| Definition of Terms..... | 6 |

CHAPTER II: LITERATURE REVIEW

| | |
|--|----|
| Communication..... | 7 |
| Structure..... | 13 |
| Outcomes | 17 |
| Literature Related to Theoretical Framework..... | 20 |
| Summary..... | 21 |

CHAPTER III: METHODOLOGY

| | |
|------------------------------------|----|
| Study Design..... | 23 |
| Setting and Sample | 24 |
| Design for Data Collection | 24 |
| Measurement Methods..... | 24 |
| Data Collection Procedure | 25 |
| Protection of Human Subjects | 25 |
| Data Analysis | 25 |
| Summary..... | 26 |

CHAPTER IV: RESULTS

| | |
|-----------------------------|----|
| Sample Characteristics..... | 27 |
|-----------------------------|----|

| | |
|--|----|
| Major Findings..... | 28 |
| Summary | 31 |
| CHAPTER V: DISCUSSION | |
| Implication of Findings..... | 32 |
| Application to Theoretical/Conceptual Framework..... | 32 |
| Limitations | 33 |
| Implications for Nursing..... | 33 |
| Recommendations for Future Research | 34 |
| Conclusion | 34 |
| REFERENCES | 35 |

List of Figures

Figure 1: Conceptual-Theoretical-Empirical Diagram (CTE)5

Figure 2: Mean Totals of Patient Satisfaction Scores29

List of Tables

| | |
|--|----|
| Table 1: Number of Patient Respondents to each Survey Question | 28 |
| Table 2: ANOVA Results | 30 |

CHAPTER I

Introduction

Multidisciplinary rounds are an essential piece of the communication between healthcare workers (Borich, 2015). Rounds allow the team to come up with a plan of care that will improve the patient's outcome. Unfortunately, there are times when communication is not effective among the team members. Poor communication either with other team members or with the patient creates a higher risk of an adverse event (Borich, 2015). Disorganized communication may also affect the patient's perceptions of teamwork and communication (Borich, 2015). Multidisciplinary rounds vary from nursing unit to nursing unit. This research study centers on the effects of various multidisciplinary rounding formats in an acute care setting. Using Imogene King's Theory of Goal Attainment as a guide, the study will focus on patient involvement in care, communication, knowledge, and teamwork.

Significance

The significance of this study to nursing is to provide research data about the impact of different structures used for multidisciplinary rounds on healthcare outcomes. Furthermore, this study will contribute to a greater understanding of teamwork and communication as perceived by the patient experiencing various structures of multidisciplinary rounds.

Problem Statement

Communication is vitally important in the healthcare system because the risk of adverse events increases as communication decreases (Borich, 2015). The Joint Commission claims that 50% percent of sentinel events are due to the lack of

communication or breakdown in communication among healthcare workers (as cited in Borich, 2015). This puts patients at significant risk while they are in the acute care setting, increasing the probability of injury if communication is poor.

Lack of communication and collaboration continue to be a known problem throughout the healthcare system (McCaffrey et al., 2012). The Agency for Healthcare Quality and Research conducted a study which found that RNs and physicians agreed on priorities only about 17% of the time, and partially agreed on priorities 53% of the time. In addition, understanding of communication varied among physicians and nurses (McCaffrey et al., 2012).

One way to determine effective communication in healthcare is with the use of Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. A study performed by Al-Amin, Makarem, and Canose (2016) showed that in 25% of hospitals over 6% of patients stated that physician communication either never occurred or rarely occurred. This perceived lack of communication reduces the likelihood of patients achieving goals (Al-Amin et al., 2016).

The variation in communication throughout the healthcare system is a concern for the patient's wellbeing and safety. Healthcare workers must learn to communicate knowledge amongst each other and the patients. Increasing communication within the care team will decrease sentinel events and improve the patient experience. Continued understanding of the best way to communicate the plan of care is essential to improving outcomes.

Purpose

There are multiple ways that multidisciplinary teams have constructed rounds, either with all team members or designated team members (Okere, Renier, & Willemstein, 2016). Additionally, multidisciplinary rounds may or may not occur at the bedside with patient and family involvement (Ramirez, Singh, & Williams, 2016). The purpose of this MSN thesis was to explore patient and family perceptions about communication and teamwork and the role that multidisciplinary rounding structure plays in that perception.

Conceptual Framework

Imogene King's Theory of Goal Attainment is the theoretical framework for this research study. King's framework relates to the interpersonal relationships, including the connections involving individuals (King, 1981). These relationships allow the person to grow and accomplish goals. The theory includes a model of three interacting systems, which are the personal, interpersonal, and social (King, 1981). Each of these interacting systems breaks down further and expresses all the facets pertaining to those systems, including perception, interaction, communication, and status (King, 1981).

The interacting system is important to this research study. A healthcare team interacts with the patient throughout the stay in the hospital. Understanding this relationship of interaction and outcomes is imperative to how the healthcare team communicates with the patient. The perception of interaction, according to King (1981), directly relates to the attainment of goals.

There are several propositions that relate to the Theory of Goal Attainment. These propositions explain how certain elements are the foundation for other outcomes.

For example, if there is nurse-patient interaction, transaction will occur (King, 1981). A healthcare provider has the ability to change an outcome by interacting positively with patients. One measure that is available in the survey for this research is communication and listening. This is a measurable outcome with the use of the patient satisfaction scores in the research study. Data related to communication will help distinguish positive and negative encounters with staff members.

Special knowledge by an individual will help achieve goals, according to King's theory (King, 1981). Staff who can explain complicated information influence the patient in a positive manner, allowing the patient to adopt the plan of care more easily. In this research study, the patient will identify if they received updated information about their condition throughout the stay.

According to King (1981), achieving goals means that the patient will have satisfaction. Milestones of care occur during a patient's stay in an acute care setting. The multidisciplinary team reviews the progress and discusses this with the patient. Information related to goal setting is vital to the satisfaction of the patient. In the research study, survey questions will relate to the perception of satisfaction with nurses, doctors, and the overall teamwork.

Human beings have the ability to perceive elements in their environment, along with having health, interpersonal relationships, and social systems (King, 1981). The perception of the patient is part of their reality. The data collected in this study will be patient perceptions of the communication, teamwork, and caring they received during their stay in an acute care setting. Figure 1 illustrates the relationships between conceptual, theoretical, and empirical variables in the proposed study.

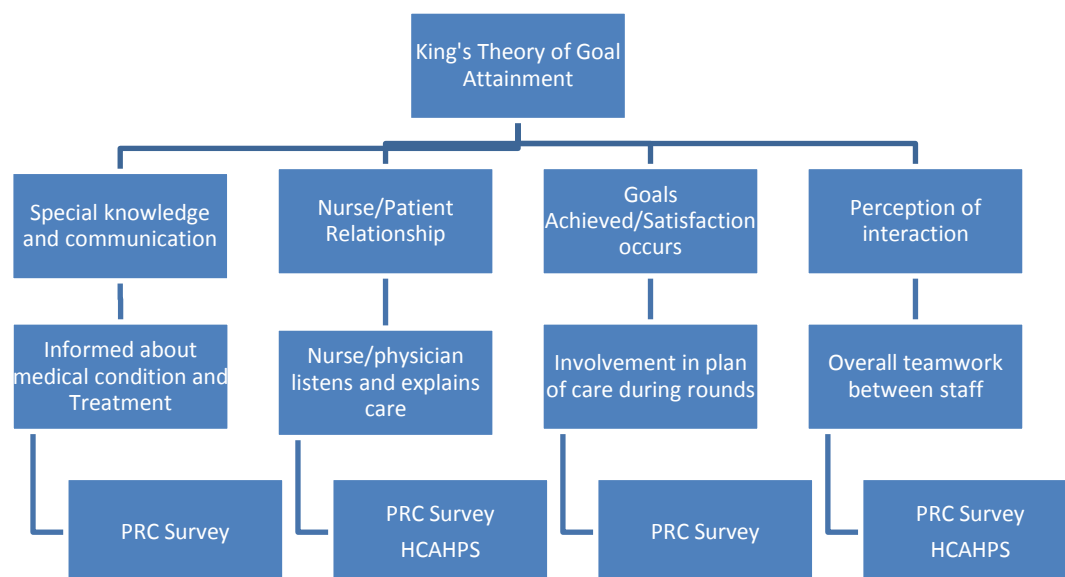


Figure 1. Conceptual-Theoretical-Empirical Diagram (CTE)

Research Question

Communication is essential for patients to receive the best care possible. There are many ways for the care team to communicate the plan of care throughout the hospital stay. This coordinated effort to update patients and families demonstrates to the patient that there is a certain level of teamwork involved in providing care. King's nursing Theory of Goal Attainment guides the research question related to information about the medical condition, communication, involvement, and teamwork. The question evaluated in this MSN thesis is "What is the effect of various structures of multidisciplinary rounds on the patient's perception of communication and teamwork?"

Definition of Terms

Multidisciplinary or interdisciplinary refers to the healthcare team that is providing care for the patient. This includes staff such as case manager, charge nurse, pharmacist, but is not limited to these individuals. Team members will be identified for clarification and understanding of interaction between individuals.

CHAPTER II

Literature Review

A review of the current literature was conducted to determine if there was a need to study the structure of MDRs and the effects it has on patient perceptions. The following databases were utilized for the literature review: Academic Search Complete, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, and Ovid. Keywords are as follows: interdisciplinary, multidisciplinary, structure, communication, outcomes, patient satisfaction, King's Theory of Goal Attainment, and rounding.

Communication

Collaboration is essential among the multidisciplinary team to ensure there is effective communication. In the clinical setting, it is necessary for nurses and doctors to exchange ideas and update data. Borich (2015) explained that communication is the cause of many sentinel events and as high as 50% of adverse events are due to the lack of communication. Borich's team created a report sheet for critical information and began nurse-led bedside rounds to gather and share information. In addition, the family/patient presence was included in the new structure of rounds. This process provided an outlet for nurses to voice concerns and increase teamwork among the group. All team members received education regarding the new report sheet and expectations for MDRs. Prior to the intervention, nurses participated in rounds only 37.5% of the time, while after the intervention participation increased to 68% (Borich, 2015). The strength of this study was the development of a reporting tool that ultimately increased communication among

the team. Replication in other clinical settings using the new tool may translate to increased generalization of the results.

Communication within Multidisciplinary Teams

Communication improves among the healthcare team when the nurse is involved in MDRs. Elliott, Pedack, and Allan (2011) created a study that implemented MDR with all team members, including the physicians, nurses, and ancillary staff, to improve communication with daily plans for patients. The team developed a rounding tool that included pertinent information for the intensive care unit, such as prophylaxis for various conditions and bundles identified as important to patient care. The inclusion of the nurse at the bedside improved the communication regarding the plan of care for the patient, with 95% of nurses and residents reporting a clear understanding of the daily plan of care with MDRs (Elliott et al., 2011).

Nurse-physician rounds may also be useful in improving relationships between the healthcare team and patients. Burns (2011) studied the change in relationships among healthcare workers after implementing rounds. Burns chose a 45 bed medical unit in a 350-bed trauma hospital in a Midwestern town. The purpose of the study was to see if collaborative rounds between the nurse and physician would improve quality of care, improve patient perception of care, and decrease calls to physicians about care. Collaborative rounds were slow to start during the study, with only 20% - 30% compliance. However, as the study continued the nurse and the physician rounded together more than 60% of the time. The team found that calls to the physician during the shift decreased from 50 calls per 100 patients to 41 calls per 100 patients (Burns, 2011). Nurses and physicians agreed that the quality of care and communication did

improve during the pilot (Burns, 2011). Patient satisfaction scores showed an improvement in the perception of communication from 50% to 66% excellent. The perception of communication and teamwork went from 60% to 100% stating excellent in the patient satisfaction survey (Burns, 2011). This study lasted four weeks, which did not allow the team to revise the process and improve the flow of rounds. In addition, there was no comparison between different types of rounds. The study focused on the nurse and physician relationship more than the patient relationship; rounds did not occur at the bedside.

Communication at the Bedside

Patients respond positively to the healthcare team communicating and educating at the bedside. Majdan, Berg, Schultz, Scheffer, and Berg (2013) found that patients enjoyed having the healthcare team at the bedside during education rounds. The two goals of this study were to determine patient comfort with bedside teaching and identify patient perceptions of the educational value of bedside teaching. In this study, the team selected 67 patients admitted to an inpatient unit over a time span of 10 months. The patient completed a questionnaire about their perceptions of the educational rounds within 24 hours of the occurrence. A physician who was not part of the original rounding assisted in collecting data from patients. Perception of rounds, benefit of rounds, and role modeling were the three areas of focus. The questionnaire contained 10 statements using a 5-point Likert scale. Patients agreed that they were able to communicate with the doctors about their care during rounds (mean \pm SD: 4.2 \pm 0.9) (Majdan et al., 2013). Furthermore, patients considered the doctors conducting rounds to be excellent role models (mean \pm 4.5 \pm 0.5) (Majdan et al., 2013). This study showed that patients are

willing to have their day interrupted by the healthcare team if it increases communication and understanding about care.

Bussey and Johnston (2015) conducted a research study on a pediatric unit in regards to the implementation of bedside rounding and communication. Due to the perceived lack of communication, the team developed a rounding tool to improve communication and collaboration. Each member of the team had a defined role in creating a plan of care during rounds. Goals included improving parent satisfaction. All team members received education and a one-page document helped guide the team through the rounding process. Rounds occurred at 0900 every morning with the entire team and the parents. During this time, the team discussed the plan of care for the day. The results of the study showed all the physicians and 90% of nurses believed that communication and collaboration improved (Bussey & Johnston, 2015). In addition, 86% of the team stated that critical thinking improved post intervention (Bussey & Johnston, 2015). During this time, parents had increased satisfaction due to the communication and teamwork of the group. Structuring the MDRs did improve perception of communication for family members and the healthcare team.

Nurse Led Rounds and Communication

Nurse led rounds expands communication and collaboration among the MDR team. Licata et al. (2013) implemented a new rounding process that included the bedside nurse. The purpose for the change was to give the nurse a chance to participate in rounds, promote communication among the team, and increase shared care planning among the team. Nursing outcomes were measured, including nurse participation, reporting of overnight events, and identification of discrepancies in physician orders. Team members

attended an educational session and observed rounds on other units prior to the study. Education consisted of information about the study, supporting literature, and the structure of the proposed rounding. Utilization of a rounding tool allowed the team to focus on specific concerns during rounds. Licata et al. (2013) found that nurse participation in rounds increased by from 71% to 90%. The reporting of overnight events by nurses increased from 33% to 90%, and increase of 57% (Licata et al., 2013). Identification of discrepancies in physician orders by the bedside nurse during the study increased from 14% to 40% (Licata et al., 2013). Qualitative evidence showed that staff thought the rounds increased collaboration and communication. The setting for this study was an intensive care unit, which may not translate to other areas throughout the hospital. Measurement of patient perception did not occur during this study.

Standardized Communication Tools

Organized tools utilized during rounds improve communication between team members. Cornell, Townsend-Gervis, Vardaman, and Yates (2014) studied the effects of situation-background-assessment-recommendation (SBAR) communication protocol on team comprehension and patient sensitive indicators. The researchers hoped that SBAR tools would decrease rounding time and increase awareness of patient needs. Members of the multidisciplinary team included the physician, nurse, dietitian, pharmacist, and case manager. Three medical-surgical units were part of the observational study. Each unit had 48 beds with a nurse to patient ratio of 1:6. The charge nurse helped organize the team, while the bedside nurse was responsible for presenting the patient information to the team. This presentation occurred away from the bedside so the patients and families were not included in the process. All team members received education about

the study and the process through classroom training and simulation. Collection of baseline data occurred prior to the education of the team. Over a nine-month period, the observers collected data with 960 patient reviews recorded. The results showed that the time it took to perform rounds decreased significantly after implementation ($F= 17.25$, $P < .001$) (Cornell et al., 2014). The use of the standardized tool improved consistency in giving report and decreased the occurrence of extensive conversations that did not add value to rounds. Three outcome indicators, nurse communication, informing, and skills, did not improve significantly (Cornell et al., 2014). The team did not include the patient in the rounding process and the team was not able to correlate the structure of multidisciplinary round to patient perspective.

Communication and Structure of Multidisciplinary Rounds

In an effort to bring rounding back to the bedside, Muck, McNeil, McHugh, Bebarta, and Adams (2015) studied the difference between bedside rounding and board rounds in the emergency department to increase communication related to the patient's information and care. This prospective study used a convenience sample of 274 patients. Rounding teams, both bedside or board rounds, were randomly assigned and each involved the physician group and residents. The team focused on four areas during rounds: differential diagnosis, questions per patient, alternatives to treatment/test, and results. Muck et al. (2015) found that during the bedside rounding, there was a significant increase in discussion of diagnosis (72% versus 53%). In addition, there was an increase in questions among the team for clarification and an increase in discussion of results from tests (Muck et al., 2015). Bedside rounds increased communication and education within the group compared to the board rounds. The researchers did not collect

data on patient perception during this study and the teams that rounded only consisted of the physician group and did not include the nurse.

Structure

The structure of MDRs varies depending on the availability of healthcare professionals, patients, and families. Rappaport, Ketterer, Nilforoshan, and Sharif (2012) conducted a study that analyzed the views of the family and healthcare team. This observational study measured the amount of time it took to complete rounds, along with family perceptions, and staff perceptions. The study included data from 295 patients and 257 staff members. Family satisfaction was measured using an 11-question survey with a 1-5 Likert scale. Family or nurse attendance was recorded at the time of rounding. Collection of data occurred over a 12-week period. During this time, a family member was present 40% of the time, the nurse was present 58% of the time, and the nurse and family member were present 26% of the time (Rappaport et al., 2012). Furthermore, family members present at the time of rounds communicated that they understood the roles of the team members (54% vs. 35%, $P=.02$) (Rappaport et al., 2012). There was a significant difference between the time it took to perform rounds, 10.4 minutes with no family, 7.8 minutes with family and no nurse, and 7.4 minutes with family and nurse ($p<0.001$) (Rappaport et al., 2012). Staff felt that it was easy to manage the length of time it took to perform rounds ($p=0.01$).

Family presence during rounds may also improve satisfaction among the healthcare team. A study by Weishaar (2015) aimed to include the patient's family in the daily care plan and to allow the bedside staff to be part of the conversation. Prior to the intervention, the team would meet in the conference room to discuss the patients' plan of

care. Staff received education through staff meetings and a website. Family members received a handout describing the rounding process, which included an invitation for participation. The presence of family at the bedside at the time of rounds varied from 75% to 90% per month (Weishaar, 2015). Staff reported that they were more satisfied with the process. The majority of nurses (86%) reported that they had made recommendations related to their patient's care, while 61% stated they were actively involved in the plan of care (Weishaar, 2015). In addition, referrals for additional services increased during the time of the observations. These referrals, 20 to 30 per month on average, occurred earlier in the stay, decreasing the length of stay for the patient (Weishaar, 2015). This study's setting was in a pediatric intensive care unit and may not have the same results on an adult medical floor.

In another study of patient perception of compassion resulting from rounding methods, Ramirez et al. (2016) compared bedside versus non-bedside rounds and patient satisfaction. A concern of the team was that patients may not feel comfortable having rounds performed at the bedside. Patients admitted to an adult medicine floor in a teaching hospital (N=107) were randomized into one of two groups, either bedside rounds or non-bedside rounds. The team that rounded was comprised of medical students, family medicine residents, and an attending physician (Ramirez et al., 2016). On the day of discharge, the patients completed a Likert scale (1-5) survey focused on four aspects of care: involvement in medical decision-making, trust in the medical team, satisfaction with care, and provider compassion (Ramirez et al., 2016). There were no significant differences between the two groups in regards to involvement, trust, or satisfaction. However, patients rated compassion of the team members significantly

higher when the team was at the bedside (Ramirez et al., 2016). Additionally, 98% of the total sample understood their care while in the hospital, and 94% reported having enough time with the medical group. Patients in both groups felt that they were involved in their own care (4.62, SD 0.72), both groups reported that they trusted the medical team (4.91, SD 0.32) and satisfaction in both groups was high (4.85, SD 0.38) (Ramirez et al., 2016). Lastly, the sample scored favorably when it came to compassion of the medical team (4.84, SD 0.44) (Ramirez et al., 2016). The authors concluded that patients do appreciate bedside rounds. This study only focused on the medical team and did not involve other members of the healthcare team, which may have changed the patient's perception of care.

Instituting rounds, no matter the structure, may help decrease the length of stay for patients in the hospital setting. Okere et al. (2016) designed a five-year retrospective study to determine how different styles of rounds affected the length of stay in a hospital setting. Due to the lack of resources, the team was not able to perform MDRs on each floor, so the team proposed a model that included the hospitalist and the pharmacists as the primary participants in rounds. The MDR team consisted of the bedside nurse, physician, case manager, and pharmacist, while another rounding group consisted of the pharmacist and physician only. Two thousand patients were included in the final data. Patients discharged after January 2012 became part of the pharmacist-physician rounds or MDRs pilots. This allowed the team to analyze the LOS before and after implementing rounds and between the two rounding models. The results showed that there was a significant difference between pre intervention and post intervention 5.5 days (95% confidence interval [CI], 5.0-6.0 days) versus 4.7 days (95%CI, 4.2-5.3 days); ($p=0.002$)

(Okere et al., 2016). However, there was no significant difference in length of stay, 0.18 days ($p=0.349$), between the pharmacist-physician and the MDR group (Okere et al., 2016). The team concluded that having rounds was most important and that the structure was not a factor in outcomes related to length of stay. In the study, the investigators did not measure the perceptions of the patient, which may provide more information on the effectiveness of each team.

In another study looking at LOS, Soliman et al. (2013) designed a study that focused on restructuring rounds to restrict how many consultants participate in rounds. The goal was to decrease the use of multiple physicians during rounds, while improving outcomes. In the previous model, two physicians rounded on the unit. During the study, a primary physician rounded on the patients. Quantitative data included measures such as length of stay and readmissions. The focus group responded after the implementation of the new model. Out of 25 rounding staff that received the questionnaires, 16 returned them. Overall satisfaction with the new structure among the team was 100% (Soliman et al., 2013). The respondents rated the quality of care good or excellent 93% of the time (Soliman et al., 2013). Results showed that 68% of staff surveyed thought that there was improved teamwork during the study (Soliman et al., 2013). Soliman et al. (2013) noted that length of stay decreased from 5.3 days to four days. Readmission rates remained steady throughout the study. The researchers recognized some themes in the qualitative data that pointed to an agreement that rounds improved quality of care, but did take more time to complete. The new structure of having a dedicated consulting physician on a ward proved to increase the staff's perception of care. This was a small study in one

ward, which may not translate to other areas in the hospital. Patient's perceptions were not included in the data collected.

Outcomes

The use of multidisciplinary rounds on units have a positive effect on outcomes (Begue et al., 2012). Begue et al. (2012) conducted a retrospective study concerning the effect of MDRs on length of stay in an oncology population and patient perceptions. Data from a National Cancer Institute in the Midwest was collected on patient discharges between January 1, 2006 and July 1, 2011. Patients discharged prior to April 2010 fell into the group that did not receive MDRs, while patients discharged after April 2010 experienced MDRs. The research team utilized Press Ganey patient satisfaction surveys to measure patient perceptions of care. Press Ganey surveys have patients rate care from poor to very good on a five point scale. Data from 3,077 patients was collected, with 717 patients participating in the MDRs. There was a significant reduction in mean length of stay in the MDR group compared to the non-MDR group (5.3 days versus 6.5 days; $p < 0.01$). There was no significant difference in patient satisfaction between the two groups ($p = 0.17$), however, likelihood to recommend the hospital was higher among the MDR group (MDR=92.3 versus non-MDR= 89.7) and the overall quality of care was rated higher (MDR = 92.1 versus non-MDR=90.3). The study size and design were appropriate and yielded significant information regarding patient perceptions

The implementation of MDRs may also reduce negative patient outcomes. Arora, Patel, Engell, and LaRosa (2014) designed a study to determine if infection rates for central lines and urinary catheter would decrease with MDRs. The study occurred over a 40-month period, measuring outcomes 20 months pre-intervention, and 20 months post-

intervention. Practices regarding infection control remained the same throughout the pre and post intervention stage, which included scrubbing the hub, hand washing, and bundle use. MDRs included the bedside nurse, charge nurse, primary physician, respiratory therapist, and nutritionist. The MDR team met Monday through Friday. When the team met, the first two items discussed were the presence of urinary catheter and central lines, and if the devices were necessary for treatment. In the pre intervention phase, the unit admitted 1,526 patients; 1,776 were admitted during the post intervention phase. Urinary catheter days decreased from 5,304 to 4,541 ($p < 0.05$) and the infection rate went from 0.47% to 0.19% ($p < 0.05$) (Arora et al., 2014). Use of central venous catheters rose from 3986 to 4305 ($p < 0.05$), however the rate of infection trended downward from 0.35% to 0.16% ($p = 0.62$) (Arora et al., 2014). This study occurred in an intensive care unit and results may not be generalizable for other areas of the hospital. The structure of rounds included the care team, but did not include the patient or the family.

Looking at a surgical unit instead of ICU, Counihan et al. (2016) conducted a four year study on how rounding improved patient outcomes. The MDR team, which consisted of the nurse, physician, and ancillary staff, conducted rounds twice a week to complete a full review of the patients on the unit. Time spent on each patient varied depending on the patient condition and length of stay. Data from the Joint Commission's Surgical Care Improvement Program (SCIP), such as rates of respiratory failure, and adjusted length of stay, along with other indicators, helped determine outcomes. Comparison of data occurred for the years of 2008 through 2011 using the 2-sample percent defective/test. Data was collected over a four year period. The results showed that there were improvements in several areas after the implementation of MDRs twice a

week. SCIP measures improved from 95.6 to 98.7 ($p < 0.0001$), respiratory complications dropped from 11.3 to 3.6 ($p = 0.003$), urinary complications went from 5.2 to 1.6 ($p = 0.038$), and cardiac complications decreased from 7.0 to 1.6 ($p = 0.007$) over the four year period (Counihan et al., 2016). In addition, mortality decreased from a rate of 1.47 to 1.04 and morbidity went from a rate of 1.11 to a rate of 0.94 (Counihan et al., 2016). As the team reviewed data over this time, they noticed an elevated urinary catheter infection rate. After implementing a tool during rounds to focus on infections, the urinary catheter infection rate went from a mean of 2.59 in 2010 to a mean of 0.8 in 2011 (Counihan et al., 2016). The team did not collect any data concerning the patient's perceptions. The study did not include different structures of MDRs over the four-year period.

Looking at mortality as an outcome, a retrospective study conducted by Kim, Barnato, Angus, Fleisher, and Kahn (2010) compared the mortality of patients among units that did and did not perform MDRs. The purpose of the study was to determine if daily MDRs influence mortality of critically ill patients. Retrospective data from July 1, 2004 to June 30, 2006 included information about MDRs and 30-day mortality for 112 Pennsylvania hospitals. The final analysis utilized data from 107,324 patients. The overall 30-day mortality for the entire sample was 18% (Kim et al., 2010). Units using daily MDRs did show a reduction in odds of death ($OR = 0.84$, 95% CI: 0.76 – 0.93, $p = 0.001$). Units with high intensity staffing and MDRs showed the lowest risk of death ($OR = 0.78$, 95% CI: 0.68–0.89, $p < 0.0001$) (Kim et al., 2010). The study suggested that MDRs have a positive effect on patient mortality.

Literature Related to Theoretical Framework

King's Theory of Goal Attainment provides a framework for clinical pathways. Clinical pathways help the multidisciplinary team guide care while a patient is in the hospital. Khowaja (2006) studied the impact of a clinical pathway for transurethral resection of prostate (TURP) on quality, cost, and satisfaction of patients. The goal of the study was to show an advantage to a multidisciplinary approach versus a traditional approach. Khowaja (2006) used a quasi-experimental design for the study. The study included 200 patients who were admitted for elective TURP; 100 in a control group, and 100 in an experimental group. These groups were randomly assigned. Outcome measurement consisted of a validated survey with 57 items, ranging from patient care to finances. Physician related variances showed a significant difference between the control and the experimental group in areas, such as follow-up, education, and discussed the plan of care with the patient (Khowaja, 2006). Nursing related variances also showed a significant difference in the areas of documentation ($p=0.001$), discussion of plan of care ($p=0.001$), and appropriate assessment ($p=0.001$) (Khowaja, 2006). According to Khowaja (2006), patient satisfaction improved among the experimental group ($p=0.001$). In addition, staff satisfaction improved with the team that used the clinical pathway ($p=0.006$) (Khowaja, 2006). King's Theory of Goal Attainment guided the multidisciplinary team through developing a clinical pathway and helped improve outcomes.

King's Theory of Goal Attainment was also used to determine impacts on patient and staff satisfaction on a general surgical unit. Anderson and Mangino (2006) measured patient and staff satisfaction after implementing bedside reporting, which allowed the

team to focus on increased communication and improving outcomes. Nurses received education and information about bedside report prior to the implementation of the new practice. Feedback and evaluation on the process was ongoing during the time of implementation. The team obtained baseline data for both staff and patient satisfaction. Collection of financial data occurred two months before implementation and two months after implementation. The team noted that the time over shift, incidental time, decreased by 200 hours in a four-week period, due to the decrease amount of time in report (Anderson & Mangino, 2006). Patient satisfaction did improve in four areas, informed, teamwork, pain, and inclusion in decision-making (Anderson & Mangino, 2006). Accountability, pertinent information, and time to give report all improved in the staff satisfaction survey (Anderson & Mangino, 2006). With the framework of King's Theory of Goal Attainment, the team was able to improve satisfaction of both the patient and the staff.

Summary

Improvement of patient outcomes and reduction of cost are essential to the survival of the healthcare system. Communication and collaboration among healthcare team members is imperative to providing excellent care. The literature shows that implementing MDRs in a hospital setting does improve outcomes in regards to satisfaction, infection rates, and overall survival. There is some debate in the literature about who should participate in rounds and if rounds should occur at the bedside. Teams that consist of nurses, physicians, and ancillary staff find that satisfaction improves among staff and patients. Patients also indicated that they prefer the staff to report at the bedside, so that they can participate in the plan of care. King's Theory of Goal

Attainment focuses on the relationship of the team and patient. Studies showed that using King's model helps improve patient and staff perceptions of care. The established research considers many aspects of MDRs, including communication, structure, and outcomes. However, the research does not specify what type of MDR structure is most efficient and useful in improving patient perception of care.

.

CHAPTER III

Methodology

The use of multidisciplinary rounds increases outcomes, staff satisfaction, and patient satisfaction. Many facilities utilize rounds to improve communication and situational awareness among the healthcare team. Although rounds allow teams to be more productive, there is no standard to who should participate in rounds and no standard to the structure of rounds. The purpose of this MSN thesis was to determine if patient and family perceptions about communication and teamwork differ according to the type of multidisciplinary rounding that occur on the nursing units.

Study Design

The study is a retrospective descriptive review of patient perceptions on units that utilized different styles of multidisciplinary rounds. Three units were identified for having different structures for rounds: tabletop rounds, nurse-led rounds at the bedside, and team-based rounds at the bedside. These units were selected because of the significant differences in MDR structures. Team members in the tabletop rounds consisted of the physician, bedside nurse, case manager, pharmacist, dietitian, and the charge nurse. A nurse, case manager, and charge nurse conducted the nurse-led rounds. The primary physician, bedside nurse, charge nurse, pharmacist, and case manager performed rounds in the team-based group. These teams' structures have evolved over time on each unit. The current structures for each unit have been in place for over a year. Each unit was required to implement multidisciplinary rounds. However, due to the significant difference among physician groups and staffing, MDRs were formulated in different ways.

Setting and Sample

The setting for this study consists of three medical surgical units located at a 700 plus bed hospital in the southeastern United States. A random sample of 300 discharged patients, as identified by the national survey group Professional Research Consultants (PRC), was analyzed in the study. PRC conducts randomized surveys of 50 patients per unit per quarter. Survey information included data from two quarters for each of three units, totaling 100 patients discharged from each unit. All patients were discharged from an adult floor; all participants were over the age of 18.

Design for Data Collection

Each randomly selected patient received a call from PRC to participate in the patient satisfaction survey. The survey consists of 60 questions regarding patient satisfaction. Participants were randomly selected from each unit after discharge. For this study, five questions were analyzed that pertain to patient perceptions of care: perceptions related to being informed during the hospital stay, being involved in decision-making, overall teamwork, communication with staff, and the level of safety. These questions are based on a 5-point Likert scale from poor (1) to excellent (5). An ANOVA was performed on data collected to determine if there are significant differences between patients experiencing different MDR structures.

Measurement Methods

The survey in this study is a nationally recognized patient satisfaction survey performed by PRC. This survey is part of the medical center's database for patient indicators and has been collected for over seven years. This survey contains 60 questions

related to patient satisfaction and perceptions. Permission to extract specific data from the hospital database was obtained from the system administrator.

Data Collection Procedure

Data required for this study pertains to patient perceptions, which came from the PRC database. The focus of data retrieval was five specific questions asked by the PRC surveyor to each patient randomly chosen after discharge. Patient survey results from October 2015 to March of 2016, two quarters, were utilized for analysis. One researcher collected the information from PRC database.

Protection of Human Subjects

This study was reviewed and approved by the medical center IRB as well as the University's IRB. Aggregate data from the PRC database was used and did not contain patient identifiers. PRC follows national standards to protect patient's rights during the survey process. When the surveyor calls the patient on the telephone, patients are advised of the right to refuse to participate in the whole survey or parts of the survey.

Data Analysis

Data from each unit for each quarter was entered into SPSS version 22 without patient identifiers. The three different MDR structures represented by the three adult units were the independent variable, while the patient perceptions of care represented by questions from the survey was entered as the dependent variables. The analysis included descriptive statistics and ANOVA testing for differences. The purpose of this study was to determine if the structure of multidisciplinary rounds influences the patient's perception of care while they are in the hospital.

Summary

The purpose of this study was to evaluate the effects that different types of MDRs have on patient perceptions of care. This retrospective study reviewed data from PRC to determine if there were statistically significant differences among the MDR groups. Data from 300 participants was included in the final analysis.

CHAPTER IV

Results

A retrospective review of de-identified patient satisfaction scores was performed to determine if the structure of multidisciplinary rounds affect the patient's perception of care while in the hospital. The research literature showed that rounds did improve the patient's perception of care, but did not suggest that different structures of multidisciplinary rounds leads to greater patient satisfaction.

Sample Characteristics

This study consisted of reviewing patient satisfaction scores of 300 patients on adult medical-surgical floors in a trauma I hospital with 800 beds. The hospital is located in a rural setting in Western North Carolina. All patients were above the age of 18 while in the hospital. Specific data regarding age, race, or sex was not available through the surveying database. Each unit had 100 patients that participated in the survey over two quarters. The span of the survey was from October 2015 to March 2016. During the survey, participants had the right to skip questions. Table 1 shows the breakdown of total respondents for each question, and the number of respondents for each unit.

Table 1

Number of Patient Respondents to each Survey Question

| | Unit | N |
|-------------------------|--------------------|-----|
| Nurse Communication | Total | 292 |
| | Tabletop | 93 |
| | Nurse Led/ bedside | 100 |
| | MDR at bedside | 99 |
| Physician Communication | Total | 292 |
| | Tabletop | 93 |
| | Nurse Led/ bedside | 100 |
| | MDR at bedside | 99 |
| Decision Making | Total | 285 |
| | Tabletop | 92 |
| | Nurse Led/ bedside | 95 |
| | MDR at bedside | 98 |
| Teamwork | Total | 290 |
| | Tabletop | 92 |
| | Nurse Led/ bedside | 100 |
| | MDR at bedside | 98 |
| Safety | Total | 293 |
| | Tabletop | 93 |
| | Nurse Led/ bedside | 100 |
| | MDR at bedside | 100 |

Major Findings

When reviewing the mean totals of patient satisfaction scores, the nurse led rounds at the bedside had the highest totals among all areas, nurse communication, physician communication, decision making, teamwork, and safety. These results are illustrated in Figure 2.

A one way ANOVA was performed to determine if the structure of multidisciplinary rounds affected patient perception of care. Five areas of patient

perception were focused on in the patient satisfaction survey to determine if there was a significant difference in patient care. The ANOVA results in Table 2 show that there was no significant difference between the groups in this sample for nurse communication, physician communication, decision making, teamwork, or safety.

Significance level between groups for this research was set at 0.05. The perception of nursing communication was not significantly different between units (.087). Physician communication between groups was not significantly different (.099). Decision making between groups was not significantly different (.051). Teamwork was not perceived as significantly different (.347). Lastly, safety was not perceived as significantly different between units (.638).

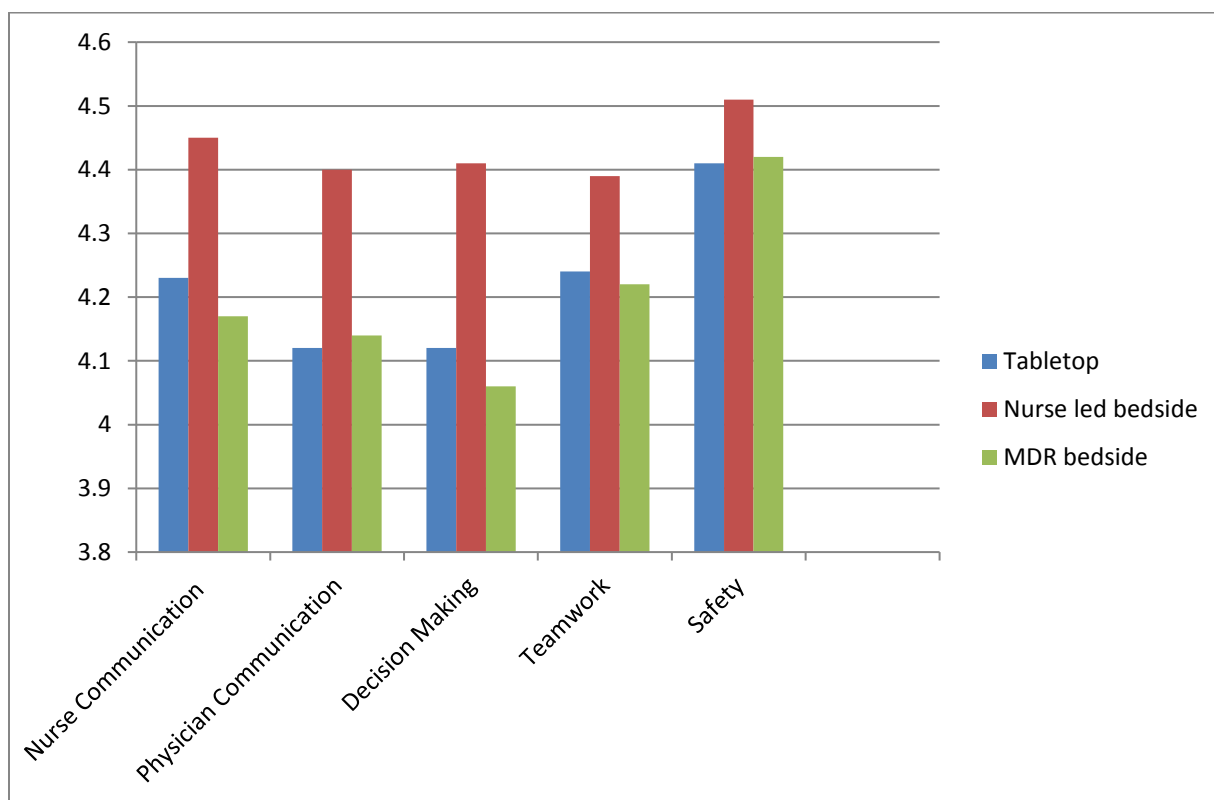


Figure 2. Mean Totals of Patient Satisfaction Scores

Table 2

ANOVA Results

| | | Sum of Squares | df | Mean Square | F | Sig. |
|-------------------------|----------------|----------------|-----|-------------|-------|------|
| Nurse Communication | Between Groups | 4.319 | 2 | 2.159 | 2.466 | .087 |
| | Within Groups | 253.089 | 289 | .876 | | |
| | Total | 257.408 | 291 | | | |
| Physician Communication | Between Groups | 4.812 | 2 | 2.406 | 2.335 | .099 |
| | Within Groups | 297.719 | 289 | 1.030 | | |
| | Total | 302.531 | 291 | | | |
| Decision Making | Between Groups | 6.690 | 2 | 3.345 | 3.001 | .051 |
| | Within Groups | 314.307 | 282 | 1.115 | | |
| | Total | 320.996 | 284 | | | |
| Teamwork | Between Groups | 1.654 | 2 | .827 | 1.062 | .347 |
| | Within Groups | 223.590 | 287 | .779 | | |
| | Total | 225.245 | 289 | | | |
| Safety | Between Groups | .607 | 2 | .303 | .449 | .638 |
| | Within Groups | 195.823 | 290 | .675 | | |
| | Total | 196.430 | 292 | | | |

Summary

A retrospective review of patient satisfaction survey results was undertaken to determine if patients perceive care differently according to the unit model of rounding. For this sample, no significant differences were found between patient perceptions of nurse communication, physician communication, decision-making, teamwork, or safety associated with the unit structure of multidisciplinary rounds.

CHAPTER V

Discussion

This research study examined how the structure of multidisciplinary rounds affected the patient's perception of care while in the hospital. Much of the literature discussed the overall benefits of rounding on patients, which improves outcomes and increases patient participation in care decisions. However, rounding has many different structures, depending on the facility and availability of staff at the time of rounding. Variations in structure of multidisciplinary rounds include walking rounds versus table rounds. Communications during these rounds affect the outcomes of the patient directly and indirectly. The purpose of this research study was to determine if the structure of multidisciplinary rounds influences the perceptions of the patient related to decision-making, teamwork, safety, and communication. Imogene King's Theory of Goal Attainment guided the research study with a foundation in relationships between individuals and perceptions of care.

Implications of Findings

Results from this research study showed that there was no significant difference in patient perception of communication, decision-making, teamwork, or safety in relation to the structure of multidisciplinary rounds. Effective and frequent multidisciplinary communication, which includes patient and family involvement, may be the key to satisfactory outcomes, regardless of the rounding structure.

Application to Theoretical/Conceptual Framework

King's Theory of Goal Attainment was an appropriate framework to guide this study because multidisciplinary rounds focus on communication, relationships, and

outcomes, which according to King's theory is essential to goal attainment. Rounding structure may affect the relationship between healthcare staff and patients. The research study compared units with different structures of multidisciplinary rounds to determine if structure changed the perception of the patients on specific indicators influencing positive health outcomes. In this study, the structure of the multidisciplinary rounds did not significantly alter the patient's perception of care. Relationship-building and patient engagement may have been achieved via multiple rounding structures in this acute care setting.

Limitations

There were a few limitations identified in this study. The use of patient satisfaction scores post discharge may be skewed due to the amount of time that has passed since discharge, making it difficult for patients to remember the experience appropriately. In addition, if just a portion of the experience was negative, the patient may under-rate all other aspects of care

Implications for Nursing

Multidisciplinary rounding is becoming the standard for many organizations across the country. The current research shows that rounding improves communication between the medical team and the patient. Currently, there is no best practice standard for how these multidisciplinary teams should function or operate. However, the research does show that outcomes improve as these teams work together with the patients to achieve goals. Nursing is in a perfect position to contribute to innovations in rounding structure, timing, and content.

Recommendations for Future Research

One of the major limitations in this study was the use of patient satisfaction scores. Many influences throughout the stay in the hospital or after discharge may skew results. The development and use of a validated survey, while the patient is in the hospital, would help determine if patients do perceive their care differently depending on the structure of the multidisciplinary rounds. Real-time data throughout the hospital stay would reduce the issue of perceptions changing over time.

The use of one patient population, rather than three different adult care units would also help with determining what structure is most beneficial. A long-term study on one unit, rotating the different structures over a set amount of time, may produce a better understanding of what design is best for the patients and the team that is performing the rounding.

Conclusion

The aim of this research study was to determine if the structure of multidisciplinary rounds affected the patient's perception of care regarding communication, decision-making, teamwork, and safety. Research showed that performing multidisciplinary round does improve communication and outcomes. In this study, the results showed that there was no significant difference in patients' perceptions of care related to the type of multidisciplinary rounds performed on the unit.

References

- Al-Amin, M., Makarem, S. C., & Canose, J. (2016). The effects of hospital-level factors on patients' ratings of physician communication. *Journal of Healthcare Management, 61*(1), 28-43.
- Anderson, C., & Mangino, R. (2006). Nurse shift report: Who says you can't talk in front of the patient? *Nursing Administration Quarterly, 30*(2), 112-122.
- Arora, N., Patel, K., Engell, C. A., & LaRosa, J. A. (2014). The effect of interdisciplinary team rounds on urinary catheter and central venous catheter days and rates of infection. *American Journal of Medical Quality, 29*(4), 329-334.
doi:10.1177/ 1062860613500519
- Begue, A., Overcash, J., Lewis, R., Blanchard, S., Askew, T. M., Borden, C. P., & ... Ross, P. (2012). Retrospective study of multidisciplinary rounding on a thoracic surgical oncology unit. *Clinical Journal of Oncology Nursing, 16*(6), 198-202.
doi:10.1188/12.CJON.
- Borich, A. (2015). Rounding with purpose: Improving communication, safety and collaboration with nurse driven, multidisciplinary family rounds. *Biology of Blood & Marrow Transplantation, 21*(2) 556. doi:10.1016/j.bbmt.2014.11.610
- Burns, K. (2011). Professional issues. Nurse-physician rounds: A collaborative approach to improving communication, efficiencies, and perception of care. *MEDSURG Nursing, 20*(4), 194-199.
- Bussey, M., & Johnston, K. (2015). Implementation of nurse-led multidisciplinary rounds. *Critical Care Nurse, 35*(2), 63-64.

- Cornell, P., Townsend-Gervis, M., Vardaman, J. M., & Yates, L. (2014). Improving situation awareness and patient outcomes through interdisciplinary rounding and structured communication. *Journal of Nursing Administration, 44*(3), 164-169. doi:10.1097/NNA.0000000000000045
- Counihan, T., Gary, M., Lopez, E., Tutela, S., Ellrodt, G., & Glasener, R. (2016). Surgical multidisciplinary rounds: An effective tool for comprehensive surgical quality improvement. *American Journal of Medical Quality, 31*(1), 31-37. doi:10.1177/1062860614549761
- Elliott, S., Pedack, A., & Allan, G. (2011). A multidisciplinary approach to daily goal setting in the intensive care unit. *Critical Care Nurse, 31*(2), 12-13.
- Khowaja, K. (2006). Utilization of king's interacting systems framework and theory of goal attainment with new multidisciplinary model: clinical pathway. *Australian Journal of Advanced Nursing, 24*(2), 44-50.
- Kim, M. M., Barnato, A. F., Angus, D. C., Fleisher, L. F., & Kahn, J. M. (2010). The effect of multidisciplinary care teams on intensive care unit mortality. *Archives of Internal Medicine, 170*(4), 369-376.
- King, I. M. (1981). *A theory for nursing: Systems, concepts, process*. New York: Wiley.
- Licata, J., Aneja, R. K., Kyper, C., Spencer, T., Tharp, M., Scott, M., & ... Pasek, T. A. (2013). In our unit. A foundation for patient safety: Phase I implementation of interdisciplinary bedside rounds in the pediatric intensive care unit. *Critical Care Nurse, 33*(3), 89-91. doi:10.4037/ccn2013280

- Majdan, J. F., Berg, K. T., Schultz, K. L., Schaeffer, A., & Berg, D. (2013). Patient perceptions of bedside teaching rounds. *Medical Education, 47*(11), 1129. doi:10.1111/medu.12336
- McCaffrey, R., Hayes, R. M., Cassell, A., Miller-Reyes, S., Donaldson, A., & Ferrell, C. (2012). The effect of an educational programme on attitudes of nurses and medical residents towards the benefits of positive communication and collaboration. *Journal Of Advanced Nursing, 68*(2), 293-301. doi:10.1111/j.1365-2648.2011.05736.x
- Muck, A., McNeil, C., McHugh, P., Bebart, V., & Adams, B. (2015). Bedside rounds versus board rounds in an emergency department. *Clinical Teacher, 12*(2), 94-98. doi:10.1111/tct.12271
- Okere, A., Renier, C., & Willemstein, M., (2016). Comparison of a pharmacist-hospitalist collaborative model of inpatient care with multidisciplinary rounds in achieving quality measures. *American Journal of Health-System Pharmacy, 73*(4), 216-224. doi:10.2146/ajhp150225
- Ramirez, J., Singh, J., & Williams, A. A. (2016). Patient satisfaction with bedside teaching rounds compared with nonbedside rounds. *Southern Medical Journal, 109*(2), 112-115. doi:10.14423/SMJ.00000000000000419
- Rappaport, D. I., Ketterer, T. A., Nilforooshan, V., & Sharif, I. (2012). Family-centered rounds: views of families, nurses, trainees, and attending physicians. *Clinical Pediatrics, 51*(3), 260-266. doi:10.1177/0009922811421002

- Soliman, A., Riyaz, S., Said, E., Hale, M., Mills, A., & Kapur, K. (2013). "Improving the quality of care for medical inpatients by placing a higher priority on ward rounds." *Clinical Medicine* 13(6), 534-538. *Academic Search Complete*, EBSCOhost (accessed February 28, 2016).
- Weishaar, J. (2015). Family-centered multidisciplinary rounds on the pediatric intensive care unit. *Critical Care Nurse*, 35(2), 27-28.