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Final DNP Practice Inquiry Report

Evaluating the Effectiveness of Crucial Conversations® training on Nurses' Self-Efficacy

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University of Kentucky

College of Nursing

Summer 2015

Nora Warshawsky, PhD, RN, CNE, Committee Chair

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Dedication

To my mom and late dad, for choosing me, believing in me and always whispering to me “if it were easy, everybody would be doing it.”

To my husband, for being my northern star and showing me every day the true meaning of agape love.

Acknowledgements

I would like to thank my Committee for their guidance and support during my DNP journey.

- Committee Chair:

Dr. Nora Warshawsky, PhD, RN, CNE

- Clinical Mentor:

Dr. Patty Hughes, DNP, RN, NE-BC

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Dr. Amanda Wiggins, PhD

- I would like to express appreciation to Dr. Diana Weaver, PhD, RN for serving as my professional coach. I am so thankful for your guidance, support, and inspiration.

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Practice Inquiry Project Overview

Skilled communication between nurses and physicians has been identified as an important component of organizing and delivering safe, quality care to patients. Organizations that have low performance scores regarding nurse-physician communication are working on improvements to ensure optimal patient outcomes. The focus of my capstone work was to identify interventions that improve nurse-physician communication.

It was the 1950's work of Dr. John Barnes on social relationships that set the foundation for social networking. His theory became strongly associated with positive outcomes related to industries and organizations. In late 2000, social networks began to impact healthcare. Advantages of social network coordination on clinical practice include: enhanced learning, efficient resource utilization, increased capacity to plan for and mitigate complex issues, and the delivery of quality care to patients and families. As the concepts of social networks are explored, evidence will show an association exists between social relationships and patient outcomes.

In 2011, I was actively involved in improving nurse-physician relationships as my organizations satisfaction scores were below the national benchmark. My journey began with a review of literature to identify interventions to improve nurse-physician relationships. Based on this review, I discovered interventions exist to improve nurse-physician communication. Some improvements are based on individual changes while others require participation and collaboration from all members of the healthcare team.

My first manuscript, *Social Networks: Social Relationships, Healthcare Providers and Outcomes* sought to bring new dimensions of social networking to light in healthcare. My second manuscript, *Communication between Nurses and Physicians, Can It Be Improved? A Review of the Literature* critically summarizes current knowledge of interventions to improve

nurse-physician communication. Strengths and weaknesses discovered in previous work are identified, thus identifying them in this intervention study and eliminating potential weaknesses. My third manuscript, *Evaluating the Effectiveness of Crucial Conversations® Training on Nurses' Self-Efficacy* was a one group, pretest, immediate posttest and 30-day post intervention study following Crucial Conversations® skilled communication training. Total scale mean self-efficacy scores significantly differed over time. A significant increase in total scale mean self-efficacy scores was noted between baseline and posttest 1 and between baseline and the 30-day follow up.

Manuscript I

Social Networks: Social Relationships, Healthcare Providers and Outcomes

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Abstract

Social networking among healthcare providers has been found to positively impact patient outcomes. Empirical studies of entire populations confirm the importance of social relationships to health and longevity. Using Social Networking Theory to view relationships between healthcare providers and patients helps construct a network of who collaborates with whom. This helps examine patient outcomes as a function of the healthcare provider network. As the concepts of social networking are explored, evidence will show a relationship exists between social relationships and patient outcomes.

Keywords: Social networking, social relationships, social support, social network theory, patient outcomes, healthcare providers, communication

Background & Significance

Team-centered approaches to care delivery and quality improvement have been widely promoted to address gaps in healthcare quality and safety in the United States (Bodenheimer, 1999; Meltzer et al., 2010). One strategy identified by the Institute of Medicine (IOM) to provide safer patient care was the promotion of teams in the care delivery model (IOM 2001). Teams have been identified by the National Quality Forum (NQF) as key elements of a “culture” of healthcare quality and safety (NQF, 2007), and The Joint Commission has identified improved team communication as a National Patient Safety Goal (Joint Commission, 2008).

Despite the conceptual popularity of teams in healthcare quality improvement, little systematic theory has focused on the design and construction of a team (Meltzer et al., 2010). Who should comprise the team, and how the team’s behavior will affect outcomes at the organization, unit and patient levels (Meltzer et al., 2010)? To address these questions concentration centered on social networks. Social networks illustrate how a person’s position, within a network can affect the volume, quality, and timeliness of information to which he/she has access (Meltzer et al., 2010). Moreover, relationships within the network have potential to affect group cohesion, trust, knowledge sharing, problem solving, coordination and outcomes (Meltzer, 2010). An important application that social relationships among teams, defined as nurses and physicians are a valuable resource that can be used to improve the flow of information and influence to achieve desired outcomes.

Social anthropologist, Dr. John Barnes (1954) was the first to describe patterns of social relationships that were not explained by families or work groups. He discovered social networking as a way to systematically describe patterns of relationships, encompassing concepts traditionally used by the public and social scientists: bounded groups (e.g., tribes) and social

categories (i.e., gender, ethnicity). Social networking is the study of how people, organizations or groups interact with others in their network (Chambers, Wilson, Thompson, & Harden, 2012). Network is a word frequently used in healthcare and is synonymous for partnership, collaboration, alliance, and group (Cunningham et al, 2011). Siriwardena (2014) defines a network as a social structure made of people, groups or organizations and the relationships between them.

Glanz, Rimer, & Viswanath (2009) study of the powerful influence that social networks have on health has garnered great interest among both researchers and practitioners. Provan and Kenis (2007) identified networks as an important form of multi-organizational governance. Advantages of social network coordination on clinical practice include: enhanced learning, efficient resource utilization, increased capacity to plan for and mitigate complex issues, and the delivery of quality care to patients and families (Provan & Kenis, 2007). As the concepts of social networks are explored, evidence will show an association exists between social relationships and patient outcomes. An understanding of the impact of social relationships on health status, health behaviors, and health decision making can contribute to the design of effective interventions for promoting health. Although no one theory adequately explicates social relationships between members of healthcare teams and patient outcomes, various conceptual models and theories have guided research in this area (Glanz, Rimer, & Viswanath, 2009).

Social networking affects behaviors of individuals who are embedded in organizations (Mizruchi & Marquis, 2006). Social embeddedness (Granovetter, 1985; Jones, Hesterly, & Borgatti, 1997; Uzzi, 1996) refers to the hierarchical nature of a social structure. In a social network, a cascading of relationships can be observed: individuals are embedded within dyadic relationships, and dyadic relationships are embedded in larger sub-groups that shape a social

network (Meltzer et al., 2010). In an effort to illustrate the association of team relationships to social network theory, four concepts will be addressed: the strength of weak ties (Granovetter, 1973); homophily (Kossinets & Watts, 2006); structural balance (Davis, 1963); and structural holes (Burt, 2000).

Strength of weak ties

Relationships can vary in strength with which individuals are connected. Granovetter (1973) classified ties as either strong or weak depending on the depth and breadth of the interaction, in addition to the emotional intensity associated with the interaction. Strong and weak ties are like friends and acquaintances, respectively. Strong, close relationships are considered important however; they are familiar therefore social benefit is limited due to the similar nature of all involved (Granovetter, 1973). Although weak ties are distant, they allow for a more broad response from participants due to detailed information exchange (Granovetter, 1973).

Homophily

Is a well-established sociological principle that suggests highly similar pairs show a higher tendency to form new ties (Kossinets & Watts, 2006). Resources flowing through a social network tend to be limited to specific attributes: age, gender or education level (Ibarra, 1995; Marsden, 1981). The more individuals focused on particular attributes, the more communication is facilitated among those involved.

Structural balance

Heider (1946) first developed the theory of structural balance from the exploration of an individual with negative and positive directed orientations to both another individual and simultaneously to objectives that have a signed orientation to objects. Individuals tend to balance their social network by creating strong relationships with ‘friends of friends’ (Wasserman & Faust, 1994). Lin (2001), noted individuals tend to seek mutual as opposed to unbalanced relationships, and as these mutual relationships provide mutual benefit to the team, they create a reinforcing effect. Balanced relationships yield connected subgroups, or “cliques.” Kossintes & Watts (2006) suggest cliques help stabilize the social network despite fluctuations from the larger social network structures. Stable networks, consisting of strong ties helped facilitate quick and easy resource utilization, reinforce existing vision, values and routines, foster an environment of group thinking and potentially limit an individual’s access to new resources through weak ties (Granoovetter, 1973).

Structural holes

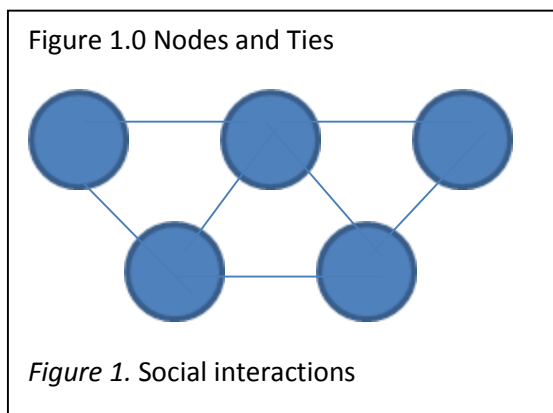
Structural holes in a social network develop from an absent connection between individuals or teams (Burt, 2000). To fully appreciate and understand a social network, we have to look not only at the relationships between individuals, but also at the points in the network where the connection is absent. A simple example of structural hole is when person B is friends with persons A and C, but A and C are not yet acquainted with one another. When two people share a common relationship, they are more likely to become friends themselves. For that to happen, person B must introduce A and C, thus closing the structural hole. Burt (2000) found that structural holes in the social network are an opportunity for organizational growth and adaptation. Individuals or teams that bridge structural holes occupy a unique position that may

benefit them in terms of volume, quality, timeliness and social influence over projects that bring together teams from both sides of the holes (Burt, 2000).

In healthcare settings, social networks have been widely used across a range of disciplines but most commonly applied to help improve effectiveness and efficiency related to decision making processes (Chambers, Wilson, Thompson, & Harden, 2012). Recent literature has refocused attention on the role of social networks in the ability of healthcare organizations to positively impact patient outcomes: improve communication and care coordination (Chambers, Wilson, Thompson, & Harden, 2012; Cunningham et al, 2011).

Social Networking Theory

Social Network Theory (SNT) generates an environment where social resources such as information, knowledge, and expertise are exchanged through informal networks of relationships (Lin, 2001). Individuals in the network are referred to as nodes (circles), and the relationship between them as ties (lines) (Sarason & Sarason, 1985). There can be many different ties between the nodes. By changing the focus from one-to-one interpersonal relationships to patterns of interprofessional team relationships, practitioners have a better understanding of how these types of relationships impact patients and healthcare providers (Anderson & Talsma, 2011).



In healthcare, and other organizational systems, networks can be mandated as part of the organizational structure or they can develop informally through interactions between individuals (Siriwarden, 2014). The structure of networks can be further described by the properties of parts of the network (Siriwarden, 2014). Glanz, Rimer, & Viswanath (2009) identify social support as an essential construct of social network and measure it according to four separate behaviors: emotional support, instrumental support, informational support and appraisal support.

Emotional support

Helegeson & Cohen (1996) described emotional support as the expression of empathy, love, trust and caring. Emotional support encompasses verbal and nonverbal communication. Listening is a vital component that provides a sense of comfort in “being there.” Emotional support helps restore self-esteem and alleviate feelings of inadequacy. Emotional support provides opportunity for open communication which can lead to expressions of feelings. It is associated with sharing life experiences with close friends and family members.

Informational support

Helegeson & Cohen (1996) describe instrumental support as provisions of information that assist with in advisement and guidance. Advice, suggestions and information gathering may help with decision making and allow for self-management. Helegeson & Cohen (1996) note that informational support helps improve optimism about future events and reduces feelings of vulnerability.

Instrumental support

Helegeson & Cohen (1996) describe instrumental support as provisions of material goods: transportation or money. These tangible resources offset feelings of loss of control by aiding in difficult times.

Appraisal support

Helegeson & Cohen (1996) described appraisal support as provisions of information that is useful for self-evaluation. This affirmation helps improve encouragement during times of vulnerability. Although each supportive behavior is defined individually, they are interrelated and aid with coping during stressful events. An important determinant of patients' ability to live with a terminal illness is their social environment (Helegeson & Cohen, 1996).

Application to Cancer Diagnosis

Helegeson and Cohen (1996) studied conditions under which the social environment beneficially influenced adjustment to a cancer diagnoses. The table below demonstrates the ways in which types of social support differ for a 39-year-old graduate student and mother of 2 young children after being diagnosed with breast cancer.

Types of Social Support		
Construct	Definition	Application
Emotional	Expressions of empathy, love, trust and caring	Close friends and family members provide hope and a listening ear
Instrumental	Tangible aid and service	Her husband decides to work from home 2 days per week to baby-sit the children while she attends her chemotherapy
Informational	Advice, suggestions, and information	Doctors provide facts about breast cancer and guidance during the treatment process Her mother

		offers advice about her own chemotherapy treatment 3 years prior
Appraisal	Information that is useful for self-evaluation	A close friend of 15 years reminds her of all of the qualities that equip her to "beat" breast cancer (to encourage an accurate assessment of her current situation)

Use of Theory in Nursing Practice

In healthcare settings, social networking theory can be used to understand how networking among healthcare providers helps to improve patient outcomes. Social networking offers a means of mapping communication flow between people in a network (Chambers, Wilson, Thompson, & Harden, 2012). This helps highlight the multiple communication interactions among healthcare providers so opportunities can be identified to improve interpersonal communication processes (Chambers, Wilson, Thompson, & Harden, 2012). Cunningham and colleagues (2011) found that an effective network encourages communication and facilitates trust among the team members. Effective networks help people feel good about their relationships, and to reciprocate positively with others to develop social capital. Cunningham and colleagues (2011) concluded that social networks among professionals represents not just the social glue of interprofessional teams but the sociological building blocks of effective organizations.

Conclusion

In the hospital environment interprofessional teamwork, skilled communication and interpersonal networking are vital to patient safety and successful outcomes (Creswick,

Westbrook, & Braithwaite, 2009). Through a systematic review of studies of professionals' network structures, Cunningham and colleagues (2011) found that cohesive and collaborative healthcare provider networks can facilitate care coordination thus contributing to improving patient outcomes. Factors identified were associated with network effectiveness and sustainability, particularly in relation to quality of care and patient safety (Cunningham and colleagues, 2011). Chambers, Wilson, Thompson, & Harden (2012) concluded that social networking was an approach to map communication flow between people in a network thus identifying opportunities to improve communication processes and patient outcomes. By exercising a social network perspective, relationships that generate information, knowledge, and expertise can be identified, targeted and supported to positively impact patient outcomes.

Manuscript II

Communication between Nurses and Physicians, Can It Be Improved?

A Review of the Literature

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Abstract

The history of communication between nurses and physicians is well documented. Each disciplines perception on how they effectively communicate is very different. However, one common theme identified, poor nurse-physician communication has a direct effect on patient outcomes. The sentinel event database of The Joint Commission (TJC) identified communication as the number one root cause of reported sentinel events. In addition, the National Database of Nursing Quality Indicators (NDNQI) surveys nurses regarding satisfaction with nurse-physician communication to help improve communication. Findings suggest there are interventions to help improve communication between nurses and physicians.

Keywords: Nurses, physicians, communication, intervention

Background

The Institute of Medicine report (1999) concluded that up to 98,000 deaths in hospitals occurred annually due to medical errors; they noted that professional relationships and communication between providers as having significant effects on patient outcomes. Between 1985 and 2004, the sentinel event database of The Joint Commission identified communication as the root cause in 65% of sentinel events (TJC, 2006). Effective communication between nurses and physicians contributes significantly to patient outcomes by increasing care coordination, decreasing length of stay, and decreasing mortality rates (Lindeke & Siekert, 2005).

Nurse leaders are responsible for creating environments where patients receive safe and high quality care. One approach to mitigate this issue, ensuring safe, quality care delivery and positive patient outcomes is to work in and maintain a healthy work environment (American Association of Critical Care Nurses, 2005). The American Association of Critical Care Nurses (AACN) has identified skilled communication as one of six components to establish and sustain healthy work environments. AACN (2005 pg. 3) asserts that “nurses must be as proficient in communication as they are in clinical skills” (AACN, 2005 pg.3). Implementing and sustaining successful interventions to ensure proficient nurse communication is likely to bridge the nurse-physician communication gap thus improving patient outcomes.

Purpose of this Literature Review

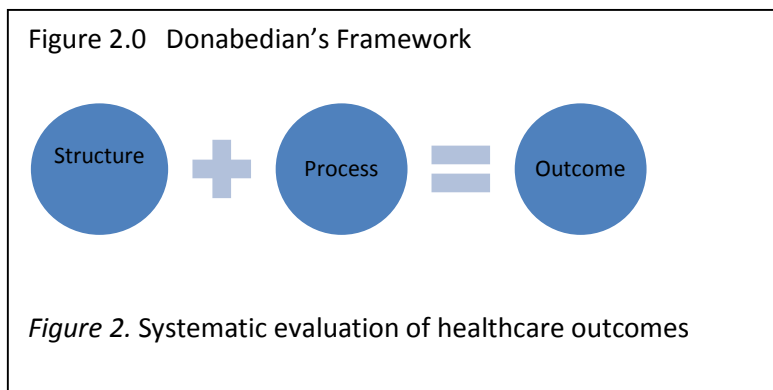
The purpose of this review of literature was to identify best practice interventions that were effective in improving nurse-physician communication in acute care hospitals in the United States.

Methods

Electronic databases searched for evidence included the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed. Keyword search terms were nurse, physician, communication, and intervention. The initial search produced 616 articles. A review of titles was completed for each of the articles to determine the most applicable evidence. All of the evidence appraised included English language and research and peer reviewed journals from 2000-2012. A manual review of the articles further excluded papers which focused on: APRN's, students, QI studies or charting. The final sample consisted of 21 articles. The articles were published from 14 different, peer-reviewed journals. All of the evidence was critically appraised by two reviewers and graded according to the American Association of Critical Care Nurses (AACN) Levels of Evidence (Armola et al., 2009).

Results

In an effort to systematically organize the 21 articles reviewed, Donabedian's (1966) structure, process, outcomes framework was utilized. Donabedian developed this framework for evaluating the impact of health care services on the quality of care and patient outcomes. The framework consists of three domains: "structure," "process," and "outcomes." "Structure" describes the context in which care is delivered; "process" refers to interactions between the patient and healthcare providers; and "outcomes" reflect the structure and process effectiveness of healthcare on the patients (Donabedian, 1997).



Ten studies tested the effectiveness of structures to improve nurse-physician communication. Two elements were identified from the structural studies: “tools,” and “organization.” Tools to facilitate communication included: a structured communication technique and daily goal sheets. The organizational component of the structural study focused on staff reporting relationships. Eight of ten studies reported on “tools” and two on “organization.” The effects of the interventions as they relate to nurse-physician communication are discussed under outcomes.

Structure

Four studies reported on the implementation of Situation, Background, Assessment and Recommendation (SBAR), a structured communication technique (Beckett & Kipnis, 2009; Carroll, 2006; Raica, 2009; Vardaman et al., 2012). In each study, a worksheet was used to deliver and receive patient information in a systematic manner. Although all four tools were different, they captured vital patient information that helped standardize communication and reduce errors. Clinical areas where the SBAR tools were implemented included one pediatric (Beckett & Kipnis, 2009), one Labor and Delivery (Carroll, 2006), one cardiac-step down (Raica, 2009) and two acute care units (Raica, 2009; Vardaman et al., 2012). The remaining four studies tested the effectiveness of daily goal sheets (Agarwal, Frandel, Tournner, McMilan & Sharek, 2008; Narasimhan, Eisen, Mahoney, Acerra & Rosen, 2006; Phipps & Thomas, 2005; Pronovost et al., 2003) to facilitate communication about patient care among all disciplines of the healthcare team. Daily goal sheets summarized elements of the patients’ plans of care: daily goals, mobility guidelines, diet status and discharge needs. Units that participated in the studies included two Pediatric ICUs (Agarwal, Frandel, Tournner, McMilan & Sharek, 2008) (Phipps &

Thomas, 2005), one adult Medical ICU (Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006) and one Surgical ICU (Pronovost et al., 2003).

The final two structural studies had an organizational component. Staff reporting relationships were changed to interprofessional healthcare teams rather than silos of nurses and physicians (O’Leary et al., 2009; Vazirani, Hays, Shapiro, & Cowan, 2005). One study assigned physicians to a specific unit (O’Leary et al., 2019) and the second study allocated a hospitalist, medical director and nurse practitioner to a dedicated unit (Vazirani, Hays, Shapiro, & Cowan, 2005). Geographical dispersion and the dynamic nature of medical teams in hospitals present barriers for nurse-physician communication (O’Leary et al., 2009). Localizing physician teams to designated units helped nurses and physicians create positive relationships and have greater frequency of communication (O’Leary et al., 2009). Adding a hospitalist, medical director and nurse practitioner to a medical team improved communication and collaboration among the participants (Vazirani, Hays, Shapiro & Cowan, 2005). Both nurses’ and physicians reported improved collaboration and communication with the nurse practitioner however; communication between nurses and physicians was unchanged (Vazirani, Hays, Shapiro & Cowan, 2005).

Structure Outcomes

Three SBAR studies resulted in improved communication, increased respect and trust among healthcare providers and positive patient perceptions of a safe environment (Beckett & Kipnis, 2009; Raica, 2009; Vardaman et al., 2012). The final SBAR study resulted in either a slightly negative effect or no effect on the nurse-physician communication/collaboration (Carroll, 2006).

All four studies relating to the implementation of daily goal sheets led to positive standardized communication among health care providers (Agarwal, Frandel, Tournner, McMilan & Sharek,

2008; Narasimhan, Eisen, Mahoney, Acerra & Rosen, 2006; Phipps & Thomas, 2005; Pronovost et al., 2003). In addition, Narasimhan, Eisen, Mahoney, Acerra & Rosen, 2006; Pronovost et al., 2003, reported daily goal sheets were linked to decreasing length of stay, decreasing mortality rates, preventing hospital acquired infections, lowering ICU costs and increasing annualized ICU admissions. The studies that altered staff reporting relationships yielded a positive effect on communication and collaboration (O'Leary et al., 2009; Vazirani, Hays, Shapiro, & Cowan, 2005).

Process

Eleven studies tested the effectiveness of process interventions to improve nurse-physician communication. Process interventions were categorized into “rounds,” “education,” and “organizational culture.” One article reported on nurse-physician rounds (Burns, 2011), seven on education (Boyle & Kochinda, 2004; Kipfel, et al., 2011; McCaffrey et al, 2010; Messmer, 2008; Saxton, 2012; Sayre, McNeese-Smith, Leach, Phillips, 2012; Tschannenn et al., 2011) and three on organizational culture (Blegen et al, 2010; Horak, Pauig, Keidan & Kerens, 2004; Timmel et al., 2010). The effects of the interventions as they relate to nurse-physician communication are discussed under outcomes.

Rounds

Nurse and physician rounding on a medical unit was the focus of one study (Burns, 2011). Rounding held clear expectations and addressed issues such as daily goals and discharge planning. Both nurses and physicians were responsible and accountable for this daily process to occur. Leadership engagement, support and visibility were essential for the success of this intervention (Burns, 2011).

Education

Two studies focused on education only for nurses (Saxton, 2012; Sayre, McNeese-Smith, Leach, & Phillips, 2012). Saxton (2012) tested the effectiveness of Crucial Conversations®, an educational intervention, on perceived self-efficacy to address disruptive physician behavior (Saxton, 2012). The Crucial Conversations® training program provides specific tools to help manage conversations that include sensitive information to ensure positive outcomes for patients (Saxton, 2012). The second study encouraged the use of Speaking Up® behaviors among acute care nurses (Sayre, McNeese-Smith, Leach, & Phillips, 2012). Speaking Up is defined as using voice to make specific information that is privately held known to someone –with positional power or authority- to take action and is a critical component in improving patient safety (Sayre, McNeese-Smith, Leach, & Phillips, 2012). For purposes of this study, speaking up referred specifically to nurses using their voices to make known to someone in positional authority (such as a manager, physician, or hospital administrator) specific information that might make a difference in producing a safe patient outcome (Sayre, McNeese-Smith, Leach, & Phillips, 2012). Interventions included: reviewing a video of leadership expressing their commitment to support the intervention, discussions of organizational obstacles, action plan development and group implementation to execute action plans (Sayre, McNeese-Smith, Leach, & Phillips, 2012).

Five studies focused on team training that included: work group development, interdisciplinary high-fidelity simulation sessions, and self-learning tools (Boyle & Kochinda, 2004; Kipfel et al., 2011; McCaffrey et al, 2010; Messmer, 2008; Tschannenn et al., 2011). Boyle & Kochinda (2004) focused on work group development using Development Dimensions International (DDI) communication modules. Six core DDI modules helped team members

develop competences in: leadership, behaviors for communication, conflict resolution, adaptation to change, teams and trust (Boyle & Kochinda, 2004). Two simulation studies applied clinical scenarios comprised of three different situations and patient populations (Kipfel, et al., 2011; Messmer, 2008). Simulation is a method of training that imitates real life situations in order to provide life like training (Kipfel, et al., 2011; Messmer, 2008). Interdisciplinary members of the healthcare team were included in both simulation training sessions. McCaffrey (2010) studied team training for nurses and physicians. A two-hour team training was provided for nurses while physician completed a self-study packet due to time constraints. Following the training, face-to-face meetings with nurses and physicians were held every other week to review effective communications styles and positive aspects of collaboration (McCaffrey et al, 2010). In the final study, nurses and physicians collaboratively developed work and task groups with an aim to improve communication patterns between nurses and physicians (Tschannen et al, 2011). The work and task groups consisted of 3-phases: work group-phase 1, task group phase, and work group-phase 2 (Tschannen et al, 2011). Work group-phase 1 consisted of collecting baseline measurement data and identifying communication problems within the work environment. Nurses and physicians were specifically asked to identify their perceptions of openness, accuracy, and timeliness of communication between the two professions (Tschannen et al, 2011). The task group phase defined the problem identified by the work group and created an implementation plan. The task group created a plan of joint working rounds, and implemented a strategy to enhance the quality of information transferred between nurses and physicians (Tschannen et al, 2011). The final phase, work group-phase 2 surveyed the work group to determine whether the interventions implemented were effective and if changes occurred in communication attitudes of nurses and physicians (Tschannen et al, 2011).

Organizational Culture

Three studies focused on team building between nurse and physician colleagues to create organizational cultures for safety (Blegen et al., 2010; Horak, Pauig, Keidan, & Kerns, 2004; Timmel et al., 2010). Blegen and colleagues (2010) implemented the Triad for Optimal Patient Safety (TOPS) training. TOPS training consisted of: an introduction to a safety culture by viewing the video “First, Do No Harm” (<http://www.imdb.com/title/tt0118526video>), participating in a facilitated discussion on how behavior and systems contribute to unsafe practice, attending a presentation on teamwork behaviors and communications skills and role-playing. Horak, Pauig, Keidan, & Kerns (2004) studied potential patient safety problems, particularly those regarding communication and collaboration between nurses and physicians. Intervention to mitigate the problems included: initiation of team-building meetings that included a sensitivity session; coaching with nursing managers; and setting ground rules for nurses and physicians communication (Horak, Pauig, Keidan, & Kerns, 2004). A second strategy to create an organizational culture of safety is Comprehensive Unit Based Safety Program (CUSP) (Timmel et al., 2010). CUSP provided a diverse and comprehensive view of work systems, roles and responsibilities of different disciplines and a model of collaboration and communication among nurses and physicians (Timmel et al., 2010). From the CUSP, three interventions were developed and implemented: team based daily goal sheets used during rounds, localizing similar patients to specific areas, and night shift nurse attendance during morning physician rounds (Timmel et al., 2010).

Process Outcomes: Rounds

Burns (2011) initially found nurse-physician daily rounding compliance slow; however, at the end of the 4-week pilot both nurses and physicians began anticipating each other’s actions.

Nurses and physicians noted the key to ensuring daily rounding compliance was: hardwiring daily rounding into the culture and having nurse-physician leadership support (Burns, 2011).

Nurses and physicians perceived that daily rounds improved communication and the quality of care delivered (Burns, 2011). Patients on the pilot unit were surveyed regarding the quality of care delivered during the pilot phase. Of approximately 20 questions, two were identified at the beginning of the Burns (2011) study to serve as a measurement of the nurse-physician rounding project:

- 1- How would you rate the physician communication with you or your family member?
- 2- How would you rate the overall teamwork among the nurses, physicians and staff?

Responses to the first questions (“How would you rate the physician communication with you or your family member? “) increased from the 0 percentile when the project began, to the 100th percentile the week concluding the project (Burns, 2011). Similarly, responses to the second question (“How would you rate the overall teamwork among the nurses, physicians and staff?”) increased from the 0 percentile when the project began, to the 100th percentile the week concluding the project (Burns, 2011).

Education

Nurse only educational interventions consisted of: Crucial Conversations® training and Speaking Up behaviors (Saxton, 2012; Sayre, McNeese-Smith, Leach, & Phillips, 2012). Crucial Conversations® training resulted in an increase in perioperative nurses’ self-efficacy to address disruptive physician behavior (Saxton, 2012). Self-efficacy was measured using a pre-posttest design to evaluate the effectiveness of the skilled communication training (Saxton, 2012). Limitations to the study included the use of a one-group pretest-posttest study design; a small, nonrandom, convenience sample; a study instrument with limited psychometric testing;

and a final data collection four weeks after the intervention (Saxton, 2012). The Speaking Up intervention resulted in an increase in Speaking Up behaviors measured using a pre and posttest design (Sayre, McNeese-Smith, Leach, & Phillips, 2012). In addition, the intervention group showed a statistically significant difference in means scores on the List of Individual Nurse Behaviors from baseline to posttest (Sayre, McNeese-Smith, Leach, & Phillips, 2012). As part of team training education, work group development utilizing DDI modules had a significant increase in mean scores between the pretest and posttest; sixty percent of participants used the identified skill sets at baseline, and 100% after the intervention (Boyle & Kochinda, 2004). High-fidelity simulation was implemented in two team training studies (Kipfel et al., 2011; Messmer, 2008). Kipfel and colleagues (2011) utilized the Clinical Practice Group Cohesion (GC) and the Collaboration and Satisfaction with Patient Care Decisions (CSPCD) instruments to measure outcomes from the interdisciplinary simulation training. Outcomes suggested a positive shift in communication, collaboration and satisfaction over the two month study (Kipfel et al., 2011). One item in particular, (“In general, how satisfied are you with the way the decisions are made about patient care, that is, with the decision-making process?”) reported a significant change over the two month study (Kipfel et al, 2011). When data were analyzed by generational groupings, the most significant growth occurred in the Millennial Generation participants (Kipfel et al., 2011). Messmer (2008) reported high level communication, collaboration and satisfaction by nurses and physicians engaged in human patient simulation (HPS). Nurses and physicians identified mutual respect as a crucial component of success (Messmer, 2008). HPS validated the importance of communication between nurses and physicians (Messmer, 2008). Participants became more collegial toward each other as a result of recognizing the strengths that each member brought to the team (Messmer, 2008). Self-study

among nurses suggests that improving or enhancing the characteristics of the practice environment also will enhance nurse-physician communication (McCaffrey et al., 2010).

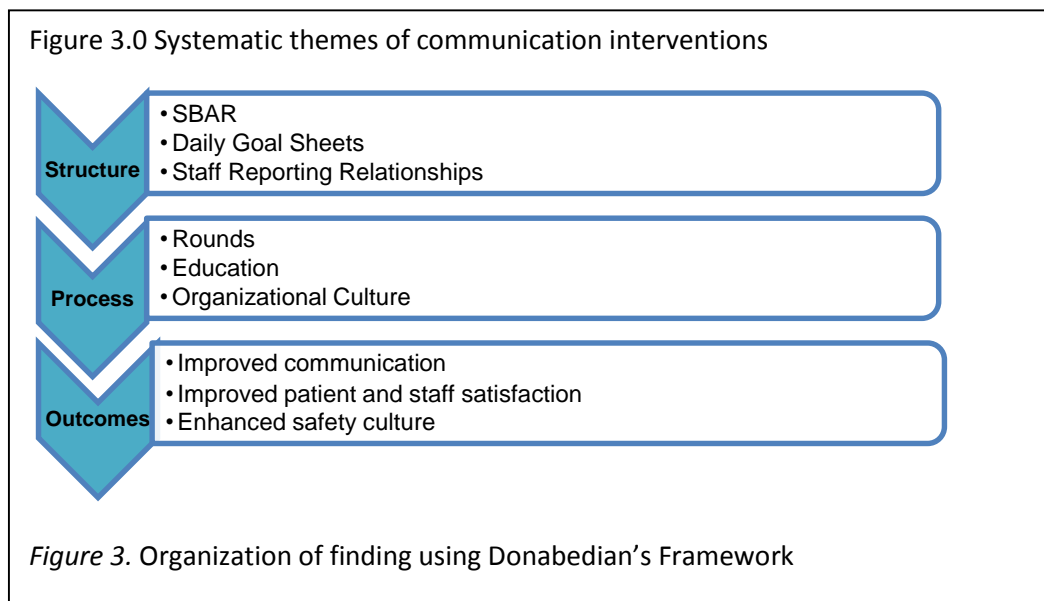
Awareness of body language and cultural difference were noted to be valuable components of the training for nurses (McCaffrey et al., 2010). Results from the nurse-physician work and task groups showed significant improvement in both nurse-physician perceptions of communication (McCaffrey et al., 2010). Physicians scored significantly higher on the metrics: openness of communication within groups, openness between groups, and collaboration between groups (Tschannen et al., 2011). Collaboration among nurses' and physicians' improved for both professions, with statistical significance reached for physicians (Tschannen et al., 2011).

Organizational Culture

Outcomes from the interdisciplinary team Triad for Optimal Patient Safety (TOPS) training showed consistent and meaningful increases regarding communication on the participating units and greater perceptions of a safer environment (Blegen et al., 2010). The effectiveness of team building initiatives reflected positive change in the first six out of fourteen areas evaluated: patient care, nurse-physician communication/collaboration, problem solving, unit procedures, nurse morale, and physician morale (Horak, Pauig, Keidan, & Kerns, 2004). Nurse-physician communication/collaboration domain had greater than 75% increase from both nurses and physicians pre and post survey results (Horak, Pauig, Keidan, & Kerns, 2004). The final team training study focused on implementing Comprehensive Unit-Based Safety Program (CUSP) training. Results showed improvements in 5 out of 6 culture domains measured using the teamwork Climate Scale (Timmel et al., 2010). Significant improvements were noted from 2006 and 2007 to 2008 (Timmel et al., 2010).

Discussion

This review identified 21 strategies to improve nurse-physician communication. Most of the studies emphasized that in order for patients to receive safe, quality care, clear communication is essential. Both nurses' and physicians' are responsible for demonstrating skilled communication techniques to ensure information is shared effectively thus leading to improved patient outcomes. Standardizing communication for every patient, every time will help bridge the communication gap, create a culture of safety and improve patient outcomes.



Structure: Tools

Situation, Background, Assessment and Recommendation (SBAR) is a structured communication technique. Utilizing SBAR allowed for the transfer of patient information to be done more effectively and efficiently with a decrease in medical errors (Beckett & Kipnis, 2009; Raica, 2009). SBAR allowed novice nurses to more quickly acquire social capital and gain legitimacy with coworkers and physicians (Vardaman et al., 2012). Three out of four areas that used this communication tool observed an increase in positive communication, patient safety and

onboarding to the unit (Beckett & Kipnis, 2009; Raica, 2009; Vardaman et al., 2012). Despite positive benefits of the SBAR tool, one group of nurses and physicians found SBAR was not beneficial in improving nurse-physician communication (Carrol, 2006). A single, three-hour classroom only SBAR intervention is almost certainly insufficient to produce significant changes in the knowledge, attitudes and behavior of the participants as well as ensuring cultural sustainability (Carroll, 2006).

Daily goal sheets were used to facilitate standardized communication among healthcare providers, patients and families. Implementing daily goal sheets increased healthcare providers comfort in explaining goals of care to the patients and families, improved staff and patients understanding, and increased the number of goals to be completed (Agarwal, Frandel, Tourner, McMilian, & Sharek, 2008). The use of daily goal sheets was linked to decreasing length of stay, decreasing mortality rates, preventing complications such as hospital acquired infections, lowering ICU costs and increasing annualized ICU admissions (Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006; Pronovost et al., 2003). Utilization of the daily goal sheets improved the perception of communication from a nursing perspective and nurses' felt the care delivered was improved (Phipps & Thomas, 2005). Members of the interprofessional team found the daily goal sheets to be a simple tool for clarifying work goals among providers; nurses' felt empowered and an active part of the patient care team (Pronovost et al., 2001). Although the tool helped increase nurse-physician communication and team coordination, physicians did not favor using the tool (Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006). Time was noted as the reason why physicians did not want to continue utilizing daily goal sheets (Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006). Physicians noted it was time consuming filling out the goal sheet, reviewing what other members of the interprofessional team had added and discussing the goal

sheet with family (Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006). Limitations regarding the use of daily goal sheets included: only intensive care units were studied, biased results by a Hawthorne effect and poor to no follow up regarding sustainability of the goal sheets (Agarwal, Frandel, Tournner, McMilan & Sharek, 2008; Narasimhan, Eisen, Mahoney, Acerra & Rosen, 2006; Phipps & Thomas, 2005; Pronovost et al., 2003).

Staff reporting relationships, geographic dispersions and the dynamic nature of medical teams in hospitals presented barriers for nurse-physician communication (O'Leary et al., 2009; Vazirani, Hays, Shapiro, & Cowan, 2005). Localizing physicians to specific units was a vital link to helping nurses and physicians have increased frequency of communication (O'Leary et al., 2009). The ability of patient's nurses to correctly identify physicians significantly improved along with patient's physicians correctly identifying nurses (O'Leary et al., 2009). Adding a nurse practitioner to a multidisciplinary unit provided concurrent inpatient and discharge education for patients. The nurse practitioners participated in daily activities on the unit including multidisciplinary rounds and called patients weekly for four weeks after being discharged from the hospital; in addition, home visits were offered to eligible patients (Vazirani, Hays, Shapiro, & Cowan, 2005). Nurses', physicians', patients and families reported communication among the providers related to daily plan of care was clear and direct (Vazirani, Hays, Shapiro, & Cowan, 2005). All healthcare providers reported access to high-quality staff was notably different (Vazirani, Hays, Shapiro, & Cowan, 2005).

Process: Rounds

The purpose of nurse-physician rounds was to improve nurse-physician communication as this was believed to be one component negatively impacting patients' perceptions of quality care (Burns, 2011). Patient information, including their primary nurse's name was faxed to the

physicians prior to am rounds (Burns, 2011). Both disciplines were responsible and accountable for executing daily rounds (Burns, 2011). Nurse-physician rounding consisted of a defined process with clear expectations (Burns, 2011). During rounds, care coordination focused on aiding task completion, open dialogue among nurses, physicians, patients and families and assessment of patient needs (Burns, 2011). Initially, compliance was high; however, due to time constraints and rounds not being hardwired, daily compliance decreased (Burns, 2011). The key to onboarding and sustaining nurse-physician rounds is to implement a strategy that focuses on compliance (Burns, 2011). Support, mentoring and coaching by nurses, physicians, and executive leaders are crucial to the acceptance and success of daily nurse-physician rounds (Burns, 2011).

Process: Education

Nurse only educational interventions included: Crucial Conversations® and Speaking Up training (Saxton, 2012; Sayre, McNeese-Smith, Leach, & Phillips, 2012). Crucial Conversations® training was utilized as an intervention aimed at increasing perceived self-efficacy of perioperative nurses to address disruptive physician behavior (Saxton, 2012). In addition, the communication intervention help empower perioperative nurses' to address the witnessed behavior (Saxton, 2012). Creating a culture of safety by supporting Speaking Up behaviors allow nurses' the freedom to address at risk behavior instead of avoiding or accommodating the behavior (Sayre, McNeese-Smith, Leach, & Phillips, 2012). These trainings taught nurses how to assertively communicate in situations where patient safety was at risk.

Team training consists of interdisciplinary work groups focused on simulation training and education (Boyle & Kochinda, 2004; Kipfel, et al., 2011; McCaffrey et al, 2010; Messmer, 2008; Tschannenn et al., 2011). Nurse and physician leaders are responsible for creating an

environment where collaborative communication among healthcare providers exists (Boyle & Kochinda, 2004). Clarifying and amplifying leadership roles facilitates shared leadership among nurses and physicians (Boyle & Kochinda, 2004). Mutual respect for each member of the interdisciplinary team improved satisfaction and as a result lowered personal stress even though members perceived significantly more situational stress (Boyle & Kochinda, 2004). Shifting from practicing in silos to a culture of interprofessional teamwork is challenging for healthcare providers (Kipfel et al., 2011). Simulation mimics realistic environments where interprofessional team members work together to solve complex patient problems (Kipfel et al., 2011; Messmer, 2008). Implementing a new residency program requires engagement, understanding and skilled communication (McCaffrey et al., 2011). Tension between nurses and physicians was felt during the initial phase of implementation (McCaffrey et al., 2011). Positive communication skills: compromise, through explanation, and general respect united nurses and physicians in their ability to meet patient and needs (McCaffrey et al., 2011). Communicating clearly and effectively with new members of the healthcare team may reduce medical errors and will certainly improve the efficiency and effectiveness of the unit (McCaffrey et al, 2010). On a daily basis, healthcare professionals encounter multiple interruptions that affect their ability to effectively communicate (Tschannenn et al., 2011). Participants in the work and task groups identified effective communication as a key skill for both nurses and physicians to achieve mastery (Tschannenn et al., 2011). Work and task groups that focused on interdisciplinary communication had shared problem solving solutions where true collaboration and communication emerged (Tschannenn et al., 2011).

Process: Organizational Culture

Team building among nurses and physicians improved communication and patient outcomes thus creating an organizational culture of safety (Blegen et al., 2010; Horak, Pauig, Keidan, Kerns, 2004; Timmel et al., 2010). Patient outcomes were negatively impacted as a result of lack of communication and teamwork (Horak, Pauig, Keidan, Kerns, 2004). Identifying key issues:

1. What was getting in the way of patient care?
2. What should be done?

allowed nurses and physicians to collaborate, communicate and identify action items to mitigate the issues and ensure the delivery of quality care (Horak, Pauig, Keidan, Kerns, 2004). The Triad for Optimal Patient Safety (TOPS) project and the Comprehensive Unit-Based Safety Program (CUSP) were two initiatives implemented to improve the safety culture (Blegen et al., 2010; Timmel et al., 2010). Identifying and acknowledging mistakes is essential to improving patient safety (Timmel et al, 2010). The TOPS and CUSP initiatives have improved the safety culture and the ability to learn from healthcare errors (Blegen et al., 2010; Timmel et al., 2010). These structured initiatives improved communication and teamwork among nurses and physicians leading to effective and efficient patient care coordination (Blegen et al., 2010; Timmel et al., 2010).

Strengths and Limitations

The strengths of this review are multiple studies for each strategy tested, a minimum grade of C based on AACNs Level of Evidence, enhanced communication strategies between nurses and physicians, and positive patient perceptions of safety cultures. Despite the significant findings among the studies, which do provide evidence based, positive interventional effects;

limitations were noted. These limitations included piloting only nurse-physician communication interventions while not including all other disciplines of a healthcare team; settings limited to hospital; classroom only education and excluded advanced practice registered nurses, students, QI studies or chart review.

Conclusion

Creating and implementing standard communication tools is essential in reducing errors. Standardizing communication, continuity of daily process, education and adherence is critical to reducing errors in patient care that results from poor communication within the nurse-physician dyad. Communication techniques and strategies utilized by all healthcare providers could impart a solid foundation to significantly reduce errors, improve satisfaction and create a safer work environment. The literature indicates the need for standardized communication among nurses and physicians. We know errors in patient care are directly related to poor communication. Implementing standardized communication strategies will help reduce errors and ensure patients receive safe, quality care.

Manuscript III

Communication Skills Training: The Evaluation on Nurses' Communication Self-Efficacy

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Abstract

Skilled communication between nurses and physicians has been identified as an important component of organizing and delivering safe, quality care to patients. The purpose of this study was to examine whether Crucial Conversations® training improved clinical nurses' self-efficacy to communicate with physicians and assess whether Crucial Conversations® training improved clinical nurses' ability to communicate with physicians. Ten clinical nurses working at an academic medical center participated in a two-day communication skills training presented by a certified Crucial Conversations® trainer. Using a repeated measures ANOVA analysis, there was a statistically significant increase from baseline in total mean self-efficacy scores. The results of this study suggest one intervention strategy to improve communication self-efficacy is to educate nurses in communication skills.

Key words: *communication, self-efficacy, nurse, physician, intervention.*

Introduction

Communication between nurses and physicians is vital to maintaining patient safety and has been linked to errors resulting in poor patient outcomes (Cunningham et al., 2011; IOM, 1999). Without skilled communication, patient care coordination is compromised thus leading to negative patient outcomes: increased length of stay and increased mortality rates (IOM, 1999; Lindeke & Siekert, 2005). Team-centered approaches to care delivery and quality improvement have been widely promoted to address gaps in healthcare quality and safety (Bodenheimer, 1999; Meltzer et al., 2010). The National Quality Forum (<http://www.qualityforum.org>, 2015) identified teams as key elements of a “culture” of healthcare quality and safety and The Joint Commission ([TJC] http://www.jointcommission.org/standards_information/npsgs.aspxhas.2015) identified improved team communication as a National Patient Safety Goal.

One approach to creating a culture that delivers quality and safe care is to work in and maintain a healthy work environment (American Association of Critical Care Nurses [AACN], 2005). Nurse leaders are key stakeholders responsible for creating and sustaining healthy work environments (AACN, 2005). Team-centered practice is an element of healthy work environments that yields positive patient outcomes (American Association of Critical Care Nurses, 2005). Implementing successful interventions to ensure proficient nurse-physician communication is a strategy to help bridge the communication gap thus leading to improved patient outcomes. One intervention strategy used to improve communication between nurses and physicians was communication skills training. The purpose of this study was to assess if Crucial Conversations® training improved self-efficacy in clinical nurses working at a large, academic medical center and clinical nurse’s ability to communicate with physicians.

Background and Significance

Over a decade ago, the Institute of Medicine [IOM], 1999, in the report *To Err is Human: Building a Safer Health System* focused attention on the magnitude of errors related to patient safety. The report concluded that up to 98,000 deaths in hospitals occurred annually due to medical errors; noting professional relationships and communication between providers as having significant effects on patient outcomes (IOM, 1999). The sentinel event database of The Joint Commission identified communication as the root cause in 65% of sentinel events. In an effort to safeguard the delivery of quality care, TJC developed National Patient Safety Goals. Promoting effective and efficient communication between members of the health care team is vital to maintaining patient safety (National Patient Safety Foundation, 2004).

The American Association of Critical Care Nurses identified working in and maintaining a healthy work environment as one approach to ensure quality care delivery and positive patient outcomes. The AACN created six standards for establishing and sustaining healthy work environments. One standard is *skilled communication*, a two way dialogue in which healthcare professionals collaborate and make decisions together (AACN, 2001). This standard declared “nurses must be as proficient in communication as they are in clinical skills (AACN, 2001, p. 3). Implementing and sustaining successful interventions to ensure skilled nurse-physician communication will bridge the communication gap and improve patient outcomes.

Several strategies to improve communication between nurses and physicians have been tested (Saxton, 2012; Sayre, McNeese-Smith, Leach, & Phillips, 2012). Communication skills training was one intervention strategy used to improve communication between nurses and physicians. Saxton (2012) implemented and evaluated an educational communication skills intervention aimed at increasing perceived self-efficacy of perioperative nurses to address

disruptive physician behavior. Saxton utilized Crucial Conversations®, a standardized communications training program for stressful interactions, in a group of perioperative nurses. The Crucial Conversations® training program provided specific tools to help manage conversations that included sensitive information to ensure positive outcomes for patients (Patterson, 2002). Saxton adapted the content-specific program for the perioperative setting and a Crucial Conversations® trainer delivered the training. The adaptations to the curriculum focused on identifying situations in the perioperative setting that warranted crucial conversations and how perceived self-efficacy increased when Crucial Conversations® training was used to address disruptive physician behavior.

In 2011, a Midwestern academic medical center (AMC) received their annual nurse satisfaction survey results. Mean scores were benchmarked with similar organizations in the National Database of Nursing Quality Indicator (NDNQI) database. Total mean scores in each of the five domains:

- Nursing Participation in Hospital Affairs
- Nursing Foundations for Quality Care
- Nurse Manager Ability, Leadership and Support of Nurses
- Staffing and Resources Adequacy
- Collegial Nurse-Physician Relations

were below the NDNQI benchmark. However, one category, Collegial nurse-Physician Relations, reported mean scores in the 25th percentile (NDNQI, 2011). Nurse leaders examined performance scores and advised nurse managers to develop strategies to improve nurse-physician collegial relationship scores; making this a priority on the strategic plan. Nurse Managers are in a unique position to work directly with clinical staff to help identify strategies to improve nurse-

physician communication. Implementing and sustaining strategies to improve nurse-physician communication should lead to improved nurse-physician collegial relationship scores and patient outcomes.

Interprofessional teamwork, skilled communication and interprofessional networks are vital to patient safety and successful outcomes in a hospital environment (Creswick, Westbrook, & Braithwaite, 2009). Professional relationships and skilled communication between providers are strategies identified as having a significant effect on patient outcomes resulting in: increased care coordination, decreased length of stay, and decreased mortality rates (Creswick, Westbrook, & Braithwaite, 2009; Lindeke & Siekert, 2005). The aims of this study were to assess the effectiveness of a communication intervention on:

- self-efficacy in clinical nurses working at an academic medical center and
- clinical nurses' ability to communicate with physicians.

Literature Review

A review of the literature was conducted to identify best practice interventions that were effective in improving nurse-physician communication in acute care hospitals in the United States. The literature review was organized using Donabedian's (1966) structure, process, outcomes framework. "Structure" describes the context in which care is delivered; "process" refers to interactions between the patient and healthcare providers; and "outcomes" reflect the structure and process effectiveness of healthcare on the patients (Donabedian, 1997).

Structure

Ten studies tested the effectiveness of structures to improve nurse-physician communication. Two elements were identified from the structural studies: "tools," and "organization." Tools to facilitate communication included: a structured communication

technique and daily goal sheets. The organizational component of the structural study focused on staff reporting relationships. Eight of ten studies reported on “tools” and two on “organization.” Three SBAR studies resulted in improved communication, increased respect and trust among healthcare providers and positive patient perceptions of a safe environment (Beckett & Kipnis, 2009; Raica, 2009; Vardaman et al., 2012). The final SBAR study resulted in either a slightly negative effect or no effect on nurse—physician communication (Carroll, 2006). The implementation of daily goal sheets led to positive standardized communication among health care providers (Agarwal, Frandel, Tournner, McMilan & Sharek, 2008; Narasimhan, Eisen, Mahoney, Acerra & Rosen, 2006; Phipps & Thomas, 2005; Pronovost et al., 2003). In addition, Narasimhan et al., 2006; and Pronovost et al., 2003, reported that daily goal sheets were linked to decreasing length of stay, decreasing mortality rates, preventing hospital acquired infections, lowering ICU costs and increasing annualized ICU admissions. The studies that altered staff reporting relationships yielded a positive effect on communication and collaboration (O’Leary et al., 2009; Vazirani, Hays, Shapiro, & Cowan, 2005).

Process

Eleven studies tested the effectiveness of process interventions to improve nurse-physician communication. Process interventions were categorized into “rounds,” “education,” and “organizational culture.” Nurse and physician rounding on a medical unit was the focus of one study (Burns, 2011). Rounding held clear expectations and addressed issues such as daily goals and discharge planning. Burns (2011) initially found nurse-physician daily rounding compliance slow; however, at the end of the 4-week pilot both nurses and physicians began anticipating each other’s actions. Two studies focused on education only for nurses (Saxton, 2012; Sayre, McNeese-Smith, Leach, & Phillips, 2012). Saxton (2012) tested the effectiveness

of Crucial Conversations®, an educational intervention, on perceived self-efficacy to address disruptive physician behavior. The second study encouraged the use of Speaking Up ® behaviors among acute care nurses (Sayre, McNeese-Smith, Leach, & Phillips, 2012). Nurses and physicians noted the key to ensuring daily rounding compliance was: hardwiring daily rounding into the culture and having nurse-physician leadership support (Burns, 2011). Crucial Conversations® training increased perioperative nurses' self-efficacy to address disruptive physician behavior (Saxton, 2012). A “Speaking Up” intervention increased “Speaking Up” behaviors in nurses measured using a pre and posttest design (Sayre, McNeese-Smith, Leach, & Phillips, 2012).

Five studies focused on team training that included: work group development, interdisciplinary high-fidelity simulation sessions, and self-learning tools (Boyle & Kochinda, 2004; Kipfel et al., 2011; McCaffrey et al, 2010; Messmer, 2008; Tschannenn et al., 2011). Boyle & Kochinda (2004) focused on work group development using Development Dimensions International (DDI) communication modules. Six core DDI modules helped team members develop competences in: leadership, behaviors for communication, conflict resolution, adaptation to change, teams and trust (Boyle & Kochinda, 2004). High-fidelity simulation was implemented in two team training studies (Kipfel et al., 2011; Messmer, 2008). Kipfel and colleagues (2011) utilized the Clinical Practice Group Cohesion (GC) and the Collaboration and Satisfaction with Patient Care Decisions (CSPCD) instruments to measure outcomes from the interdisciplinary simulation training. Messmer (2008) reported high level communication, collaboration and satisfaction by nurses and physicians engaged in human patient simulation (HPS). Nurses and physicians identified mutual respect as a crucial component of success (Messmer, 2008). Self-study among nurses suggests that improving or enhancing the

characteristics of the practice environment also will enhance nurse-physician communication (McCaffrey et al., 2010). Awareness of body language and cultural difference were noted to be valuable components of the training for nurses (McCaffrey et al., 2010). Work group development utilizing DDI modules had a significant increase in mean scores between the pretest and posttest; sixty percent of participants used the identified skill sets at baseline, and 100% after the intervention (Boyle & Kochinda, 2004). Results showed a positive shift in communication, collaboration and satisfaction over the two month study (Kipfel et al., 2011). Participants became more collegial toward each other as a result of recognizing the strengths that each member brought to the team (Messmer, 2008). Results from the nurse-physician work and task groups showed significant improvement in both nurse-physician perceptions of communication (McCaffrey et al., 2010). Physicians scored significantly higher on the metrics: openness of communication within groups, openness between groups, and collaboration between groups (Tschannen et al., 2011). Collaboration among nurses' and physicians' improved for both professions, with statistical significance reached for physicians (Tschannen et al., 2011).

Three studies focused on team building between nurse and physician colleagues to create organizational cultures for safety (Blegen et al., 2010; Horak, Pauig, Keidan, & Kerns, 2004; Timmel et al., 2010). Blegen and colleagues (2010) implemented the Triad for Optimal Patient Safety (TOPS) training. TOPS training consisted of: an introduction to a safety culture by viewing the video "First, Do No Harm" (Abrahams, 1997) participating in a facilitated discussion on how behavior and systems contribute to unsafe practice, attending a presentation on teamwork behaviors and communications skills and role-playing. Horak, Pauig, Keidan, & Kerns (2004) studied potential patient safety problems, particularly those regarding communication and collaboration between nurses and physicians. Interventions to mitigate the

problems included: initiation of team-building meetings that included a sensitivity session; coaching with nursing managers; and setting ground rules for nurses and physicians communication (Horak, Pauig, Keidan, & Kerns, 2004). A second strategy to create an organizational culture of safety is Comprehensive Unit Based Safety Program (CUSP) (Timmel et al., 2010). CUSP provided a diverse and comprehensive view of work systems, roles and responsibilities of different disciplines and a model of collaboration and communication among nurses and physicians (Timmel et al., 2010). From the CUSP, three interventions were developed and implemented: team based daily goal sheets used during rounds, localizing similar patients to specific areas, and night shift nurse attendance during morning physician rounds (Timmel et al., 2010). Outcomes from the interdisciplinary team Triad for Optimal Patient Safety (TOPS) training showed consistent and meaningful increases regarding communication on the participating units and greater perceptions of a safer environment (Blegen et al., 2010). The effectiveness of team building initiatives reflected positive change in the first six out of fourteen areas evaluated: patient care, nurse-physician communication/collaboration, problem solving, unit procedures, nurse morale, and physician morale (Horak, Pauig, Keidan, & Kerns, 2004). The nurse-physician communication domain had greater than 75% increase from both nurses and physicians pre and post survey results (Horak, Pauig, Keidan, & Kerns, 2004). Results showed improvements in 5 out of 6 culture domains measured using the teamwork Climate Scale with significant improvements noted from 2006 and 2007 to 2008 (Timmel et al, 2010).

Theoretical Framework

John Barnes's (1954) Social Networking Theory (SNT) is one theoretical perspective to explore and understand nurse-physician communication. Social networking is the study of how

people, organizations or groups interact with others in their network (Chambers, Wilson, Thompson, & Harden, 2012). Network is a word frequently used in healthcare and is synonymous with partnership, collaboration, alliance, and group (Cunningham, Ranmuthugala, Plumb, Georgiou, Westbrook, & Braithwaite, 2011). SNT generates an environment where social resources such as information, knowledge, and expertise are exchanged through informal networks of relationships (Lin, 2001). Individuals in the network are referred to as nodes, and the relationship between them as ties (Sarason & Sarason, 1985). SNT assumes all individuals are equal. However, between nurses and physicians a hierarchical influence on interprofessional relationships continues to exist. Therefore, this imbalance may affect social networking. One strategy to mitigate the imbalance may be to bolster nurse's self-efficacy. By changing the focus from one-to-one interpersonal relationships to patterns of interprofessional team relationships, practitioners should have a better understanding of how these types of relationships impact patients and healthcare providers (Anderson & Talsma, 2011).

Advantages of social network coordination on clinical practice include: enhanced learning, efficient resource utilization, increased capacity to plan for and mitigate complex issues, and the delivery of quality care to patients and families (Provan & Kenis, 2007). As the concepts of social networks are explored, evidence will show an association exists between social relationships and patient outcomes. An understanding of the impact of social relationships on health status, health behaviors, and health decision making can contribute to the design of effective interventions for promoting health.

Design

This intervention study used a one-group pretest-immediate posttest and 30-day posttest study design to assess whether Crucial Conversations® education improved self-efficacy scores

in clinical nurses working at UK HealthCare and whether clinical nurses working at UK HealthCare who engaged in nurse-physician communication post Crucial Conversations® education reported improved ability to communicate with physicians.

Methods

Crucial Conversations®, is a standardized communications training program for stressful interactions. The Crucial Conversations® training program provides specific tools to help manage conversations that include sensitive information to ensure positive outcomes for patients (Patterson, 2001). The standardized curriculum for Crucial Conversations® training was delivered by a certified Crucial Conversations® trainer. The training took place at UK HealthCare, over two business days with participants having a designated 30 minute lunch.

Sample

A convenience sample of 10 participants from the Department of Nursing at UK HealthCare was recruited using an internal email list serve for the study. Study inclusion criteria included: registered nurses of UK HealthCare, a minimum of a Bachelor's of Science degree, at least 3 years' nursing experience and direct contact with physicians as part of routine job activities.

Measures

For the purpose of this study, the Self-Efficacy to Address Disruptive Behavior Scale (SADBS), a 10-item Likert-type scaled tool was used to measure the degree of self-efficacy (Saxton, 2012). The SADBS was administered before the intervention, immediately after the intervention, and four weeks after the intervention. Participants rated their degree of confidence in addressing disruptive physician behavior in situations, from 0 (not confident) to 10 (highly confident). The SADBS provided a total score, calculated as the mean score across the 10 items,

with higher scores indicating higher perceived self-efficacy to communicate with physicians. For each of the 10 situations on the SADBS, two additional questions were included. These questions were: “In the past month, how often did you witness the following behaviors?” and “In the past month, how often did you address the following behaviors?” The mean of the responses over the 10 items for the *address behavior* scale was calculated and used in analysis. Response options were based on a 5-point Likert scale and included:

- Never
- 2-4 days per month
- 1—2 days per week
- 3 or more days per week
- more than once per shift, every shift

The SADBS indirectly measures confidence in communicating with physicians. Saxton (2012) reported the instrument was validated by five doctorally prepared experts. Three of the individuals had research expertise in self-efficacy’ one, a former perioperative nurse, taught instrument development, and one taught courses in nursing research (Saxton, 2012). These five experts assessed the SADBS for content validity, the ability of the instrument to measure the construct under investigation, and the ability of the participants to understand items within the instrument. Although no content validity index was used, it was the opinion of these experts that the SADBS appeared appropriate for testing self-efficacy (Saxton, 2012).

Data Analysis

Data were analyzed using SPSS (IBM, Chicago, IL). Participant demographics were analyzed using descriptive statistics. Analysis of Variance (ANOVA) was used to test for differences in scores over three time periods; baseline, posttest 1 and 30-day follow up.

Results

Ten individuals consented to participate in the study. All of the participants were women, between 23 and 59 years of age, mostly educated at the baccalaureate level (90%), 80% have 5 or more years of nursing experience. Less than half (40%) held a national certification and more than half (70%) were enrolled in an academic degree program (Table 1).

Mean scores for each of the 10 items on posttest 1 and posttest 2 increased compared with pretest scores (Table 2). All participants' scores increased following the skilled communication training. Baseline scores ranged from 4.60(SD) to 8.90(SD); posttest 1 scores ranged from 7.60(SD) to 9.30 (SD) and posttest 2 scores from 7.70(SD) to 9.70(SD). There were statistically significant improvements from baseline to posttest 1 and posttest 2 for each item with the exception of illegible orders and telephone calls and/or pages.

Table 1. Participant Demographics (n=10)

Characteristic	n (%)
Gender	
Female	10 (100)
Age, <i>Mean</i> (SD)	
39.5 (11.9)	
Nursing education	
Baccalaureate degree	9 (90)
Master's degree	1(10)
Nursing experience	
< 5 years	2 (20)
5-9 years	4 (40)
10-19 years	2 (20)
20+ years	2 (20)
National Certification	
Yes	4 (40)
No	6 (60)
Advancing education	
Yes	7 (70)
No	3 (30)

Table 2. Total Scale Self-Efficacy Scores for 3 Data Collection Periods

Items	Pretest mean (SD)	Posttest 1 mean (SD)	Posttest 2 mean (SD)
Profanity/offensive language	5.30(2.35)	8.10(1.72)	7.90(1.85)
Illegible orders*	8.90(1.28)	9.30(0.68)	8.70(1.56)
Joke with racial/ethnic slurs	5.50(2.46)	7.90(2.28)	7.80(1.98)
Telephone calls and/or pages*	8.10(2.37)	9.10(1.10)	8.70(1.41)
Derogatory comments about the quality of care	5.80(2.70)	8.30(1.56)	8.50(0.97)
Failure to follow organizational policy	6.00(2.26)	8.90(0.99)	9.70(0.95)
Inappropriate comments in the medical record	4.60(2.11)	7.60(1.43)	7.70(1.63)
Throwing objects	6.70(2.83)	8.80(1.03)	9.10(.088)
Sexual comments	5.80(2.78)	8.30(1.63)	8.60(1.83)
Threatening body language	5.70(3.30)	8.90(1.10)	8.60(1.83)

*p,05; SD=standard deviation

From the repeated measures ANOVA, total scale self-efficacy (SE) scores significantly differed over time ($F=7.54$, $p=.014$). Post hoc analysis revealed a significant increase in total scale SE between baseline and posttest 1 ($p=.003$) and between baseline and posttest 2 ($p=.004$). There was no difference in SE from posttest 1 and posttest 2 ($p=.80$).

Table 3. Repeated measure ANOVA evaluating changes in total scale self-efficacy over time

Outcome	Time			<i>F or t</i>	<i>p</i>
	Pre <i>mean (SD)</i>	Post <i>mean (SD)</i>	30 day <i>mean (SD)</i>		
Total Scale Self-Efficacy	6.24 (2.08)	8.52 (1.03)	8.43 (1.20)	$F = 7.54$.014
Address behavior	1.84 (0.60)	--	2.13 (0.58)	$t = -1.64$.14

Note: Posttest means were not calculated due to immediate post training assessment

Analysis for addressing disruptive physician behavior did not change due to participant's limited observations of witnessing disruptive behaviors. Since behaviors were not witnessed, there was no opportunity to address therefore; a score could not be assigned or calculated.

Discussion

This study was conducted to assess the effectiveness of Crucial Conversations® training on clinical nurses' self-efficacy and clinical nurses' ability to communicate with physicians. Over a decade after the Institute of Medicine reported alarming data on medical errors in the United States and called for efforts to mitigate this problem, patient safety continues to be relevant (Kohn et al., 2000). Despite strategic interventions, challenges exist to achieve a culture of safety for patients.

All items on the Self-Efficacy to Address Disruptive Behavior Scale (SADBS) resulted in improvement over time except illegible orders and telephone calls and /or pages. Implementation of electronic order entry and text messaging could explain why there was no change. The results of this study indicate that the study intervention, a two-day communication skills training program, increased clinical nurses' perceptions of self-efficacy. However, the full impact on nurses' ability to communicate with physicians in clinical settings was not fully assessed because participants witnessed few episodes of disruptive behavior immediately after the training program. Results of this study suggest that Crucial Conversations® training for clinical nurses is effective in increasing their self-efficacy in communicating with physicians. Emerging evidence exists that nurses' can apply Crucial Conversations® training in the clinical setting. The limitations of this study include the use of a small, convenience sample and a short follow-up to observe disruptive behaviors.

Implications for Nursing Practice

Communication between nurses and physicians is vital to maintaining patient safety and has been linked to errors resulting in poor patient outcomes (Cunningham et al., 2011; IOM, 1999). Using skilled communication training such as Crucial Conversations® can improve

clinical nurses' perceived self-efficacy and potentially their ability to address disruptive physician behavior in clinical settings (Saxton, 2012). Promoting skilled communication training has great potential for increased application with subsequent reduction in poor patient outcomes. As a nurse leader, the next steps for practice should include:

- Expand this skilled communication training with a specific population of nurses' such as: unit charge nurses, divisional charge nurses and hospital operations administrators
- Review the list of disruptive behaviors used with focus group to measure self-efficacy of clinical nurses to see if different behaviors or methods of communication are determined
- Partner with local colleges and the university to seek opportunities to include skilled communication training in the nursing curriculum
- Engage interprofessional team members to participate in the skilled communications training

This study is highly informative and extends awareness of perceived self-efficacy related to nurse-physician communication. Future research in the area of nurse-physician communication should replicate this study by using a larger sample and stronger study design. The study sample should be more representative of clinical nurses' who have direct interaction with physicians. To better capture sustainability of improved self-efficacy, a longitudinal study should be considered.

Limitations

Limitations of this study included the use of a small, convenience sample, and a short follow up period to observe disruptive behaviors. A limited number of physician's behaviors

were observed by this group 10 clinical nurses therefore, opportunity to address behaviors was limited. Findings may not be generalized to more diverse populations.

Conclusion

Communication between nurses and physicians is vital to maintaining patient safety and has been linked to errors resulting in poor patient outcomes. One intervention strategy used to improve communication between nurses and physicians was communication skills training. Improving nurse-physician collegial relations scores was a strategic priority for the organization as results were below the national benchmark. Review began on how to mitigate the issue. This study revealed that nurses' self-efficacy could be increased using Crucial Conversations® training. Skilled communication is one intervention between nurses and physicians to help bridge gaps in healthcare communication.

Practice Inquiry Project Conclusion

Communication between nurses and physicians is vital to maintaining patient safety and has been linked to errors resulting in poor patient outcomes. Without skilled communication, patient care coordination is compromised thus leading to sub optimal patient outcomes. Over the course of achieving my doctorate in nursing practice, I have developed a better understanding of how skilled communication between nurses and physicians improves patient outcomes. Through my doctoral journey, I identified a patient quality issue, reviewed the literature for best practice initiatives, and evaluated an interventional study to possibly mitigate the quality issue. I have been able to observe how skilled communication between nurses and physicians helps bridge gaps in healthcare communication.

Appendix A



Recruitment Letter To Participants



The purpose of this research study is to determine whether Crucial Conversations® training improves your confidence and ability to communicate with physicians. The Principal Investigator (PI) for this study is DeeDee McCallie.

As a clinical nurse at UK HealthCare, you are being invited to participate in this research study by taking part in a two day Crucial Conversations® training. The total time commitment is 17 hours and includes the time it takes to fill out a consent form and baseline assessment (10 minutes), two-8 hour days to participate in Crucial Conversations® training and 10 minutes to complete posttest immediately following the training and 10 minutes to complete a posttest 30 days after the training.

There are no known risks to participation in this study. The \$275 participation fees for Crucial Conversations® training will be paid by the study. Though you will not be paid for your participation, there may be professional benefit gained by increasing your confidence and skill in communicating with members of the healthcare team. Upon completion of the Crucial Conversations® training, you will earn 16 CEs and be allowed to keep all material provided.

Participation is completely voluntary. Your responses to the assessments will be reported anonymously, meaning no names will appear or be used on research documents or in presentation or publications. Should you choose to participate, you may discontinue participation at any time without any consequences to you.

If you are interested in this research study, please contact me by email. The first 10 nurses who respond will be contacted to explain the timing and logistics of the study. If you choose to participate, your informed consent will be obtained. Please respond by April 7, 2015. Crucial Conversations® education will be April 14 & 15, 2015.

If you have any questions about this research study you may contact the PI: contact information is, deeanna.mccallie@uky.edu, 859.312.4677. Or you may contact my academic advisor, Nora Warshawsky, PhD, RN at nwa229@uky.edu. or 859.323.5815. If you have complaints, suggestions or questions about your rights as a research volunteer contact the staff in the University Of Kentucky Office Of Research Integrity at 859.257.9428.

Thank you very much for your consideration.

Sincerely,

DeeDee McCallie BSN, RN, CCRN
DNP candidate
deeanna.mccallie@uky.edu
859.312.4677

Appendix B

Self-Efficacy to Address Disruptive Behavior Scale (SADBS)

Ten situations of disruptive behavior are described below. Please rate your degree of confidence in addressing the disruptive behavior in each situation using the scale provided.

0	1	2	3	4	5	6	7	8	9	10
not confident			moderately confident				highly confident			
										Confidence (0-10)
1. When a physician uses profanity/offensive language										_____
2. When a physician writes illegible orders										_____
3. When a physician tells a joke with racial/ethnic slurs										_____
4. When a physician does not return phone calls and/or pages										_____
5. When a physician makes derogatory comments about the quality of care in front of patients										_____
6. When a physician deliberately fails to follow organizational policy (e.g. surgical counts, surgical site marking, "time-out" procedure)										_____
7. When a physician writes inappropriate comments in the medical record										_____
8. When a physician throws an object (e.g. instrument, chart)										_____
9. When a physician makes sexual comments										_____
10. When a physician uses threatening body language										_____

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In the past month, how often did you **WITNESS the following behaviors?**

Behaviors	Never	2-4 days per month	1-2 days per week	3 or more days per week	More than once per shift, every shift
When a physician uses profanity/offensive language					
When a physician writes illegible orders					
When a physician tells a joke with racial/ethnic slurs					
When a physician does not return phone calls and/or pages					
When a physician makes derogatory comments about the quality of care in front of patients					
When a physician deliberately fails to follow organizational policy (e.g. surgical counts, surgical site marking, "time-out" procedure)					
When a physician writes inappropriate comments in the medical record					
When a physician throws an object (e.g. instrument, chart)					
When a physician makes sexual comments					
When a physician uses threatening body language					

In the past month, how often did you **ADDRESS the following behaviors?**

Behaviors	Never	2-4 days per month	1-2 days per week	3 or more days per week	More than once per shift, every shift
When a physician uses profanity/offensive language					
When a physician writes illegible orders					
When a physician tells a joke with racial/ethnic slurs					
When a physician does not return phone calls and/or pages					
When a physician makes derogatory comments about the quality of care in front of patients					
When a physician deliberately fails to follow organizational policy (e.g. surgical counts, surgical site marking, "time-out" procedure)					
When a physician writes inappropriate comments in the medical record					
When a physician throws an object (e.g. instrument, chart)					
When a physician makes sexual comments					
When a physician uses threatening body language					

1. Gender: Female Male
2. Age: _____
3. Years of experience as a nurse: _____ years
4. Years of experience at UK HealthCare: _____
5. Certifications: Yes No
6. Enrolled in school: Yes No
7. Degree: _____

Appendix C

Participant ID# _____

Informed Consent to Participate in a Research Study

Evaluating the effectiveness of Crucial Conversations® training on nurses' communication self-efficacy

WHY ARE YOU BEING INVITED TO TAKE PART IN THIS RESEARCH?

You are being invited to take part in this research study because you are a registered nurse at UK HealthCare, with a minimum of a Bachelor's Degree in Nursing with at least 3 years' nursing experience and have direct contact with physicians as part of your routine job activities.

WHO IS DOING THE STUDY?

The person in charge of this study is DeeDee McCallie, a graduate student in the DNP program of the University Of Kentucky College Of Nursing. She is being mentored in this research by Nora Warshawsky PhD, RN. There may be other people on the research team assisting at different times during the study.

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of this study is to test the effectiveness of Crucial Conversations® training on nurses' confidence and ability to communicate with physicians.

ARE THERE ANY REASONS WHY YOU SHOULD NOT TAKE PART IN THIS STUDY?

There are no readily apparent reasons why nurses should not volunteer to take part in this study.

WHERE IS THE STUDY GOING TO TAKE PLACE

The Crucial Conversations® education will take place at the UK HealthCare Learning Center. The Learning Center is a designated training area that provides a quiet environment for learning. Alison Preston is the certified instructor who will deliver the Crucial Conversations® education.

WHAT WILL YOU BE ASKED TO DO?

All participants will be asked to complete a self-assessment of your confidence in communicating with members of the healthcare team before, immediately after and one month after the Crucial Conversations® training sessions. The Crucial Conversations® training sessions will be delivered over two business days from 8am-4:30pm with participants having a designated mid-day break for lunch. The total amount of time to complete the pre-assessment, training, and post assessment immediately following training will be 16 hours. A one month follow up assessment will be completed in a private place of the participant's choosing where access to a computer and personal email is available. The one month assessment is estimated to require no more than 15 minutes of your time. The total time to be volunteered is 17 hours.

The two day Crucial Conversations® training is anticipated to be scheduled in April 2015. On the first day of the training sessions you will complete the baseline assessment and complete an 8 hour Crucial Conversations® training session. On the second day of the training session, you will complete an 8 hour Crucial Conversation® training session and the second assessment. Thirty days after the training you will complete a second and final assessment. The total time commitment is 17 hours approximately sixteen hours over a two day period and 15 minutes in April and May follow up assessments

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

To the best of our knowledge, participation in this study will subject you to no more risk of harm than you would experience in everyday life. There is a possibility of test anxiety during completion of the assessments. During the Crucial Conversations® training sessions the certified trainer uses a variety of teaching strategies including videos, role play, and personal reflection. Some people have reportedly experienced embarrassment. If these are potential concerns, you may not want to participate in this study. The outcomes of the pre-assessment and post assessments will not be made available to anyone associated with your work or your performance evaluation. No personal identifying information will be collected.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?

There is no guarantee that you will benefit from taking part in this study. However, nurse to physician communication takes place in the healthcare work environment every day. This training may improve your confidence and ability to communicate with members of the healthcare team. Crucial Conversations® training is valued at \$275.00 and is being offered free to you.

DO YOU HAVE TO TAKE PART IN THIS STUDY?

If you decide to take part in the study, it should be because you simply want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

IF YOU DON'T WANT TO TAKE PART IN THE STUDY, ARE THERE OTHER CHOICES?

If you do not want to take part in this study, there are no other options being offered to you and there will be no negative repercussions to your job.

WHAT WILL IT COST YOU TO PARTICIPATE?

Total hours spent during April and May 2015 will be 17 hours. There is no charge for participating in the study. You will be using your own time and transportation in order to participate. There is no paid time for attending however, the \$275 free Crucial Conversations® training and materials will be provided to you as the participant at no cost. Lunch will be provided during the two training days. You may have to pay for parking if you do not valid employee parking pass.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?

You will not receive any payment for taking part in this study. However, you will receive 16 Continuing Education (CE) hours and Crucial Conversations® training materials are yours to keep.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?

All data collected will be shared only with the investigating graduate student and her advising committee, and possibly IRB members. Data will be presented at the student's capstone defense. Your information will be combined with information from other people taking part in the study. When we write about the study to share with other researchers, we will write about combined information gathered. You will not be personally identified in any way. We may publish the results of this study; however, we will not include any personal identifying information.

CAN YOUR TAKING PART IN THE STUDY END EARLY?

If you decide to take part in the study, you still have the right to decide at any time that you no longer want to continue. You will not be treated differently if you decide to stop taking part in the study. The individual conducting the study may need to withdraw you from the study. This may occur if you are not able to follow the directions they give you. There are no consequences should you choose to withdrawal from the study.

WHAT ELSE DO YOU NEED TO KNOW?

There is a possibility that the data collected from you may be shared with other investigators in the future. If that is the case, the data will not contain information that can identify you unless you give your consent or the UK Institutional Review Board (IRB) approves the research. The IRB is a committee that reviews ethical issues according to federal, state and local regulations on research with human subjects, to make sure the study complies with these before approval of a research study is issued.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS, CONCERNS, OR COMPLAINTS?

Before you decide to accept this invitation to take part in the study, please ask any questions you might have. If you should have questions, suggestions, concerns, or complaints about the study once it has started; you can contact the investigator, DeeDee McCallie at deeanna.mccallie@uky.edu or 859.312.4677. Or you may contact my academic advisor, Nora Warshawsky, PhD, RN at nwa229@uky.edu or 859.323.5815. If you have any questions about your rights as a volunteer in this research study, please contact the Office of Research Integrity at the University of Kentucky. Hours of operation are Monday – Friday, 8am and 5pm EST. The telephone number for the Office of Research Integrity at the University of Kentucky is 859-257-9428 or toll free at 1-866-400-9428. You will receive a signed copy of this consent form.

Signature of study participant

Date

Printed name of study participant

Date

Name of authorized person obtaining informed consent

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