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Working Together Toward a Common Goal: A Grounded Theory of Nurse-Physician Collaboration

Lori Lynn Fewster-Thuente
Loyola University Chicago

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LOYOLA UNIVERSITY CHICAGO

WORKING TOGETHER TOWARD A COMMON GOAL:
A GROUNDED THEORY OF NURSE-PHYSICIAN COLLABORATION

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN NURSING

BY

LORI FEWSTER-THUENTE

CHICAGO, ILLINOIS

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I gratefully acknowledge my husband for his unending support and love throughout this process. Your constant encouragement and motivation has continually kept me going. There have been a few obstacles we have had to overcome but we have stuck together. Let's hope that the major bumps in the road are now behind us.

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ABSTRACT

Effective collaboration has been identified as essential to quality patient care processes and outcomes. Yet, the conceptual and theoretical basis for understanding and practicing collaboration remains underdeveloped and imprecise. These factors may hamper the study of collaboration and therefore the optimization of care processes and outcomes. The purpose of this study was to understand the social processes associated with collaboration between nurses and physicians, with the intention of theory development.

Collaboration, or a lack thereof, has been shown to impact both provider and patient satisfaction and outcomes. The Joint Commission now requires proof of collaboration for accreditation. Many organizations state that their providers collaborate for the betterment of patient care. However, a thorough literature search determined that a theory of nurse-physician collaboration based in healthcare has yet to be published. Without theoretical support it is difficult to devise precise measurement instruments to truly understand the current level of collaboration and develop strategies for improvement.

A grounded theory study was conducted with the intent of developing a theory to support nurse-physician collaboration. Data were collected from 15 nurses and seven physicians with a wide range of experience and training from a variety of units thus allowing the theory to be applicable to a range of professionals. Results indicated that the

process of nurse physician collaboration involves nine stages: something needs our attention; knowing who to talk to; finding the right person; coming together; exchanging ideas and information; developing the plan; getting everybody on the right page; making it happen; and monitoring progress. The core category of working together toward a common goal describes how nurses and physicians collaborate for patient care. It is anticipated that this theory will add to the body of knowledge and contribute to the understanding of collaboration between these two professions.

CHAPTER I

INTRODUCTION

The Institute of Medicine (IOM, 2000) reports that over 98,000 people die each year from preventable medical errors. The Joint Commission Sentinel Event Statistics (Joint Commission, 2010) states that 62% of the 4,909 sentinel events reported between 2004 and 2010 resulted in death with another 9% resulting in a lack of function for the patient. A sentinel event “is an unexpected occurrence involving death of a patient or serious physical or psychological injury, or the risk thereof” (Joint Commission, 2010). The most common cause of these events is cited as a lack of collaboration and communication between providers (Joint Commission, 2010). Additionally, The Center for Medicare and Medicaid reports that 13.5% of Medicaid patients experience at least one adverse event, costing the program \$4.4 billion in 2009 alone and resulted in over 15,000 deaths *per month* (U.S. Department of Health and Human Services, 2010). As of October 1, 2008 the Center no longer reimbursed hospitals for patient care necessitated by eight types of preventable adverse events such as wrong site surgery or items left in the patient following surgery. These adverse events occur due to lack of communication and collaboration (Health Grades, 2008). Reports vary but the unrecovered cost to organizations is conservatively estimated to be approximately \$20 billion each year (Schreve, Van Den Bos, Gray, Halford, Rustagi, & Ziemkiewicz, 2010). As evidenced by this information, failure to collaborate can result in long-lasting co-morbidity or

mortality as well as the loss of billions of dollars. This does not even take into account the emotional and financial losses due to pain and suffering of patients and their families.

When these reports cite a lack of collaboration and communication as the primary cause of adverse events resulting in the loss of lives, limbs and billions of dollars, it is the collaboration and communication between healthcare team members, specifically nurses and physicians, being cited. But what is nurse physician collaboration? Why is it necessary? What are the potential outcomes of it? This paper will address these questions.

The first chapter of this study will describe the problem as it stands. The question of “what is collaboration?” will be discussed along with the myriad of definitions found in the literature. Next the discussion of the traditional nurse physician relationship and the problems associated with the relationship will take place. This will be followed by the theoretical foundations currently being used to support nurse physician collaboration. The need for a theoretical foundation based in healthcare will be explained. This chapter will also outline the reasons why it is important to continue the study of nurse physician collaboration as well as the inconsistencies found in the literature. The main concern and purpose of the study will conclude the chapter.

What is Nurse Physician Collaboration?

To understand what nurse physician collaboration is one must start by looking at the definitions of collaboration. The literature reflects a great disparity in the definitions of nurse physician collaboration which has led to a lack of understanding about the topic. The way collaboration has been conceptualized and studied by different authors has

resulted in inconsistencies throughout the literature (D'Amour, Ferrara-Videla, San Martin Rodriguez, & Beauliu, 2005). Some authors have thought it to be intrinsically understood or used it interchangeably with words such as teamwork or communication, while others defined it by its attributes, as a process or an outcome.

Many authors believe that the term collaboration is inherently understood and therefore did not define it. Kramer and Schmalenberg (2003) studied “good” nurse-physician relationships but did not provide a definition of “good” or qualify the nurse-physician relationship. In this study “good” was associated with collaborative. Higgins (1999) studied “collaborative nurse-physician transfer decision making” but did not define collaboration. Messmer (2008) quantitatively measured nurse-physician collaboration but also left the reader to define it for themselves.

When collaboration has been defined by authors, it has been defined in a myriad of ways – by its attributes, as a process, an outcome, or used interchangeably with words such as teamwork and communication. Baggs (1994) defined collaboration by six attributes: “planned together; open communication; shared decision-making capabilities; cooperation; nursing and medical concerns incorporated; and coordination” (p. 179). Elsewhere the attributes have been: joint venture; cooperative endeavor; willing participation; team approach; contribution of expertise; shared planning, responsibility, decision-making and power based on knowledge and experience; and non-hierarchical relationships (Henneman, Lee, & Cohen, 1995) and sharing; partnership; power; interdependency; and process (D'Amour et al., 2005).

Only one study defined collaboration to be an outcome. Gardner and Cary (1999) considered collaboration as an outcome “in which shared interest and/or conflict that cannot be addressed by any single individual is addressed by key stakeholders” (p. 66). This definition addresses why the collaboration occurs as opposed to the results of the collaboration.

Elsewhere in the literature collaboration is interchanged most frequently with communication (Arford, 2005; Hughes, 2008). Beckett and Kipnis (2009) combined the two words, collaborative communication, and used the phrase to describe the interactions between providers when doing patient care handoffs but then separated the words again when reporting the outcomes of their study. Weiss and Davis (1985) defined collaboration as “the interactions between the nurse and physician that enable the knowledge and skills of both professionals to synergistically influence the patient care being provided” (p. 299). What the interactions are between the nurse and physician are not described. Reader, Flin, Mearns and Cuthbertson (2007) used an instrument that measured collaboration but the wording throughout the study focused on communication and coordination between providers.

Teamwork, collaboration and communication were used interchangeably by Kaissi, Johnson and Kirschbaum (2003). O’Leary, Ritter, Wheeler, Szekendi, Brinton and Williams (2010) studied teamwork and reported the results as collaboration. Another study, this one by Thomas, Sexton and Helmreich (2003), found that the authors purposely interchanged teamwork and collaboration and adapted a new definition to encompass both “to communicate and make decisions with the expressed goal of

satisfying the needs of the patient while respecting the unique qualities and abilities of each provider” (p. 957).

Several authors defined collaboration as a process such as “collaboration is a complex process that requires intentional knowledge sharing and joint responsibility for patient care” (Lindeke & Sieckert, 2005, paragraph 3), or as stated by Schmalenberg, Kramer, King, and Krugman (2005a, p. 450), “a process consisting of ongoing interactions.” In a study conducted by Boone, King, Gresham, Wahl and Suh (2008) collaboration was defined as the process of conflict management. Likewise, Tschannen and Kalisch (2009) defined collaboration as a process of open communication and conflict resolution.

Is collaboration the same as communication or teamwork? A look at the basic definitions shows that communication and teamwork are not the same as collaboration. The Merriam-Webster online dictionary defines communication as “the transmission of information” (www.merriam-webster.com). Teamwork simply means “work done by several associates” (www.merriam-webster.com). According to Schmalenberg et al. (2005a) teamwork is also just one attribute of a collaborative relationship. However, to say that collaboration is merely teamwork or communication does not provide a complete picture.

Is collaboration an attribute, an outcome, or a process? To be an attribute, it must be a characteristic of something, i.e. a friendly person where friendly is the attribute. Nurses and physicians may be said to have collaborative relationships but that still does not explain what collaboration is. For collaboration be an outcome, it would be a product

or result. The patient's health should be the outcome, not the collaboration itself.

Collaboration, by definition, is thought to be a process. To be a process it must be "a series of actions or operations conducing to an end" (www.merriam-webster.com). To say it is a process, without explaining the actions or operations within that process, renders it incomplete and does not assist the reader in understanding what it is or how it takes place. If collaboration is thought to be a process that needs sequential actions leading to an end, it will need to be studied as such.

Perhaps the issue is that nurses and physicians define collaboration differently. While collaboration is thought to be a process it has not been conceptualized as such. Physicians have viewed collaboration as the nurse acting as the assistant to the physician and fulfilling orders (Dillon, Noble & Kaplan, 2009; Rieck, 2007) or the nurse providing the physician with complete and accurate information regarding the patient (Vazirani, Hays, Shapiro, & Cowan, 2005). Nurses have viewed collaboration as the physicians listening to the nurse's information and opinion and helping to formulate a plan of care (Vazirani et al. 2005). The inconsistencies in the definitions of collaboration have contributed to the complications in the study of nurse physician collaboration. An empirically based study is necessary to determine if collaboration is indeed a process that takes place between nurses and physicians. If it is found to be a process it is important to have the steps defined and the sequence be determined by nurses and physicians, then it would truly be representative of the process. The next step is to examine the nurse physician relationship.

The Nurse Physician Relationship

Traditionally the nurse-physician relationship has been a relationship based on power and hierarchy. Stein's (1967) seminal work "The Doctor-Nurse Game" portrayed this traditional role in which nurses have been subservient to physicians. In this hierarchical relationship the physician gave the order and the nurse fulfilled it. This traditional relationship has been studied at length and has been found to be a barrier to nurse physician collaboration (Baggs, Schmidt, Mushlin, Eldredge, Oakes, & Hutson, 1997; Higgins, 1997; Keenan, Cooke, & Hillis, 1998; Rosenstein & O'Daniel, 2005; Stein, 1967; Tschannen, 2004; Vahey, Aiken, Sloane, Clarke, & Vargas, 2004; Zelek & Phillips, 2003).

Both Higgins (1999) and Baggs et al. (1997) studied nurse physician relationship in intensive care units by exploring providers' feelings with decisions to transfer patients to a lower level of care. It was determined that when the physicians included the nurses in the patient care decisions, the nurse's satisfaction was greater. However, when physicians acted in a patriarchal manner and made the decision to transfer without the nurse input or overrode the nurse input, the nurse's satisfaction was lower.

Tschannen (2004) examined the nurse physician relationship to determine if there was a connection between teamwork and collaboration. The author found that when nurses scored teamwork as high, they also perceived collaboration as high. Collaboration was studied along with conflict by Keenan et al. (1998), who found that nurses have been expected to act deferentially towards physicians, resulting in a lack of satisfaction on the part of nurses. As a result, the nurses may use negative conflict strategies such as

avoidance or aggression, to manage the conflict. Zelek and Phillips (2003) also found that nurses deferred to physicians authority even if they knew what was medically appropriate.

The nurse physician relationship can break down further if the patriarchal presence becomes overt and causes nurses to become dissatisfied with their jobs. Aggression or disruptive behavior by the physician was determined to impact negatively on nurse physician relationship as found by Rosenstein and O'Daniel (2005). When physicians acted in a hostile or demeaning manner to nurses, it negatively affected their job satisfaction and the overall relationship. Vahey et al. (2004) found that when nurses perceived their relationships with physicians as poor, it decreased their satisfaction with their job.

Interestingly, seven studies have been conducted to examine the relationship between nurses and physicians and the findings were the same. These studies have been conducted in various settings and all found that, while physicians are generally satisfied with the nurse physician relationship, nurses are not (Grindel, Peterson, Kinneman, & Turner, 1996; Kaissi et al., 2003; Nelson, King & Bodine, 2008; O'Leary, Ritter et al., 2010; Reader et al., 2007; Thomas et al., 2003; Tschannen, 2004; Vazirani et al., 2005). These studies had provider's rate satisfaction with collaboration. Most physicians would rate satisfaction with collaboration with nurses as high or very high, while most nurses rated collaboration with physicians as low or very low. Thomas et al. (2003) surveyed nurses and physicians with regard to their satisfaction with their relationship. While physicians were satisfied, nurses were not. The reasons given for the dissatisfaction were

that nurses found it difficult to speak up, they were not given enough opportunities to give input and when they did give input, it was not well received. These findings were supported by the findings from the Nelson, King, and Brodine (2008) study on medical surgical units.

The only study to contradict these findings is Foley, Kee, Minick, Harvey and Jennings (2002) who looked at the nurse physician relationship in the military and found that, when nurses and physicians are of the same military rank, the hierarchal relationship is absent and collaboration is greater. However, if the physician has a military rank that is higher than the nurse, the relationship retains the hierarchal status.

These studies have looked at the nurse physician relationship and found that, with few exceptions, nurses are dissatisfied with the current nurse physician relationship. What is known is that if a hierarchal nurse physician relationship exists, collaboration may not take place. The next section will discuss the current theoretical foundation for collaboration in the literature as well as the need for a theory of nurse physician collaboration to be based in healthcare.

Theoretical Foundations

Theories can provide an explicit understanding of an idea, concept or phenomenon which then provides the basis for future study. Instead of using a theory that is based in healthcare and empirically derived from healthcare providers, authors have tried to provide theoretical support for nurse physician collaboration by applying theories derived other professions, such as those from sociology and business, to healthcare. The different profession specific backgrounds other than healthcare used by

authors to derive their theories have confounded the study of collaboration. These professions are organized, managed and operated differently than healthcare (San Martin-Rodriguez, Beaulieu, D'Amour, & Ferrara-Videla, 2005) and resulted in adaptations for healthcare that only partially explain how nurse physician collaboration takes place.

While a theory of collaboration based in healthcare could not be found, there are frameworks and theories of collaboration from other professions that have been used to support nurse physician collaboration. Collaboration has been studied in organizational science as well as the professions of psychology and sociology. There are a few cases where theorists have tried to adapt theories based in other industries and professions to healthcare with only moderate success. These theories will be discussed here.

Organizational science studies how people behave within organizations. Seemingly, collaboration could be a behavior of people within a healthcare organization. There are several organizational theories that attempted to support collaboration in healthcare but these have actually focused on teamwork and group effectiveness, concepts, when defined, that are different than collaboration.

One such framework, The Model of Team Effectiveness, was developed by West, Borrill and Unsworth (1998) using a literature review and focused on teamwork and group effectiveness, which is different than collaboration. It consisted of inputs, group processes and outputs. This model should not be used to support collaboration between nurses and physicians for several reasons. This first is that "team effectiveness," as discussed by the authors, is an outcome and does not conceptualize the nurse physician collaboration. The second is that patient clinical outcomes are only one output among

many in this framework while patient outcomes are the reason for the nurse physician collaboration as well as the intended outcome. This model was not empirically derived but created from a review of literature. While using literature reviews to create models has been done successfully, and perhaps this one is successful in understanding team effectiveness, it does not explain collaboration between nurses and physicians.

The Analytical Framework of Interdisciplinary Collaboration was developed by Sicotte, D'Amour, and Moreault (2002) and used Gladstein's (as cited in Sicotte et al., 2002) group effectiveness framework. Collaboration was defined in this model as "a process where professionals share goals, make collective decisions, and share responsibilities and tasks" (p. 993). The analytical framework that resulted was based on organizational theory. Although the framework does define collaboration as a process, it does not explain how providers share goals or make decisions. Without that explanation, providers may not be able to understand how collaboration works and how they may be able to collaborate themselves.

The structuration model of interprofessional collaboration by D'Amour, Sicotte, and Levy (1999) and D'Amour, Goulet, Pineault, and Labadie (2004) was based on the concept of collective action in organizational sociology, where collective action is the outcome of actions and behaviors of the professionals. The focus was on the individual roles, leadership, external environments and team climate. The authors conceptualized the process of collaboration as four dimensions: shared goals and vision; internalization; formalization; and governance (D'Amour, Goulet, Labadie, San Martin Rodriguez, & Pineault, 2008, p. 123). Shared goals, vision and internalization are interrelated in that

they focus on the relationships between the individuals whereas governance and formalization are interrelated and pertain to the organizational setting. This model provides a structure *for* collaboration to take place within healthcare organizations but does not detail *how* it takes place. The questions remain as to how goals are decided, how do providers utilize their role and the roles of others to achieve patient outcomes and how the patient care is structured. It considers what may be the antecedent conditions necessary for collaboration.

Psychology and sociology also have theories, such as social exchange theory and role theory, which have been modified to provide structure for the concept of collaboration in healthcare (Gitlin, Lyons, & Kolodner, 1994). Social exchange theory is historically based on economics and involves the transfer of resources, both material and non-material, between individuals. The trade interactions (exchange) are based on the power relationships between the individuals and attempts are made to balance the exchange, i.e. negotiation (Cook, 1987). In the exchange process, the individual joins a group to receive a benefit of some sort and in exchange, must provide a valuable skill or knowledge. The value of the skill must equal or exceed the value of the benefit. The negotiation process involves how much the person can/will contribute and how much the person expects to receive in return (D'Amour et al., 2005). There are several issues with this theory. This first is that it is the patient, not the provider, who needs to benefit from the exchange. If the provider benefits from the exchange, that is a secondary gain. Second, providers do not withhold their knowledge or experience based on what they will

receive in return. Lastly, it conceptualizes the process of exchange and negotiation, not collaboration.

Gitlin et al. (1994) used social exchange theory when studying teams consisting of academic faculty paired with healthcare providers to collaborate on geriatric patients. In this study, collaborative teamwork was defined as “an in-depth cooperative effort in which experts from diverse professions, clinical experiences or settings work together to contribute to the study of the problem” (Gitlin et al., 1994, p. 15). The authors expanded social exchange theory into a five stage model that includes not only exchange and negotiation but also trust and role differentiation. The five stage model consists of faculty and client assessment and goal setting, determining collaborative fit, resource identification and reflection, project refinement and implementation and evaluation and feedback (Gitlin et al., 1994). This model designates stages for the process of collaboration, which offers some explanation, but does not define how goals are set and resources are identified. In addition, the inherent issues with social exchange theory still predominate in Gitlin’s theory.

Role theory is a sociological theory that is “concerned with the study of behaviors that are characteristic of persons within contexts and with various processes that presumably produce, explain, or are affected by those behaviors” (Biddle, 1979, p. 4). In this theory there are behaviors, expectations, and competence are required of each role. Internal and external factors also impact each role. Interactions do not occur if people fail to assume their role. The different health care professions have different delineated behaviors and expectations. To describe collaboration as a behavior, role theory, as

derived for collaboration, could be used to describe the intricacies of roles of the collaborating providers, with each role having within the larger organizational structure. Each discipline, with its specialized knowledge, has the potential to impact others and collaboration could be exhibited as the behavior that ties the roles together. However, collaboration is not a behavior, it is a process. Behaviors are the way people act. It may be found that within the process is a sequence of behaviors performed by those in the roles. What remains to be learned with regard to the process of collaboration however is, if there are the expected behaviors, what are they? Without proper conceptualization of the process, it is difficult to apply role theory.

The theory of goal attainment developed by King (1981) has the potential to be applied to nurse-physician collaboration. Historically, the theory focused on the interaction between the nurse and client; however, King stated “it can be used not only by nurses with their patients but by any individual in any interactions with other professionals” (personal communication, April 11, 2006). King felt that goal attainment is a mutual process between any two individuals, such as a nurse and a client, who have formed a relationship. Achieving patient goals is generally the purpose of health care providers. Any combination of providers on the interdisciplinary team can set patient goals. Interactions are necessary based on perceptions of the nurse, physician and client. When the providers come together, hopefully with the client, the collaboration towards goal setting can take begin. The transaction is the decisions made regarding the goal and the goal attainment (Fewster-Thuente & Velsor-Friedrich, 2008). Patient goal attainment may be the purpose of nurse-physician collaboration and the process is described in

stages, but to be as useful it needs to be explained in greater depth. The questions that remain are: how do people come together, why do they come together, exactly how are the goals decided and implemented, and what evaluation is made to determine if goals were met?

One framework has been consistently used with regard to healthcare collaboration, the Two-Dimensional Model of Conflict Behavior (Thomas & Ruble, 1976) which has its origins in organizational behavior. The model describes the structure of the phenomenon on two dimensions, assertiveness or concern for one's own interest and cooperativeness or concern for others. There are five outcomes with this model, collaboration, competing, avoiding, accommodating and compromising. If collaboration is to occur in this model there must be conflict. While collaboration can be a strategy to resolve conflict, collaboration does not need to result from conflict or an absence of conflict, because when used respectfully, conflict can improve outcomes (Lindeke & Siekert, 2005). Providers need to learn that conflict is natural and necessary (Weiss & Hughes, 2005).

To date, theories and frameworks from other professions have attempted to provide a basis for collaboration in the healthcare industry. Although elements of these other theories may be useful they all exhibit one over-arching problem. These theories have neglected to conceptualize collaboration as a basic social process between nurses and physicians including defining the stages in the process and explaining how it occurs. An empirical study of nurse physician collaboration would transcend description by using empirical data to conceptually link the hypotheses through theoretical sampling and

constant comparative analysis and will explain how the process of collaboration in healthcare takes place.

As the process of collaboration is practice based, it cannot be determined by a literature review, it must be empirically derived from those who participate in the process. It is important for the process of collaboration to be understood from healthcare perspective as healthcare is different from other professions in a myriad of ways: the work is dynamic, variable and complex; it requires the interdependence of multiple providers; it allows for little ambiguity or error; and much of the work is completed on an emergent basis (Shortell & Kaluzny, 2000).

In healthcare, providers have multiple patients simultaneously, all in changing states of need and acuity, all of whom require the provider's presence, knowledge and individual expertise. The work is process oriented in that there is a beginning where the patient is introduced into the healthcare system, a middle where the patient is treated, and an end where the patient is discharged to home, another level of care, or dies.

The use of a third party payer is another difference in healthcare. In healthcare the purchaser, i.e. receiver of the healthcare services, and the payer are most often separate. Third-party payers, i.e. insurance companies, often dictate the services that the purchaser/receiver may obtain thereby limiting the services the provider can offer and often determining the payment that will be given for the services. In addition, unlike most other business and services, most healthcare organizations treat patients regardless of their ability to pay.

While any of these issues could individually be applied to another business, the sum total is what makes healthcare different. These intrinsic differences in definitions and theoretical foundations have hampered the study of collaboration. To conceptually understand if collaboration is a process that takes place between nurses and physicians a study needs to be conducted with both nurses and physicians.

How the RN MD Relationship Impacts Outcomes

Why is the study of collaboration between nurses and physicians important? Aside from the hierarchal issues between nurses and physicians, the inconsistencies in the definition of collaboration and a lack of empirically derived theoretical support, there are many other reasons to study collaboration. Nurse physician collaboration may impact patient outcomes (Baggs et al., 1997; Boyle, 2004; Estabrooks, Midodzi, Cummings, Ricker & Giovannetti, 2005; Fung et al., 2008; Kaissi et al., 2003; Knaus, Draper, Wagner & Zimmerman, 1986; Kramer & Schmalenberg, 2003; Latimer, Johnston, Ritchie, Clarke, & Gitlin, 2009; Latta, Dick, Parry, & Tamura, 2008; Lindeke & Sieckert, 2005; O'Mahony, Mazur, Charney, Wang & Fine, 2007; Vahey et al., 2004). Its presence or absence may result in the difference between life and death for the patient (Havens, 2001; Hughes, 2008; Joint Commission, 2010; Kramer, McGuire, & Schmalenberg, 2010). Nurse physician collaboration can both determine whether a nurse stays at their job (Baggs et al., 1997; Higgins, 1999; O'Leary, Haviley, Slade, Shah, Lee, & Williams, 2011; Timmel, Kent, Holzmueller, Paine, Schilick, & Provonost, 2010; Vahey et al. 2004) as well as save billions of dollars (Curley, McEachern, & Speroff, 1998; U.S. Dept. of Health & Human Services, 2010). Yet another reason is that many

barriers to nurse physician collaboration have been found (Council for Graduate Medical Education, 2000; Dillon et al., 2009; Druss, Marcus, Olfson, Tanielian, & Pincus, 2003; Gorman, Lavelle, & Ash, 2003; Green & Thomas, 2008; Hammond, Bandak, & Williams, 1999; Headrick, Wilcock, & Bataladen, 1998; Henneman et al., 1995; Hojat et al., 2001; O'Leary et al., 2009; O'Leary, Ritter et al., 2010; Orchard, 2010; Thomas et al., 2003; Wear & Keck-McNulty, 2004; Wood, 2001; Zelek & Phillips, 2003) but few interventions to overcome the barriers have been studied (Curley et al., 1998; Dillon et al., 2009; Hall, Weaver, Gravelle, & Thibault, 2007; O'Leary, Ritter et al., 2011; O'Mahony et al., 2007; Segel, Hashima, Gregory, Edelman, Li, & Guise, 2010; Timmel et al., 2010; Wilson, Newman & Ilari, 2009). As if these reasons were not enough, there are many inconsistencies in the literature. The first is that the sample population for the study of nurse physician collaboration has been nurses, not physicians (Boyle, 2004; Bratt, Broome, Kelber, & Lostocco, 2000, Choi, Bakken, Larson, Dy, & Stone, 2004; Dechairo-Mario, Jordan-Marsh, Traiger, & Saulo, 2001; Estabrooks et al., 2005; Foley et al., 2002; Kaissi et al., 2003; Maxson et al., 2011; Moore-Smithson, 2005; Zelek & Phillips, 2003). Another major inconsistency lies in the measurement instruments used to study nurse physician collaboration (Aiken & Patrician, 2000; Baggs, 1994; Hojat et al., 2001; Kenaszchuk, Reeves, Nicholas, & Zwarenstein, 2010; Shortell, Zimmerman, & Rousseau, 1994; Weiss & Davis, 1985). These reasons are demonstrated by a three-fold increase in the number of studies in the last ten years (from 55 in 2000 to 165 in 2010).

Patient outcomes. As patients are the reason why the collaboration takes place it is important to understand the outcomes that have been found to result from nurse physician collaboration (Baggs et al., 1997; Boyle, 2004; Estabrooks et al., 2005; Fung et al., 2008; Kaissi et al., 2003; Knaus et al., 1986; Kramer & Schmalenberg, 2003; Latimer et al., 2009; Latta et al., 2008; Lindeke & Sieckert, 2005; O'Mahony et al., 2007; Vahey et al., 2004). Collaboration can be the difference between life and death.

Patients are becoming increasingly complex with multiple illnesses, thereby requiring greater coordination of care (Fung et al., 2008). Patients are living longer lives due to improved technology, but lengths of stay are shorter due to reimbursement policies, therefore collaboration must occur during this short time for patient outcomes to continue to improve (Harrison, 2004).

Nurses are often the liaison between the physician and the patient and deliver both information and potentially life-threatening medications. Therefore it is imperative they be included in the patient care planning and decision process in order to provide the patient with the best care and the fewest adverse events (Kramer & Schmalenberg, 2003). Nurses also spend the most time with the patient and as a result, have a great deal of nursing-specific knowledge regarding the patient and can therefore make significant contributions to the patient's care plan and directly impact the patient's outcome (Lindeke & Sieckert, 2005). When physicians maintain a hierarchical relationship and do not seek the nurse's input, they may be putting the patient at a disadvantage and increasing their risk for an adverse event.

Many authors have studied the impact of nurse physician collaboration on patient outcomes. Baggs et al. (1997) conducted a study with ICU nurses and physicians and found that when providers reported collaboration took place, positive patient outcomes, such as lower mortality rates and fewer readmissions to the ICU, were the result. The ICU was also the setting for Knaus et al. (1986) for their study of patient outcomes. They found that the interaction of critical care personnel directly influences the patient's outcome. Positive reports of nurse physician collaboration were associated with a 41% reduction in mortality.

Boyle (2004) conducted a similar study on medical surgical units with only nurses and found that when collaboration with physicians was reported to be present, patient outcomes such as falls, infections and failure to rescue were improved. Nurses were also the subject of a study by Estabrooks et al. (2005) in which they examined nursing unit characteristics such as nurse physician relationships. They found that higher scores for nurse physician relationships correlated positively to reduced 30-day mortality.

Kaissi et al. (2003) found that fewer patient errors were associated with reported high levels of nurse physician collaboration. Better pain control in neonates was found by Latimer et al. (2009) when collaboration between nurses and physicians was present. Increased resident knowledge and decreased length of stay were positively associated with the presence of nurses on interdisciplinary rounds (O'Mahony et al., 2007). Not only do patient outcomes improve when nurses and physicians collaborate but so does patient satisfaction (Vahey et al., 2004). Latta et al. (2008) found that parents of pediatric

patients are also more satisfied when nurses and physicians collaborate on the patient's plan of care.

Lastly, and perhaps most importantly, the agencies that oversee healthcare organizations are requiring nurses and physicians to collaborate. The Agency for Healthcare Research and Quality states that, for optimal patient care outcomes, nurses and physicians must be viewed as co-leaders in their clinical areas (Hughes, 2008). The Joint Commission has determined from the sentinel event data that the most common cause of sentinel events is a lack of communication and collaboration. The accrediting organization has deemed nurse physician collaboration to be a high priority as healthcare organizations must have evidence of nurse-physician collaboration in order to maintain accreditation (Havens, 2001; Joint Commission, 2010; Kramer et al., 2010). Without accreditation, healthcare organizations cannot receive Medicaid/Medicare funding.

Although the process of collaboration has not been conceptualized, collaboration has been studied extensively and been shown to impact patient outcomes. More studies can be undertaken following clear conceptualization. A review of nurse satisfaction as it relates to collaboration is next.

Nurse satisfaction. The study of nurse physician collaboration must continue as several studies have shown that increased collaboration not only improves patient outcomes but also improves nurse satisfaction and retention (Baggs et al., 1997; Higgins, 1999; O'Leary et al., 2011; Timmel et al., 2010; Vahey et al., 2004). Both Baggs et al. (1997) and Higgins (1999) studied ICU nurses and physicians and associated the nurse's level of satisfaction with the level of involvement in the decision to transfer the patient to

a lesser level of care. They both found the higher the level of involvement of the nurse in the decision-making process, the higher the satisfaction.

O'Leary et al. (2011) conducted a study on medical surgical units where interdisciplinary rounds were implemented that included nursing. The authors found that, following the intervention, nurses rated nurse physician collaboration higher and there was a higher level of job satisfaction. Lastly, both Timmel et al. (2010) and Vahey et al. (2004) measured nurse physician collaboration as part of the work environment and it was shown to correlate positively with nurse retention.

The patriarchal relationship has been a barrier to nurse satisfaction with the work environment. Perhaps when collaboration is better understood, further work can be done to improve the relationship and consequently the environment.

Cost savings. Another reason to study nurse physician collaboration is the possibility of an organization saving or losing millions of dollars (Curley et al., 1998; U.S. Department of Health & Human Services, 2010). Curley et al., implemented an intervention of interdisciplinary rounds with the assumption that nurse physician collaboration took place. The significant results were a shorter length of stay and decreased overall cost.

Perhaps one of the most impactful studies was conducted by the U.S. Department of Health and Human Services (2010) who oversees the Center for Medicare and Medicaid. They report that 13.5% of Medicaid patients experience at least one adverse event, costing the program \$4.4 billion in 2009 alone and resulted in over 15,000 deaths *per month*. If collaboration can save lives, jobs and billions of dollars it is worth further

study. It should be noted that these figures do not take into account the billions of dollars in damages that organizations pay each year to patients and their families as a result of the harm or death that has been associated with the lack of nurse physician collaboration. A total dollar amount is difficult to ascertain as many of the cases are settled privately and the monetary awards are not disclosed.

As nurse physician collaboration has not been conceptualized as a process, it is not known exactly how collaboration impacts patient outcomes, nurse satisfaction or results in cost savings. Although collaboration may not be understood as a process, many authors have determined that there are barriers to collaboration. These will be discussed next.

Barriers. The study of nurse physician collaboration has resulted in the discovery of several interrelated barriers. While the patriarchal relationship has been thought to be the biggest barrier, other barriers such as a lack of interdisciplinary education have been found (Council for Graduate Medical Education, 2000; Headrick et al., 1998; Hojat et al., 2001; Lindeke & Block, 1998; Wood, 2001). The underlying theme with these studies is that providers are not being taught how to collaborate with one another resulting in only knowing and understanding one's own profession specific knowledge. The premise is that if providers were taught about one another's profession and scope of practice, there would be greater understanding and respect for each other. Along with interdisciplinary education, organizations must support and require collaboration from its providers and view all providers equally so as not to place higher value on one profession (Headrick et al., 1998; Henneman et al., 1995; Orchard, 2010).

Role confusion has been identified as another barrier (Hammond et al., 1999; Henneman et al., 1995; Thomas et al., 2003; Zelek & Phillips, 2003). This ties in with lack of interdisciplinary education in that if providers understood what each profession is capable of and responsible for then collaboration would be able to take place.

Another barrier that has been determined is gender (Hojat et al., 2001; Wear & Keck-McNulty, 2004; Zelek & Phillips, 2003) which has ties to the barriers of patriarchal relationship and role confusion. Traditionally men were physicians and women were nurses, however that pattern is changing. Nurses are still primarily female but physicians are almost equally split between male and female. Female nurses have difficulty with female physicians as they break the gender stereotype, however, nurses feel more comfortable approaching them (Zelek & Phillips, 2003). The nurses were much more willing to clean up after a male physician but expected women physicians to clean up after themselves. In this study, the patriarchal relationship continues even when both providers are female (Zelek & Phillips, 2003). The source of this conflict is the perception that female nurses are female before they are nurses while female doctors are doctors before they are female.

The most current barrier to collaboration being studied is the use of information technology (IT), primarily electronic medical record (EMR) (Green & Thomas, 2008) and computer physician order entry (CPOE) systems (Gorman et al., 2003). These systems require the users to work separately and often from remote locations preventing face to face conversations from taking place. Providers do not get the immediate

feedback that they may have had the discussion taken place face to face (Gorman et al., 2003).

Additional barriers that have been studied recently include knowing who the doctor is for the patient and the ability to find the provider can also prevent nurse physician collaboration from taking place. O'Leary, Ritter et al. (2010) determined that identifying who the patient's physician was as a primary barrier for nurses while physicians felt that ability to speak directly with nurses was their primary barrier.

Although many studies have shown there to be barriers to collaboration it is difficult to understand how barriers could be determined if the process has not been conceptualized. How does one determine there is a barrier to something but does not know what that something is? Interestingly, studies have identified many barriers but few solutions. It is unclear how to design intervention for a process that is not conceptually understood.

Interventions to improve nurse physician collaboration. Recently, several studies have looked at the outcomes of specific interventions designed to improve nurse physician collaboration. The implementation of interdisciplinary rounds and the use of simulation have been noted to improve nurse physician collaboration in varying degrees (Curley et al., 1998; Dillon et al., 2009; Hall et al., 2007; O'Leary et al, 2011; O'Mahony et al., 2007; Segel et al, 2010; Timmel et al., 2010; Wilson et al., 2009). Interdisciplinary rounds can be used as a structured platform to allow collaboration to take place. Implementing interdisciplinary rounds can impact both patients and providers.

With regard to patient outcomes, Curley et al. (1998) and Wilson et al. (2009) found that implementing rounds significantly impacted patients in ways such as decreased cost, mean length of stay, decrease in ventilator days, decreased mortality and a significant savings on pharmacy costs. Segel et al. (2010) and O'Mahony et al. (2007) also implemented interdisciplinary rounds resulting in outcomes such as decreased length of stay but then also found improved discharge efficiency.

Implementing interdisciplinary rounds can also impact providers. Timmel et al. (2010) determined that, by including nurses on rounds, nurse turnover decreased from 27% per year to 0. Residents had improved knowledge of the patients following the implementation of rounds (O'Mahoney et al., 2007). Hall et al. (2007) found that not only were nurses and physicians satisfied with the rounding process, it also shortened the time the physician spent on the unit. O'Leary et al. (2011) found that, while there was no impact on length of stay or cost following the implementation of rounds, the nurses' perceptions of collaboration with physicians increased significantly. Interestingly, they found that nurses perceived patient safety to be higher as well.

While the outcomes are quite positive following the implementation of interdisciplinary rounds, without a clearly defined process, it is difficult to know if collaboration is occurring during these rounds. It should not be assumed that nurse physician collaboration is taking place during interdisciplinary rounds.

Simulation is a modern intervention being employed to teach and evaluate collaboration. Dillon et al. (2009) used simulation to reconstruct a mock code for nursing and medical students as a method to both teach and evaluate attitudes towards

collaboration. Both groups stated in the narrative portion that their feelings toward collaboration were much more positive and the simulation experience was an excellent learning tool. With the lack of clarity in what was taught and how collaboration was defined, it is difficult to interpret these results as positive outcomes of collaboration.

Both Messmer (2008) and Maxson et al. (2011) used simulation scenarios as a method to promote collaboration, open communication and mutual decision-making between nurses and physicians. The results showed a significant improvement perceived by both professions as both medical and nursing concerns were factored into the decision making process. The second post-test given at two months past the intervention showed sustained scores.

In a different vein, both Boone et al. (2008) and Dechairo-Marino et al. (2001) developed conflict resolution programs to train nurses as a way to reduce the nurse-physician conflict. Boone et al. (2008) surveyed the nurse participants both before and after the intervention and found no improvement on the nurses' attitudes towards nurse-physician conflict. Dechairo-Marino et al. (2001) found a strong correlation between the level of collaboration reported by nurses and their satisfaction with the decision making process. Neither study included the physicians in the training. To reiterate collaboration is not about an absence of conflict.

When physicians are not part of the intervention, it sends a message to nurses that physicians do not need or want this training and that collaboration is only a nursing issue. Nurse physician collaboration is between nurses and physicians, not just between nurses.

It should be an organizational requirement that both professions partake in all interventions.

The study of nurse physician collaboration has taken place in many areas, both patient and provider outcomes, barriers, and interventions. While authors may have shown positive outcomes with the presence of collaboration and negative outcomes from a lack of it, collaboration still has been inconsistently defined and lacked conceptualization as a process. This lack of conceptualization has led to confusion over what collaboration is and how providers should collaborate. There are other inconsistencies in the literature that will be discussed next.

Inconsistencies in the Literature

There are two inconsistencies in the way collaboration has been studied previously. The two issues are nurse only focus of study and measurement instruments. These inconsistencies have also hampered the study of nurse physician collaboration. The first inconsistency to be addressed is that the majority of past research has focused only the satisfaction of the nurse with nurse physician collaboration.

Nurse Only Focus

Previous studies have focused almost exclusively on the nurses' perceptions of nurse physician collaboration. Four studies were conducted regarding nursing unit characteristics (Boyle, 2004; Bratt et al., 2000; Choi et al., 2004; Estabrooks et al., 2005). Surveys examining these characteristics, only one of which was nurse physician collaboration, were provided only to nurses on medical surgical units. Three of the four authors found that nurses scored collaboration with physicians generally as low. It was

also found that an inverse relationship between nurse physician collaboration and adverse events such as falls and adverse outcomes such as 30 day mortality existed. Only the nurses surveyed by Choi et al. (2004) felt that collaboration between nurses and physicians was present on their units.

Dechairo-Marino et al. (2001) was interested only in the nurses' perceptions following an intervention to improve nurse physician collaboration. Nurses in the military were the focus of study for Foley et al. (2002). It was found that military rank was more important than profession to the nurses when it came to collaboration.

Nurses' perceptions of safety and teamwork were of interest to Kaissi et al. (2003). These authors found that 25-33% of nurses rated teamwork with physicians as low to very low, while almost another 50% only rated it as moderate. Lastly, Zelek and Phillips (2003) interviewed nurses as to their thoughts about gender and power within the nurse physician relationship.

The general belief is that nurse-physician collaboration was more of a priority to nurses. This was reaffirmed by Beckett and Kipnis (2009) when trying to implement an intervention to improve communication and collaboration to both nurses and physicians. The physicians declined to participate citing it was "something nurses need to do" and "physicians should not have to take a nursing class" (p. 25). Interestingly, a study that only surveyed physicians with regard to their satisfaction with the relationship could not be found.

More recent studies have focused on both nurse and physician satisfaction with collaboration (Moore-Smithson, 2005). O'Leary et al. (2009) solicited the opinions of

nurses and physicians regarding nurse physician communication, not collaboration, and their agreement with the plan of care after localizing physicians to a single unit. While physicians had been satisfied prior to the intervention, satisfaction for nurses and physicians improved following the intervention. Nurse and physicians satisfaction with the use of simulation to improve collaboration was of interest to Maxson et al. (2011) who found that, prior to the intervention, physicians perceived greater communication and collaboration than nurses. However, after the intervention, both professions noted improvement.

Collaboration between nurses and physicians is not just a nursing ideal it requires both professions to participate. Until collaboration is empirically understood between both professions the disparity in their answers to questions regarding collaboration will continue.

Measurement Instruments

The last significant inconsistency in the literature is the variation in measurement instruments. Six primary measurement instruments have been used to study nurse physician collaboration. These are, in chronological order: The Collaborative Practice Scales (Weiss & Davis, 1985), The Collaboration and Satisfaction About Care Decisions instrument (Baggs, 1994), The Interdisciplinary Collaboration Questionnaire (Shortell, Zimmerman & Rousseau, 1994), The Jefferson Scale of Attitudes towards Nurse-Physician Collaboration (Hojat et al., 2001), and The Nurse Work Index – Revised (Aiken & Patrician, 2000). The most recent instrument to measure collaboration between health care providers is still in the testing stages and is by Kenaszchuk et al. (2010) who

have constructed an instrument directed at all healthcare professionals, not just nurses and physicians. These instruments have been based on an incomplete conceptualization of collaboration.

The first two instruments solely measure collaboration and both are based on the same model. The Collaboration and Satisfaction About Care Decisions instrument (CSACD) (Baggs, 1994) and the Collaborative Practice Scales (CPS) (Weiss & Davis, 1985) were both developed using the Two Dimensional Model of Conflict Development framework.

The CSACD (Baggs, 1994) was designed to measure nurses and physicians satisfaction with patient care decisions. In this instrument collaboration is defined as “ICU nurses and physicians cooperatively working together, sharing responsibility for problem-solving and decision-making, to formulate and carry out plans for patient care” (p. 177). This inclusive definition does show collaboration as a process but does not explain how providers work together, how problems are solved or how the plan is formulated. It also does not explain the order in which the steps should go. Most importantly, the instrument is not measuring collaboration it is measuring the satisfaction with the decision making about the transfer of care, as stated in the title.

The CPS was developed by Weiss and Davis (1985). In this instrument, collaboration is defined as “the interactions between the nurse and physician that enable the knowledge and skills of both professionals to synergistically influence the patient care being provided” (p. 299). There is a physician scale and a nurse scale with questions based on a hierarchical relationship. For example, on the physician scale one question is

“I discuss with RN’s the degree to which I think they should be involved in planning and implementing patient care” (p. 300). For a collaborative relationship to be achieved it must be on a non-hierarchical basis. While the definition is non-hierarchical the questions are not, thereby rendering this instrument out of date.

The Interdisciplinary Collaboration Questionnaire by Shortell et al. (1994) questioned nurses and physicians communication, openness and teamwork. The title of the instrument suggests the questions in this instrument would be about collaboration however, they were not. In addition, definitions for these constructs were not provided. The main question was regarding whether nurses understood the patient goals. Understanding the goals does not mean the nurse had any input into setting the goals nor does it mean the nurse agrees with the goals. In addition, merely understanding the goals does not take into consideration the process of how the goals were determined. Hojat et al. (2001) created the Attitudes Towards Nurse-Physician Collaboration instrument in which they surveyed nurses’ and physicians’ attitudes in the United States and Mexico towards collaboration. In this study collaboration was defined as “the complementary relationship of interdependence” (p. 124). The instrument focused on attributes such as teamwork, autonomy, and authority. The scores from each of these attributes were added together and reported as collaboration. Collaboration is not the sum of teamwork, autonomy and authority. As the title states, this instrument does not measure collaboration it measures the attitudes towards the collaboration. If collaboration is a process between nurses and physicians the process it would be helpful for collaboration

to be well defined and broken out by stages leading to an end for providers, before asking providers to report their attitudes towards it.

The Nurse Work Index – Revised (Aiken & Patrician, 2000) consists of 57 items measuring factors such as autonomy, practice control, and nurse-physician collaboration. This instrument is used to measure characteristics of the work environment.

Collaboration is measured by only three items: nurses and physicians have good teamwork; collaboration (defined as joint practice) between nurses and physicians; and nurses and physicians have good working relationships. Definitions of “joint practice,” “teamwork,” and “working relationships” are not given. As with the instrument by Hojat et al. (2001) the instrument is not measuring collaboration. Without a definition and process that are determined by nurses and physicians, providers will attach their own meaning to the questions. For example, the physician may define good teamwork as the physician giving the order and the nurse carrying it out, while good teamwork to the nurse may mean the nurse and the physician talk through the patient issue and decide on a plan of action together. These individual definitions are not the same leading to inconclusive results.

The most current instrument is still being tested and is a modification of the Nurses’ Opinion Questionnaire (Kenaszchuk et al., 2010). While the target audience is nurses, physician, and allied health professionals, the items were adapted from a nursing survey and no new items were constructed to address the other types of professionals. This instrument contains items that measure communication, accommodation, and isolation. This instrument also does not measure nurse physician collaboration. Instead it

measures attitudes and attributes of the nurse, physician and allied health professional's relationship.

The instruments created thus far have not been designed to measure nurse physician collaboration. It would be difficult to measure collaboration without the process being well defined or explained sequentially. Until the process is clear, the measurement instruments may not be measuring collaboration.

Problem Statement

A great deal of information exists on nurse physician collaboration. A lack of collaboration has been shown to be detrimental to patients and providers. The nurse physician relationship has been studied in depth and the traditional hierarchy that is present is believed to prevent collaboration from occurring. In addition to hierarchy in the relationship there is a great deal of confusion surrounding how collaboration is defined thereby hampering the study of it. Collaboration may be defined differently by each profession. The definitions of collaboration that have been provided by authors are varied and often do not represent collaboration at all but in fact represent other concepts such as teamwork and communication. Other definitions have focused on the attributes of collaboration or tried to show collaboration as an outcome. If collaboration was defined as a process it was merely stated that it was a process. It has never been explained as a process in which there are sequential steps or stages that lead to an end. These steps or stages are never delineated for the reader.

There have also been significant differences in the theoretical foundations that have been derived from other professions and applied to nurse physician collaboration.

The theoretical frameworks or models that have been applied have not been based in healthcare or empirically derived from healthcare providers. It has been shown that healthcare is unlike other professions therefore to apply theories based in those professions may not allow for accurate conceptualization of nurse physician collaboration.

Inconsistencies with the sample and the measurement instruments have furthered confounded the study of collaboration. The measurement instruments for these studies have focused primarily on the perceptions of nurses but haven't focused on collaboration as a process. The instruments have measured attitudes, satisfaction with the nurse physician relationship and the work environment but not collaboration. Interventions have been applied to try to improve collaboration with various results, most likely due to the differences in definitions and theoretical foundations.

The most important issue is that collaboration has not been studied in a way that conceptualizes it as a process that takes place between nurses and physicians regarding the plan of care for the patient. Collaboration must be inherently and empirically defined and understood by providers so that it can be used by providers.

Main Concern

While much has been studied about collaboration the research has been based on inconsistent definitions, lacked empirically derived theoretical support, and utilized varied measurement instruments. The result has been inconsistent results and providers who may not know how to collaborate even though it is now required of them.

The purpose of this study is to conceptualize collaboration as a basic social process and to empirically understand each stage, the order of the stages, and what is necessary for collaboration to take place. This study has been designed to empirically understand and illustrate in depth, how collaboration between nurses and physicians takes place, using the participant's own words. Collaboration, as a basic social process between nurses and physicians, will be conceptualized as an empirically derived, substantive theory. It is anticipated that the resulting theory will advance the knowledge of nurse-physician collaboration by allowing the process to be studied in a consistent manner in the future. The knowledge can also be used to educate nurses and physicians as to how and why to collaborate.

Before the study is described in depth, a discussion of the background and review of literature will be discussed. This will be followed by chapters relating to the methodology, findings and discussion.

CHAPTER II

LITERATURE REVIEW

This chapter discusses the literature published to date as it relates to the process of nurse-physician collaboration. While many studies have been conducted, the findings have varied, perhaps due to inconsistencies in the definition as well as a lack of theoretical foundation that is based in healthcare. It is difficult to assess and quantify this important social process if it is not theoretically understood.

Search Parameters

A thorough search of the literature was conducted and a representative, not exhaustive, sample is discussed here. The primary objective of this literature review was to determine if there was a theoretical basis for the process of how nurses and physicians collaborate regarding patient care. A secondary objective was to garner a representative sample of the work that has been done on collaboration. The professions of nursing, medicine, psychology, sociology and business were included in this review.

The following databases were searched: OVID, which includes CINAHL (1950-present) and EBSCO Host (1937-present), PubMed (2007-present), PsychInfo (1967-present), ProQuest/Digital Dissertations (1861-present) and ABI/INFORM (no dates given). These databases were chosen to represent the literature published in the professions listed above.

The search was conducted using a systematic strategy and was based on the key words of nurse-physician collaboration, collaboration theories, nurse-physician communication, collaboration models, interdisciplinary collaboration and nurse-physician conflict. Conflict was included as many articles and studies describe the nurse-physician relationship as one of conflict. Using these key words, the search conducted for this paper yielded 1,605 hits. The breakdown by keyword and database is as follows:

Table 1. Search Strategy by Database

	OVID	PsychInfo	ProQuest	ABI/Inform	Total
Nurse-Physician Collaboration	88	8	91	51	238
Collaboration Theories	1	1	0	8	10
Nurse-Physician Communication	25	6	161	190	382
Collaboration Models	8	12	1	31	52
Interdisciplinary Collaboration	462	332	8	46	848
RN-MD Conflict	8	1	10	56	75
Total	592	360	271	382	1,605

The inclusion criteria were broad so as to determine all that could be learned regarding collaboration to date. These criteria are specified as: qualitative or quantitative studies measuring nurse-physician collaboration; pertinent theoretical frameworks or models; opinion or essay papers on nurse-physician collaboration written by authors well publicized or frequently cited; and papers describing instruments measuring nurse-physician collaboration. In addition all papers must have been published in English. The

only exclusion criteria was if the focus of the study did not include nurses and physicians (i.e. physician/patient collaboration).

To further clarify the search, the results from the databases were reviewed individually by title and the duplicate articles were eliminated. If the title pertained to nurse-physician collaboration or if it was unclear if the title was pertinent then the abstract was reviewed for relevance. Several additional articles were found using the reference lists of related publications. Primary sources were used almost exclusively. It is noted in the citation if it is a secondary source. One hundred and nineteen papers have been included as a representative, not exhaustive, sample of the literature. These papers were chosen based on the strength and nature of the study so as to ensure a cross-section of the published work on collaboration. These research studies were chosen based on the statistical and practical significance, relevance, validity and reliability of the study. It is noted in this paper if any of these criteria were *not* present in the study.

The literature on collaboration breaks out into several main categories: theories and/or frameworks; definitions of collaboration; the nurse physician relationship, barriers to and outcomes of collaboration; and interventions to improve collaboration. However, the focus of this study is to conceptualize the process of collaboration between nurses and physicians, theories and frameworks will be discussed first.

Relevant Theories and Conceptual Frameworks

As discussed, a thorough literature review was conducted and a representative, not exhaustive, sample discussed in this paper demonstrates that a great deal of research has been conducted on collaboration. At this time a theory or framework that supports

the process of nurse-physician collaboration, derived from healthcare, could not be found in the literature.

While there is not a healthcare based theory of collaboration there are frameworks and theories of collaboration from other areas that are represented in the literature. The study of collaboration has taken place in organizational science as well as the professions of psychology and sociology. Theorists from other professions have tried to adapt theories based in other industries and professions to healthcare with limited success. These theories will be discussed here.

The study of how people behave is the foundation for organizational science. To some degree, it makes sense that collaboration could be thought of as a behavior of people within a healthcare organization. However, the organizational theories that have attempted to support collaboration in healthcare have actually focused on teamwork and group effectiveness, concepts, when defined, are different than collaboration.

One such framework, The Model of Team Effectiveness (see Table 2 below), was developed by West et al. (1998) using a literature review and focused on teamwork and group effectiveness, which are concepts different than collaboration. It consisted of inputs, group processes and outputs. The inputs consisted of domain, team task, team composition, healthcare environment and organizational context. These were considered along with group process variables such as leadership, clarity of objectives, participation, task orientation, reflexivity, communication, innovation support, integration and decision-making. The outputs were clinical outcomes, effectiveness, innovation, team mental health, cost effectiveness and team member turnover (as cited in Haward et al.,

2003). For example, one can take the input of team composition to look at the group process of task orientation to determine the output of effectiveness. This framework was applied to healthcare teams in the United Kingdom and the authors found a link between high levels of effectiveness and the well-being of the team members.

Table 2. The Model of Team Effectiveness

Inputs	Group Processes	Outputs
Domain	Leadership	Effectiveness – self and externally rated
Healthcare environment	Clarity of objectives	clinical outcomes and quality of health care
Organizational context	Participation	Innovation – self and externally rated
Team Task	Task orientation	Cost effectiveness
Team composition	Support for innovation	Team member mental health
	Reflexivity	Team member turnover
	Communication	
	Decision-making	
	Integration	

Note: Haward et al., 2003, p. 16.

There would be difficulty using this model to support collaboration between nurses and physicians for several reasons. This first is that “team effectiveness” is an outcome and explains how well teams work together but does not explain nor define the process of nurse physician collaboration. The second is that patient clinical outcomes are only one output among many in this framework while patient outcomes are the reason for the nurse physician collaboration as well as the intended outcome. This model was not empirically derived but created from a review of literature. While using literature reviews to create models has been done successfully, and perhaps this one is successful in

understanding team effectiveness, collaboration between nurses and physicians may be more than team effectiveness. A model of collaboration between nurses and physicians must be empirically derived from those who participate in the process.

Organization theory was the basis for The Analytical Framework of Interdisciplinary Collaboration was developed by Sicotte et al. (2002) and used Gladstein's (as cited in Sicotte et al., 2002) group effectiveness framework. Collaboration was defined in this model as "a process where professionals share goals, make collective decisions, and share responsibilities and tasks" (p. 993). In this framework, there are seven variables: care sharing activities; interdisciplinary coordination; beliefs in the benefits of collaboration; levels of conflict associated with collaboration; social integration within groups; agreement with disciplinary logic; and agreement with interdisciplinary logic. This framework provides structure for collaboration by explaining the antecedents, beliefs, and values surrounding collaboration i.e. the effectiveness of the collaboration, however, it does not explain collaboration itself. The overall result was found to be that providers believe in the concept of collaboration but have difficulty reaching the highest levels due to high levels of conflict regarding "social integration into work groups" (p. 998). As a framework it does provide a structure, however, collaboration is not empirically defined nor is delineated as a process.

Organizational sociology is the foundation for the Structuration Model of Interprofessional Collaboration by D'Amour et al. (1999) and D'Amour et al. (2004) was based the concept of collective action, where collective action is the outcome of actions

and behaviors of professionals. The model centers on the individual roles, leadership, external environments and team climate. As described in Table 3 below, the authors conceptualized the process of collaboration in four dimensions: shared goals and vision; internalization; formalization; and governance (D'Amour et al., 2008).

Table 3. The Structuration Model of Interprofessional Collaboration

<p>Governance</p> <p>Centrality</p> <p>Support for Innovation</p> <p>Leadership</p> <p>Connectivity</p>	<p>Shared Vision & Goals</p> <p>Goals</p> <p>Client-centered orientation vs. other allegiances</p>
<p>Formalization</p> <p>Formalization tools</p> <p>Information Exchange</p>	<p>Internalization</p> <p>Mutual Acquaintanceship</p> <p>Trust</p>

Note: D'Amour et al., 2008.

Shared goals and vision and internalization are interrelated in that these focus on the relationships between the individuals whereas governance and formalization are interrelated and pertain to the organizational setting. Shared goals and vision takes into account the diversity in definitions of collaboration among providers as well as the common goals for patients. It also accounts for the individual motives and allegiances between providers. Internalization refers to the understanding providers have of their own role, the role of others and how these must intertwine. Governance pertains to the leadership support for collaboration within the organization and includes financial constraints. Formalization considers the structure of the care within the organization. This model provides a structure *for* collaboration to take place within healthcare

organizations but does not detail *how* it takes place, in other words, how are goals decided, how do providers utilize their role and the roles of others to achieve patient outcome and how is the care structured. It considers the factors necessary for collaboration, which is consistent with the structure, but does not explain the process.

Psychology and sociology also have theories, such as social exchange theory and role theory that have been modified to provide structure for the concept of collaboration in healthcare (Gitlin et al., 1994). Social exchange theory is historically based on economics and involves the transfer of resources, both material and non-material, between individuals. In this theory exchanges are made, i.e. trade interactions, and are based on the power relationships between the individuals. Cook (1987) discussed how attempts are made to balance the exchange, resulting in negotiation. In the exchange process, the individual joins a group in order to receive a benefit of some sort and in exchange, must provide a valuable skill or knowledge. However, the skill must equal or exceed the benefit. In the negotiation process the person must consider how much they can/will contribute and how much they expect to receive in return (D'Amour et al., 2005). Byrd (2006) used social exchange theory to study nurse-client relationships where home health nurses provided knowledge, information, and care and the clients provided the home in which to meet, opportunities in which to interact and observe. Each side perceived a reward, i.e. the client received the services of the nurse and the nurse gained satisfaction by providing the service. A study conducted by Bartlett (2001) focused the exchange between the nurse and the organization. In this case the organization was providing training for the nurses and in return they would receive

nurses who had more knowledge and skills. There are inherent problems with this theory. While collaboration is a process it is intended to benefit patients, not providers. Another problem with the theory is that providers do not withhold information based on what they will receive in return. Lastly, the process of collaboration is not conceptualized, only the processes of exchange and negotiation, although these may be found to part of collaboration.

An example of social exchange theory is provided by Gitlin et al. (1994). The authors studied teams of academic faculty who were paired with healthcare providers to collaborate on geriatric patients. In this study, collaborative teamwork was defined as “an in-depth cooperative effort in which experts from diverse professions, clinical experiences or settings work together to contribute to the study of the problem” (Gitlin et al., 1994, p. 15). The authors went on to add trust and role differentiation to the theory and expanded social exchange theory into a five-stage model. Trust is necessary as the benefits of the group may not be immediately foreseeable to individuals upon joining the group. The five stage model consists of assessment and goal setting, determining collaborative fit, resource identification and reflection, project refinement and implementation and evaluation and feedback (Gitlin et al., 1994). In stage one each participant sets their goals and assesses their need for collaborative relationships. In this stage each determines what they can provide and what they expect to receive. In stage two collaborative fit is determined, i.e. providers come together to negotiate roles and ideas. The third stage consists of people determining their own resources as well as the cost of participating. Role differentiation takes place in the fourth stage and ideas are

implemented. Role differentiation is necessary as each team member must provide skills that are not only deemed relevant to the group but also for which they are best suited. In the final stage both team members and the goals are evaluated. This model designates the stages for the process of collaboration but the details of how the process of collaboration takes place, i.e. how do people come together, how are goals set, are not provided. The inherent problems with the negotiation and exchange processes are still present.

Gitlin's theory has not been previously applied to only the nurse-physician relationship. If modified and applied to nurse-physician collaboration the resource, as defined in this theory, would be profession-specific knowledge or knowledge of the patient. The theory is based on the belief that each person has something to give the other that will benefit them and that the relationship will continue if it is rewarding to both parties (Homans, 1964, as cited by Byrd, 2006). In previous studies, nurse-physician collaboration had been shown to provide an outcome of increased job satisfaction to nurses (Baggs et al., 1997; Boyle, 2004; Bratt et al., 2000; Choi et al., 2004; Estabrooks et al, 2005; Higgins, 1999; Vahey et al., 2004). Now physicians are also finding collaboration to be beneficial to both themselves and their patients (Hall et al., 2007). O'Mahony et al. (2007) surveyed residents after implementing multidisciplinary rounds and found the residents reported a benefit of increased patient knowledge following the intervention. The key difference between Gitlin's theory and nurse physician collaboration is that the primary outcome of collaboration between

nurses and physicians is not intended to benefit either of the health care providers, but to benefit a third party, the patient.

Role theory is a sociological theory that is “concerned with the study of behaviors that are characteristic of persons within contexts and with various processes that presumably produce, explain, or are affected by those behaviors” (Biddle, 1979, p. 4). In this theory, each role has expected behaviors, expectations, and competence as well as several internal and external factors that impact the role. If collaboration is described as a behavior, role theory, as derived for collaboration, could be used to describe the intricacies of roles of the collaborating providers, with each role having delineated behaviors and expectations within the larger organizational structure. Each healthcare profession has specialized knowledge. When attempting to apply this theory, each provider has the potential to impact another provider with their profession-specific knowledge and collaboration could be the behavior that ties the roles together. It should be noted that collaboration is not a behavior evidenced by a single provider attempting to impact another provider but a process that takes place between two or more providers to impact a patient and perhaps the providers. While a sequence of behaviors performed by those in the roles may be found in that process each behavior taken on an individual basis does not make for collaboration. Role theory could not be applied until it is learned what is the process of collaboration. Then it may be determined if there are the expected behaviors.

There is one nursing theory, the theory of goal attainment developed by King (1981) that has the potential to be applied to nurse-physician collaboration. Historically,

the theory focused on the interaction between the nurse and client; however, King stated “it can be used not only by nurses with their patients but by any individual in any interactions with other professionals” (personal communication, April 11, 2006). Goal attainment is a mutual process between any two individuals who have formed a relationship such as a nurse and client (King, 2006). In this case the combination of people can be any or all of the providers on the interdisciplinary team. Based on perceptions of the nurse, physician and client, there is a need requiring an interaction. The interaction is the coming together of providers and the client and the collaboration towards goal setting. The transaction is the decisions made regarding the goal and the goal attainment (Fewster-Thuente & Velsor-Friedrich, 2008). Although patient goal attainment may be the purpose of nurse-physician collaboration and the process is described in stages, it is not described in enough depth to be as useful as it could be. For example, how do people come together, why do they come together, exactly how are the goals decided and implemented, and what evaluation is made to determine if goals were met?

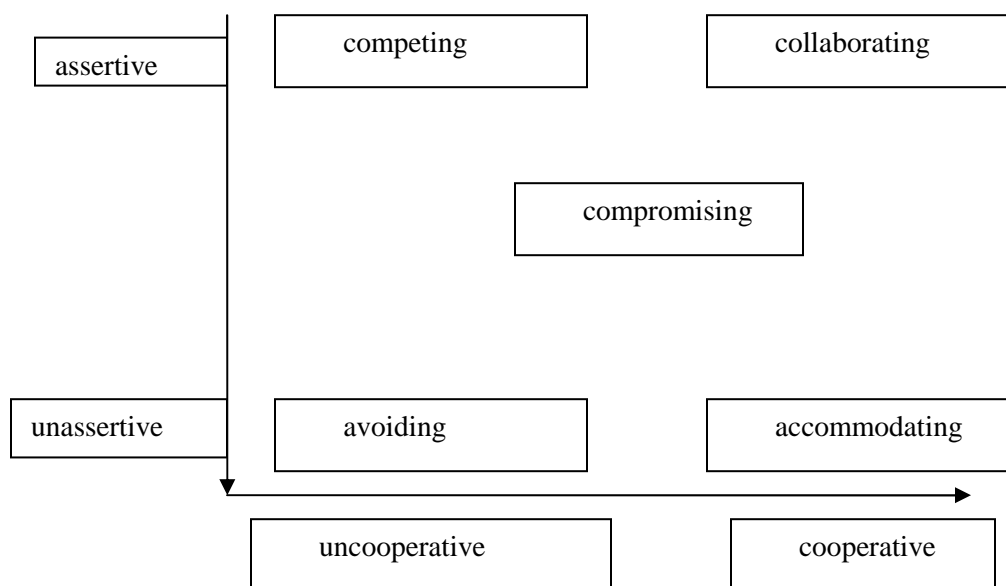
One application of King’s theory was found with regard to nurse physician collaboration. Messmer, Barroso and Gonzalez (2005, as cited in Messmer, 2008), applied three concepts of King’s theory, perception, communication and interaction, to an intervention between nurses and medical students using simulation of mock codes. In this study collaboration is reported as the sum of perception, communication and interaction and was said to have improved over the course of the simulation. It may be learned from the study conducted for this paper that collaboration is the sum of perception,

communication and interaction or it may be learned that collaboration is something else entirely.

The Two-Dimensional Model of Conflict Behavior (Thomas & Ruble, 1976) has been consistently used with regard to healthcare collaboration. This framework has its origins in organizational behavior and describes the structure of the phenomenon on two dimensions – assertiveness and cooperation (see Figure 1 below). Collaboration is the ideal behavior and is defined as a combination of a high level of assertiveness (concern for one's own interests) and a high level of cooperativeness (concern for others). It can be used as a strategy to resolve conflict.

There are four other behaviors in this model. Competing is defined as being assertive but uncooperative, i.e. one person wins and the other loses. Avoiding is being both unassertive and uncooperative or lose-lose. Accommodating is being unassertive but cooperative, i.e. giving in to the other person. Compromising is described as each person getting a little of what they want. In this model, for collaboration to occur, there must be conflict. However, collaboration can occur in the absence of conflict. In addition, if used respectfully, conflict can actually improve outcomes (Lindeke & Siekert, 2005). Providers need to learn that conflict is natural and necessary (Weiss & Hughes, 2005). One further issue with this model is that everyone is representing their own interests and hoping to “win”. A third party, the patient is not being represented.

Figure 1. The Two Dimensional Model of Conflict Behavior



Note: Thomas & Ruble, 1976, p. 145.

Compromise, as opposed to collaboration, was found to be the method of conflict resolution most often used by physicians and nurses according to Hendel, Fish and Berger (2007). However, compromise entails each person negotiating for what they want and getting some but not all. This method can work as long as providers are negotiating in the best interest of the patient. Keenan et al. (1998) studied the nurses' perceptions of the conflict management styles of nurses and physicians and found that nurses report use compromising and collaborating but also report that physicians use more dominating styles such as avoiding and competing. Boone et al. (2008) designed a conflict resolution training program for nurses in dealing with physicians. When surveyed, the nurses who

received the intervention showed no difference from the control group. Perhaps this is because the intervention was not effective. Another possibility is that collaboration does not need to occur in absence of conflict, nor does conflict have to occur before collaboration can take place.

Collaboration in the healthcare industry should not be conceptualized using theories and frameworks from other professions. Parts of these other theories may be useful but they all neglected to explain collaboration as a basic social process between nurses and physicians including defining the stages in the process and explaining how it can occur.

As the process of collaboration is practice based, it should not be determined by a literature review, but be empirically derived from those who participate in the process. “The most complete models of collaboration are those based on a strong theoretical background” (D’Amour et al., 2005). A grounded theory of collaboration, such as the one proposed in this paper would transcend description by using empirical data to conceptually link the hypotheses through theoretical sampling and constant comparative analysis (Glaser, 2001) and will explain how collaboration in healthcare occurs between nurses and physicians.

These theories have attempted to support collaboration between nurses and physicians. As healthcare is different from the other professions these theories just do not “fit”. Two of the theories from organizational science focused on teamwork and group effectiveness, concepts different from collaboration while the third, the structuration models of interprofessional collaboration focused on the antecedent

conditions for collaboration. While this is appropriate the process of collaboration is still not conceptualized. Social exchange theory does not fit as a theory for collaboration as nurses and physicians do not expect to receive a benefit from the relationship, although if they do that is good, however patients are expected to receive the benefit. Role theory does not fit as collaboration is not a behavior, it is a process. Lastly, the theory of goal attainment does not provide enough information to define and explain the process of collaboration.

The remainder of the description of this literature review will present: definitions of collaboration; barriers to collaboration; outcomes of collaboration and interventions undertaken to improve collaboration.

Definitions of Collaboration

A review of the healthcare literature reveals that attempts to conceptually define collaboration has resulted in a disparity in the definitions leading to a lack of understanding and a variety of outcomes. “There has been significant diversity in the way authors have conceptualized collaboration and the factors affecting collaboration” (D’Amour et al., 2005, p. 116). Some authors have thought it to be intrinsically understood or used it interchangeably with words such as teamwork or communication, while others defined it by its attributes, as a process or an outcome. Several authors stated they were studying collaboration but used an instrument that measured something else, such as communication. These major inconsistencies have led to confusion for the researchers, healthcare providers and readers.

Definitions in Measurement Instruments

Measurement instruments are one area in the collaboration literature that does provide definitions. Although a measurement instrument will not be used for this study there are multiple instruments that have measured nurse-physician collaboration and therefore need to be discussed in this paper.

Two instruments solely measure collaboration and both are based on the same model. The Collaboration and Satisfaction About Care Decisions instrument (CSACD) (Baggs, 1994) and the Collaborative Practice Scales (CPS) (Weiss & Davis, 1985) were both developed using the Two Dimensional Model of Conflict Development framework (Thomas & Ruble, 1976).

Collaboration and Satisfaction About Care Decisions. Baggs (1994) created a measurement instrument, Collaboration and Satisfaction About Care Decisions (CSACD), designed to measure nurses and physicians satisfaction with patient care decisions. In this instrument collaboration was defined by six attributes: “planned together; open communication; shared decision-making capabilities; cooperation; nursing and medical concerns incorporated; and coordination” (p. 179). These attributes were focused towards making patient care decisions, i.e. “Decision-making responsibilities for the patient were shared between nurses and physicians” (p. 179). Reported validity and reliability were satisfactory. While the CSACD instrument has been used by multiple authors (Dechairo-Marino et al., 2001; Jankouskas et al., 2007; Moore-Smithson, 2005; Penticuff & Arheart, 2005; Szekendi, 2007; Troseth, 1997) whose results were similar to those found by Baggs (1994), it measures the attributes of collaboration, but does not

conceptualize collaboration as a process. The inference is that if providers are satisfied with the decision-making process then collaboration has taken place. However, the patient care decision making process may only be one part of the collaboration process.

The CSACD was used by nurse executives as both a pre-test (N=87) and post-test (N=65) before and after interventions to improve nurse physician collaboration in the intensive care unit and medical surgical units (Dechairo-Marino et al., 2001). The intervention designed by nurses and physicians was targeted only at nurses and dealt with improving decision-making and conflict resolution. There was no significant difference between pre- and post-test scores, perhaps again because collaboration does not need to be about conflict resolution.

Although the CSACD was designed to use in intensive care units, Moore-Smithson (2005) chose to use it in a study in ambulatory care settings with 38 nurses and 53 physicians providing care for the newly diagnosed diabetic population. It was found that the level of satisfaction positively correlated with the level of collaboration. It was also found that physicians noted higher levels of satisfaction with collaboration than did nurses.

The CSACD was used in a neonatal ICU also (Penticuff & Arheart, 2005). In this unit an intervention to improve parent's comprehension of the diagnosis and prognosis was implemented. Following the intervention, parents were given the CSACD, which had been modified to include parents. No statistically significant differences were found, perhaps because the instrument had been originally designed for providers.

Szekendi (2007) used the CSACD to study communication between advanced practice nurses and physicians. The author reported findings similar to other studies that used the CSACD in which the physicians reported greater collaboration with the nurses than the nurses did with the physicians. Using collaboration and communication interchangeably throughout the paper makes it difficult to know if collaboration or communication improved.

Collaborative Practice Scales. The Collaborative Practice Scales was also based on the Two Dimensional Model of Conflict Behavior (Thomas & Ruble, 1976). The authors of the measurement instrument defined collaboration as “the interactions between the nurse and physician that enable the knowledge and skills of both professionals to synergistically influence the patient care being provided” (p. 299). In this instrument, there is a physician scale and a nurse scale with questions based on a hierarchical relationship. For example, on the physician scale one question is “I discuss with RN’s the degree to which I think they should be involved in planning and implementing patient care” (p. 300). While discussing could be part of collaboration, the interactions are not elaborated upon so it is unclear if they are regarding collaboration. Perhaps most importantly, for a collaborative relationship to be achieved it must be non-hierarchical basis. While the definition is non-hierarchical the questions are not, thereby rendering this instrument out of date.

Interdisciplinary Collaboration Questionnaire. The Interdisciplinary Collaboration Questionnaire by Shortell et al. (1994) was cited in a study of nurse-physician collaboration in the ICU (Reader et al., 2007). The creators did not define

collaboration and used communication consistently throughout the instrument. The authors wanted to study interdisciplinary communication and safety in the ICU. The sample was 136 nurses and 48 physicians. The authors found that, similar to other studies, nurses reported lower levels of communication with physicians than physicians did with nurses. The study focuses on communication and safety. The questions in the instrument are specifically regarding communication, but the results are reported as collaboration.

NWI-R. The Nurse Work Index – Revised (NWI-R) (Aiken & Patrician, 2000) was designed to measure characteristics in professional nurse practice environments. The instrument consists of 57 items measuring factors such as autonomy, practice control, and quality of nurse-physician relationships. As cited in Table 1 of the article (p. 149), collaboration is measured by only three items: nurses and physicians have good teamwork; collaboration (defined as joint practice) between nurses and physicians; and nurses and physicians have good working relationships. Definitions of “joint practice,” “teamwork,” and “working relationships” are not given. This instrument has been deemed reliable and valid when used to measure characteristics of the work environment. However, collaboration and teamwork are not the same, nor are collaboration and joint practice; therefore this instrument may not be measuring collaboration.

While the instrument does not properly define collaboration nor does it discuss how the process takes place it has been used by several researchers. For example, Boyle (2004) used the NWI-R to relate characteristics of the nurse practice environment to types and volume of adverse events. A sample of 390 nurses were surveyed and 6 months

of patient discharges (N=11,496) were used to ascertain the adverse events. Nurse physician collaboration was joined with autonomy and practice control through factor analysis and was found to have an inverse relationship to failure to rescue and UTI. The authors reported that improved communication, not collaboration, is helpful in detecting changes in condition leading to earlier intervention.

The NWI-R was also used to understand how the nurse work environment has an impact on nurse burn out and intent to leave the organization as well as patient satisfaction (Vahey et al., 2004). A sample of 820 nurses and 621 patients was used. Here again, nurse physician relationships as a factor was undefined and was only one of three characteristics in the work environment. The other two factors were staffing adequacy and administrative support. It was found that on units where there were good relationships reported between nurses and physicians there were lower levels of burnout. What constitutes a “good” nurse physician relationships is not stated. In addition, the reader is not told how much nurse physician relationship factor accounts for in the work environment.

Interprofessional Collaboration Subscales. The most recent instrument to measure collaboration between health care providers is still in the testing stages. Kenaszchuk et al. (2010) have constructed an instrument directed at all healthcare professionals, not just nurses and physicians. Collaboration in this study is defined as “individuals from different health professions communicating and making decisions about a patient's health care based on shared knowledge and skills” (paragraph 5). Using the Nurse’s Opinion Questionnaire (NOQ) the authors adapted the questions so as to fit

all healthcare professionals and called it the Interprofessional Collaboration Subscales of the NOQ. The preliminary results show that the instrument is valid and reliable for nurses when using exploratory and confirmatory factor analysis against the Nurse Work Index but needs further adjustment prior to use with other healthcare professionals. Three factors were identified: accommodation, communication and isolation, where isolation consisted of negatively phrased items regarding nurse's intent to not openly criticize physicians. The two other factors were not defined for the reader. The steps or stages in the process are not identified. The Nurse Work Index may measure collaboration between nurses and physicians as one part of the overall work environment but more testing should be done before deeming it to be a satisfactory measure of collaboration.

Jefferson Scale of Attitudes Towards Physician Nurse Collaboration.

Understanding collaboration between nurses and physicians across cultures was the intent of the study by Hojat et al. (2001). The authors adapted a nursing instrument previously designed by Hojat to incorporate physicians. The result is a survey that has been applied to both nurses and physicians, from students to attending physicians and nurse practitioners and has been used to study collaboration from the perspective of country, profession and gender. The intent was to understand collaboration, but the questions in the instrument were regarding teamwork, i.e. "During their education, medical and nursing students should be involved in teamwork in order to understand their respective roles" (p. 125). The study compared physicians and nurses in Mexico and the United States and found that the U.S. providers had more positive attitudes towards

collaboration. In both countries nurses stated more positive attitudes. The authors report that the instrument has been deemed psychometrically sound with good construct validity and internal consistency reliability. However, the instrument measured attributes such as teamwork, autonomy, and authority while reporting them as collaboration therefore it cannot have good construct validity as these terms are not the same as collaboration.

The measurement instruments discussed here have been reliable and valid for the intent of the corresponding studies however, they did not measure collaboration perhaps because collaboration has not been conceptualized as a process. Further study is needed to comprehend collaboration as a process before measurement instruments can be created.

Definitions in Other Studies

Many authors believe that the term collaboration is inherently understood and therefore did not define it or defined it in an abstract way. Kramer and Schmalenberg (2003) interviewed 279 nurses from 14 magnet hospitals with regard to “good” nurse-physician relationships. Magnet hospitals were chosen as “good nurse physician relationships” must be evidenced in order to receive the designation. In this study collaborative was defined as “good working relationships” (p. 36) in which the attributes of respect and mutual power were present in the nurse-physician relationship. “Collegial” was the optimum level for the nurse physician relationship as then the relationship was based on “different but equal power” (p. 36). Not only does this study

not define collaboration as a process, the study was only conducted with nurses, therefore this definition could represent something entirely differently to physicians.

Higgins (1999) examined 42 intensive care nurses' perceptions of "collaborative nurse-physician transfer decision making" when transferring patients out of the ICU. The authors were trying to determine if variables such as severity of illness, years of experience and task complexity had any impact on collaboration. The authors only found a weak positive link between the nurses' perceptions of collaboration and their satisfaction with their job. In the survey, with regard to collaboration, nurses were left to provide their own definition. Without a definition, "collaborative" could mean different things to different people therefore the instrument may not measure what it was meant to measure.

Nurse physician collaboration and its impact on patient outcomes were studied by Tschannen and Kalisch (2009). A survey instrument was sent to 135 nurses asking for their perceptions of nurse physician collaboration. The instrument used by the authors contained two subscales, one for communication and one for conflict resolutions. The scores for each were added together and reported it as collaboration. Unlike other studies, higher levels of nurse physician collaboration were associated with *longer* lengths of stay. Defining collaboration as a combination of communication and conflict resolution may not accurately define it or define it as a process.

Messmer (2008) used simulation as an intervention with 55 residents and 50 nurses to measure nurse-physician collaboration but defined it subjectively as "team working well together" (p. 394). The authors also used the Collaboration and

Satisfaction with Patient Care Decisions Instrument (Baggs, 1994) which defines collaboration by six attributes: “planned together; open communication; shared decision-making capabilities; cooperation; nursing and medical concerns incorporated; and coordination” (p. 179). Defining collaboration as working well together is subjective and based on the participant’s perceptions. To then add six attributes to the definition may confuse the participants as to what collaboration is and thereby render unclear as to what the authors are trying to measure.

When authors fail to provide a definition for participants, or provided a subjective one, on which to base their answers, the participants provide their own definition which may be quite different from what the author intended. The findings from these studies may not be reliable.

Elsewhere in the literature authors have defined collaboration by using attributes as well. In a concept analysis project the attributes of: joint venture; cooperative endeavor; willing participation; team approach; contribution of expertise; shared planning, responsibility, decision-making and power based on knowledge and experience; and non-hierarchical relationships were given by Henneman et al. (1995). While these attributes may be present in collaboration they do not define it nor explain it as a process.

Similar to attributes, D’Amour et al. (2005) defined collaboration by the concepts of: sharing; partnership; power; interdependency; and process. Each one was defined individually, for example sharing could include sharing responsibilities, sharing perspectives and sharing data. Another example is partnership which could include

collegial relationships. While each of these may be present or necessary for collaboration to take place it still does not conceptualize collaboration as a process.

One paper addressed collaboration as both a process and an outcome. When defining collaboration as a process “it must have four operating dynamic processes: shared goals, recognized interdependence, shared power for decision making, and shared accountability for outcomes” (Gardner & Cary, 1999, p. 67). A process consisting of four processes? The process of collaboration was determined to have seven stages in which the last stage is stated as collaboration (Cary, 1996, as cited in Gardner & Cary, 1999). How can the process of collaboration include collaboration as one of the stages? This renders the other stages as antecedents necessary for collaboration? The authors also stated that collaboration is an outcome “in which shared interest and/or conflict that cannot be addressed by any single individual is addressed by key stakeholders” (Gardner & Cary, 1999, p. 66). This appears to be a reason for the collaboration to take place, not an outcome. A flaw with this paper is the lack of consistency in how collaboration is defined.

Elsewhere in the literature collaboration is interchanged most frequently with communication (Arford, 2005). According to Arford, organizations must hold providers accountable for having “collaborative nurse physician communication” (p. 72) as well as providing a climate that encourages and supports communication. How that is defined exactly the reader is not told, however the author does provide insight as to how it could take place. One suggestion is that nurses frame their conversations a medical context where the message is brief and action oriented. A second suggestion is that nurses work

to minimize nurse physician conflict. Not only is collaboration not defined as a process but these suggestions place the nurse back in the traditional nurse physician hierarchy.

Beckett and Kipnis (2009) interchanged the words collaboration and communication as well as added them together when they integrated the patient care handoff process of SBAR – situation, background, assessment and recommendation on a pediatric unit in Arizona. In this study the authors combined the two words, collaborative communication, and used the phrase to describe the interactions between providers when doing patient care handoffs but then separated the words again when reporting the outcomes of their study. Adding to the confusion over terminology, the authors used an instrument to measure teamwork and patient safety. The intervention was given to 212 staff nurses where 141 completed the pre-test and only 71 completed the post test. Interestingly, physicians refused to participate in the intervention and responded in such ways as “This is something nurses need to do” and “Doctors shouldn’t have to attend a nursing class” (p. 25). The words are not interchangeable nor can they be combined or measured by a teamwork and safety instrument. As SBAR can be used to collaborate with physicians over patient care issues, learning about the process is relevant to physicians.

Teamwork, collaboration and communication were used interchangeably by Kaissi et al. (2003). The authors sent The Patient Safety Culture and Teamwork survey to 466 nurses in the sample and received 261 surveys back. In this survey, team is defined as “all the personnel necessary to successfully and safely care for the patient

during their stay” (p. 212). Other key terms such as collaboration remained undefined.

Participants were asked to rate their collaboration with other types of providers, as well to convey their agreement with questions such as “the team approach to patient care reduces efficiency.” Results were reported as teamwork, communication and collaboration.

Alternating these words throughout the survey complicates the results makes it unclear as to which one improves patient safety. It should be noted again that patient safety and teamwork are not just nursing issues and physicians should be included in these studies.

O’Leary, Ritter et al. (2010) also used collaboration and communication interchangeably in their study teamwork. In a survey returned by a total of 159 nurses and physicians, providers were asked to rate collaboration and communication with other providers as well as note barriers to collaboration. Teamwork, communication or collaboration were not defined for the provider or the reader and in the results a lack of collaboration was noted as a barrier to teamwork. These terms can be very subjective and when left undefined, the provider is left to fill in their own definition. If the authors intend to create an intervention to overcome barriers to a process they must conceptually understand the process first.

Another study, this one by Thomas et al. (2003), found that the authors purposely interchanged teamwork and collaboration and adapted a new definition to encompass both “to communicate and make decisions with the expressed goal of satisfying the needs of the patient while respecting the unique qualities and abilities of each provider” (p. 957). This definition appears to denote collaboration/teamwork as a process. The survey, returned by 226 physicians and 324 nurses from six hospitals, measured nurses’ and

physicians' attitudes towards teamwork. Nurse physician collaboration was only one of seven items on the survey. Other items included input into decision making and conflict resolution. Two issues are inherent with this study: the first is that although it is defined as a process the steps are not delineated for the reader; and two, collaboration can take place in the absence of conflict.

Several authors did define collaboration as a process. Lindeke and Seikert (2005) spoke of "collaborative communication" and defined it as "collaboration is a complex process that requires intentional knowledge sharing and joint responsibility for patient care" (paragraph 3). The authors went on to list provider behaviors that are necessary for collaboration to take place, such as developing emotional maturity, understanding the perspective of others, and avoiding compassion fatigue (paragraph 8). While the authors do state that collaboration is a process they do not say how or why it takes place. Knowledge sharing and joint responsibility may be components necessary for the process to occur but not the process in and of itself.

"A process consisting of ongoing interactions" is how collaboration is defined by Schmalenberg et al. (2005a, p. 450). The authors went on to say that it is a "relationship" (p. 454) where nurses and physicians can have collaborative or collegial relationships. They identified the structures necessary for these types of relationships but then noted that collaborative and collegial are not the same and that the ideal is collegial. At this point it is unknown if collaboration is a process of ongoing interactions but if it is, what are the interactions that take place, who receives the benefits of these interactions, and who is involved in the interactions?

Conflict management training was an intervention targeted at nurses in a study conducted by Boone et al. (2008) in an effort to improve their relationships with physicians. In this quasi-experimental study collaboration was defined as the process of conflict management. Twenty-seven nurses were divided into two groups, 18 in the control and nine in the experimental. The experimental group received the conflict management training. Both groups were given the Collaborative Behaviors Scale (Stichler, 1989 as cited in Boone et al., 2008, p. 170). Results showed there was no difference in perceptions of collaboration with physicians in either group. Perhaps these results are because the instrument used was not published or because collaboration is not defined as the process of conflict management.

The wording throughout the study conducted in the ICU by Reader et al. (2007) focused on communication and coordination between providers. The authors stated they were studying “interdisciplinary communication and coordination” and sent an instrument that measured “interdisciplinary collaboration” to nurses and physicians. It appears the authors have defined collaboration as communication and coordination which may be true but is not yet known.

Collaboration is not the same as communication or teamwork. Communication is merely “the transmission of information” (www.merriam-webster.com) while teamwork simply means “work done by several associates” (www.merriam-webster.com). Teamwork can be just one attribute of a collaborative relationship (Schmalenberg et al., 2005a). Collaboration is more complex than just communication or teamwork. If

collaboration is going to be defined as a process it needs to have the steps or stages delineated and empirically understood so that providers know how to collaborate.

When not defining it themselves, authors such as Nelson et al. (2008) and Wanzer, Wojtaszczyk, and Kelly (2009) provided the definition that corresponded with the measurement instrument used, i.e. the Collaborative Practice Scale (CPS) (Weiss & Davis, 1985). Nelson et al. (2008) used the CPS to study nurses' and physicians' perceptions of "interaction patterns" (p. 35) on medical surgical units. As noted previous, the questions on this scale are hierarchal in nature and out of date. Furthermore this instrument is based on conflict resolution principles and collaboration is not about an absence of conflict. Although the CPS is designed for both physicians and nurses, Wanzer et al. (2009) surveyed only nurses in a study of communication. Aside from the inherent issues with the instrument, Wanzer et al. used collaboration and communication interchangeably when reporting the findings from nurses as to the physicians' messages toward nurses as predictors of nurse satisfaction.

Thomson (2007) complicated the situation even further. The author used The Jefferson Scale of Attitudes Towards Nurse Physician Collaboration (Hojat et al., 2001) to ascertain the attitudes of 65 nurses and 37 physicians. As Hojat et al. did not provide a definition the author used Baggs (1994) definition. The study did not produce any significant findings perhaps because the instrument used is regarding teamwork and the definition may be about the process of collaboration.

In addition to researchers using varied definitions of collaboration, healthcare providers also define it in various ways. Prior to participating in simulation as an

intervention to improve collaboration, medical students viewed collaboration as the nurse acting as the assistant to the physician and fulfilling orders and the physician should make the final decision (Dillon et al., 2009). Pre-intervention, nursing students agreed that physicians should make decisions but that nurses and physicians should have collaborative relationships (Dillon et al., 2009). How can they have collaborative relationships but then have the physician make the decision? Following the intervention the authors report that both professions expressed that simulation was a great learning experience and each attained greater respect and knowledge of the other's role. While the nursing students felt that teamwork improved, it is not clear if either group perceived collaboration to be improved.

In another study aimed at improving collaboration and communication between providers Vazirani et al. (2005) surveyed nurses and physicians as to their perceptions regarding the addition of a nurse practitioner to the experimental unit. There were three scales for each type of provider. The collaboration scale was identical for both types of providers and asked questions such as "Do nurses and physicians cooperate in decision making?"(p. 72). The communication scale differs in that physicians were asked questions such as "had they received complete information", "had good communication", "felt they had good communication" and "had easy access to high quality ancillary staff?"(p. 73). Whereas the nurses were asked if "they felt they had received correct information" and "if it was easy to ask questions of the physician or nurse practitioner" (p. 73). Terms such as "cooperate" were not defined. Providing different scales for nurses and physicians is inherently defining collaboration and communication differently

for each type of provider. In a similar vein, Kramer and Schmalenberg, (2003) found that nurses wanted “equal” relationships while physicians wanted “mutual” relationships. Neither equal nor mutual were defined.

Definitions of collaboration in the literature are imprecise and inconsistent. The inconsistencies in definitions found throughout the literature confound the process of collaboration. It remains conceptually unclear as to exactly what is collaboration. Defining collaboration by its attributes, as an outcome or a process, or attempting to measure it without proper understanding, confounds providers and readers alike. A unified and accurate definition is inherently necessary to understanding the concept and developing a theory.

Prior to theory development, in an attempt to achieve clarity, an empirically derived definition was sought by this researcher using the hybrid method of concept development (Schwartz-Barcott & Kim, 1986) in a study of six nurses and physicians. The study was conducted in 2008 and contained a theoretical phase where, through a literature review, the usage of the concept was examined across professions to arrive at a working definition of collaboration. As the use of a literature review is not sufficient to understand a practice based concept, this working definition was revised and refined through fieldwork observations and interviews with physicians and nurses. The result of the study was the following definition:

Collaboration is *communication with a goal*. A cohesive team is *accessible to one another. It seeks the opinions of others, respects profession-specific roles, is patient and open-minded*. Team members are both *autonomous and responsible* when *communicating information about a patient*. (Fewster-Thuente, 2007)

This definition expands on the definition provided by Dillon et al. (2009) and includes the additions of attributes, an outcome and the roles of the team. The definition by Fewster-Thuente (2007) will be used to take the next step in the study of collaboration to discover the process of collaboration.

The remainder of the literature review will focus on three main areas: barriers to collaboration; outcomes of collaboration; and interventions to improve collaboration.

Barriers to Collaboration

The literature reflects that the previous studies have mainly focused on the barriers to and outcomes of collaboration as well as interventions to promote collaboration. Barriers to nurse physician collaboration are relevant to the study of collaboration as these may inhibit the relationship between providers and prevent collaboration from taking place. The major barriers noted in the literature are the patriarchal relationship between nurses and physicians (Baggs et al., 1997; Foley et al., 2002; Grindel et al., 1996; Kaissi et al., 2003; Keenan et al., 1998; Nelson et al., 2008; O'Leary, Ritter et al., 2010; Reader et al., 2007; Rosenstein & O'Daniel, 2005; Stein, 1967; Thomas et al., 2003; Tschannen, 2004; Vazirani et al., 2005), lack of interdisciplinary education (Council for Graduate Medical Education, 2000; Dillon et al., 2009; Schmalenberg et al., 2005a; Wood, 2001), lack of role clarification (Druss et al., 2003; Hammond et al., 1999; Thomas et al., 2003), gender (Wear & Keck-McNulty, 2004; Zelek & Phillips, 2003), provider and organizational culture (Headrick et al., 1998; Henneman et al., 1995; Hojat et al., 2001; Orchard, 2010), information technology (Gorman et al., 2003; Green & Thomas, 2008), proximity (O'Leary, Ritter et al., 2010)

and locating the provider (O'Leary et al., 2009). The patriarchal relationship will be discussed first.

Patriarchal Relationship

The relationship between nurses and physicians has been studied at length beginning with Stein's (1967) seminal work "The Doctor Nurse Game." The relationship was described as being hierarchal in nature where the nurse is subservient to the physician, fulfilling orders that doctors give. This type of relationship has been found to be a barrier to nurse physician collaboration ((Baggs et al., 1997; Foley et al., 2002; Grindel et al., 1996; Kaissi et al., 2003; Keenan et al., 1998; Nelson et al., 2008; O'Leary, Ritter et al., 2010; Reader et al., 2007; Rosenstein & O'Daniel, 2005; Stein, 1967; Thomas et al., 2003; Vazirani et al., 2005).

When studying the satisfaction of 150 nurses' and 151 physicians' feelings associated with 1,432 decisions to transfer patients to a lower level of care (Baggs et al., 1997) nurses reported lower levels of satisfaction with the decision making when they were not included in the process. The CSACD was the instrument used for the study in which collaboration is defined by six attributes: planned together, open communication, shared decision-making capabilities, cooperation, nursing and medical concerns incorporated, and coordination. This study only focused on the decision-making attribute. What was found was that, while physicians are satisfied with the current levels of collaboration, i.e. decision making, nurses are not. Until both nurses and physicians are equally satisfied with the relationship it remains unbalanced.

As hierarchy is a foundation for relationships in the military, Foley et al. (2002) studied the nurse physician relationship in the military. The effects of various characteristics, of which nurse-physician collaboration was one, on the nurses' job

satisfaction were studied. A total of 185 nurses participated in the study. The authors used the NWI-R (Aiken & Patrician, 2005) which measures the characteristics of the nurse work environment, to survey participants. Unlike other studies, moderate to high levels of satisfaction were found with nurse-physician collaboration. This was thought to be due to officer rank of the nurses which could be as high, or higher, than the physicians as well as higher education levels of nurses.

In the literature there are seven studies that demonstrate that while physicians are satisfied with the quality of collaboration with nurses, nurses are not satisfied with their collaboration with physicians. Grindel et al. (1996) used the CPS to determine perceptions of collaboration between nurses and physicians. In addition, patients' and physicians' perceptions of nursing care were elicited. In this study of 730 nurses (42.3% return), 173 physicians (22.5% return), and 249 patients (return % not given) the focus was on the patient care interactions (unspecified) between nurses and physicians, not the physician nurse relationship. It was found that physicians rated collaboration with nurses higher than nurses rate it with physicians. Due to the hierarchal nature of the questions on the CPS, these results are expected.

Teamwork and patient safety attitudes of nurses were studied by Kaissi et al. (2003). Quantitative questions on a survey were regarding teamwork and patient safety and perceptions of quality of collaboration with various other professions including medicine. The survey was returned by 56% of nurses in the sample (N=466). Almost 25% of nurses rated collaboration with physicians as low to very low, with nurses in the operating room accounting for 40% of that number, with the ICU coming in a distant

second with 11%. The remaining 50% of surveys were from nurses throughout the hospital, without a significant contribution from any specific unit. A hierarchal relationship in the operating room is still present.

The authors of a study of interdisciplinary communication and safety in the ICU also found the patriarchal relationship was still present (Reader et al., 2007). The sample for the study was 136 nurses and 48 physicians. Although the authors used an instrument with collaboration in the title, the study was actually regarding communication and openness among team members. While the majority of doctors reported very high levels of openness and communication with the nurses, only 37% of nurses reported high levels of openness and communication with physicians. The result is that doctors and nurses have differing ideas as to what level of communication should take place.

Similar results were found by Thomas et al. (2003) in the ICU where attitudes towards teamwork were studied. Of the 90 physicians and 230 nurses who responded to the survey, 73% of physicians reported collaboration and communication to be high or very high whereas only 33% of the nurses reported collaboration and communication as high or very high. In this study it was found that nurses find it difficult to speak up about patient care, they wanted more input into decision making, and that nursing input was not well received. These findings may suggest the patriarchal relationship is still present.

Nelson et al. (2008) surveyed nurses (80% response rate) and physicians (43% response rate) using the CPS. The results were that physicians significantly scored collaboration with nurses higher than nurses with physicians (4.3 vs 3.5 on a 5-point scale). It should be noted the CPS questions are based on a hierarchal relationship and

are out of date. Yet another study verifies that physicians and nurses have different perceptions of collaboration. Vazirani et al. (2005) studied the impact of adding a nurse practitioner, a hospitalist and multidisciplinary rounds to an experimental unit in an effort to improve collaboration and communication (neither term defined). While the response rates from physicians were 60-70% the response rate for nurses was 91%. With the addition of a nurse practitioner, a hospitalist and multidisciplinary rounds at the same time it is difficult to separate the results but both nurses and physicians reported higher levels of the communication and collaboration with the nurse practitioner. Nurses reported the lowest level of communication and collaboration with the physicians.

The last study to ascertain similar results is by O'Leary, Ritter et al. (2010). The authors studied attitudes towards teamwork and barriers to teamwork. Although the authors measured collaboration and communication and reported it as teamwork, the authors found similar results in that the majority of physicians reported collaboration with nurses as high or very high while only a minority of nurses reported collaboration with physicians as high or very high. The nurse physician relationship in response to disruptive behavior was studied by Rosenstein and O'Daniel (2005). The response rates of the survey regarding disruptive behavior by nurses and physicians may tell part of the problem. Almost 1,100 nurses (72%) and 402 physicians (27%) responded to the survey. When asked if they had witnessed disruptive behavior by a physician 88% of nurses responded positively as did 48% of the physicians. When asked if they had witnessed disruptive behavior by a nurse, 72% of nurses and 47% of physicians had. The authors state that this disruptive behavior may have a negative impact on patient outcomes and is

thought to be caused by the hierarchal relationship and the nurses' response to it. The disparity in return rates makes one question if this is more of an issue with nurses than physicians.

Conflict in the emergency department was studied by Keenan et al. (1998) by using conflict vignettes. Of the nurses surveyed 196 (88%) returned their surveys. The vignettes were in regard to scenarios with physicians in which various disagreements take place. Participants were asked to respond on a 1-5 scale with 5 representing "a great extent" the likelihood of the physician's response. The participants' answers aligned with the methods of conflict resolution proposed by Thomas and Ruble (1976), collaboration (highest ideal), compromising, oblige (accommodate), avoiding, and dominate (competing). In this study it was determined that nurses desire to collaborate and expect physicians to collaborate also. Interestingly the authors also found that when the physicians use dominating or avoiding styles the nurse will use avoidance. If both parties are avoiding each other then it is difficult to understand how collaboration could take place.

These similar studies demonstrate significant variations in both response rates and responses by nurses and physicians, suggesting that nurses and physicians do not perceive their relationship the same way. If one provider reports collaboration as high with another provider, who reports it as low, it is questionable as to what is taking place. Until the process of collaboration can be fully understood these findings will most likely remain the same.

Lack of Interdisciplinary Education

The lack of interdisciplinary education was also identified as a barrier to nurse physician collaboration (Council for Graduate Medical Education, 2000; Dillon et al., 2009; Schmalenberg et al., 2005b; Wood, 2001). The Council for Graduate Medical Education (2000) recommended that education about cultural changes take place with nurses and physicians together to encourage collaboration between nurses and physicians to improve patient safety.

Productive conflict resolution strategies need to be taught to both physicians and nurses according to Schmalenberg et al. (2005b). It is believed by these authors that understanding how to manage conflict would promote more communication and collaboration between providers. As Boone et al. (2008) demonstrated that conflict management training has little to no impact on providers, once collaboration has been identified as a process and the steps in the process delineated, perhaps the focus should be less on conflict and more on how to collaborate.

“Increased ability to share knowledge and skills and greater respect between the professions” (Wood, 2001, p. 816) are two reasons to promote interdisciplinary education. This training should be conducted throughout the schooling period in order to have the most impact. The sharing of knowledge and showing respect can also be modeled for students within the healthcare organizations.

As evidenced by the study conducted by Dillon et al. (2009), interdisciplinary education can help medical and nursing students understand and respect each others' roles within the healthcare system. Dillon et al. used high fidelity simulation to teach

collaboration to medical and nursing students who participated in a mock code situation. The authors conducted pre- and post-tests before and after the training and found that both groups felt their understanding of the other profession increased. In addition, students' perceptions of each other also changed. Both groups felt that nursing should have more input into the decisions involving patients. While this does not equate to collaboration perhaps it is a start in the right direction. Following proper conceptualization of collaboration perhaps education for nurses and physicians as to how to collaborate can be designed.

Lack of Role Clarification

A lack of role clarification has been another area that has been perceived to be a barrier to collaboration (Druss et al., 2003; Hammond et al., 1999; Thomas et al., 2003). With the multitude of types of providers it is difficult for providers to know with whom they are to collaborate. Not only are there many types of providers, other professions want to share the care of the patient while physicians prefer unilateral responsibility (Hammond et al., 1999).

Druss et al. (2003) examined trends in outpatient care to determine the volume of care provided by "non-physician clinicians." Non-physician clinicians were identified as physician assistants, nurse practitioners, chiropractors, midwives, optometrists, podiatrists, social workers, psychologists and others. Examining over 20,000 patient encounters to determine who provided the services rendered, the authors found that the care provided in the outpatient setting by non-physician clinicians increased from 30.6% to 36.1% in ten years. Of the outpatient preventative services such as general checkups,

30.2% were provided by non-physician clinicians, whereas those same services were only provided by 16.2% of physicians. Interestingly the care provided by non-physician clinicians in the inpatient setting decreased. Because there may be overlap in the roles of the physicians and the non-physician clinicians, it may be difficult to determine who is responsible for each part of the patient care.

Hammond et al. (1999) conducted a study on a psychiatry unit to understand providers' perceptions taken toward their role as well as their responsibilities within that role. The study took into account the perceptions of nurses, physicians, psychiatric technicians, psychologists, social workers, administrators and therapists. The significant difference found was that while nurses expect to share responsibility for patient care, physicians do not. There is a discrepancy among physicians and nurses as to how much authority physicians have in the care of patients. It may be found that collaboration involves both professions sharing responsibility for the care of the patient.

By comparing the healthcare industry to aviation, Thomas et al. (2003) determined that, while aviation has well defined teams with a specific hierarchy for authority, healthcare has a variety of providers providing overlapping services from various locations thus adding to the confusion over with whom to collaborate. The authors note that healthcare could use several lessons from aviation in that there should be specific training for each profession followed by interdisciplinary training that addresses communication, conflict and decision making. Although collaboration is not the same as communication, conflict or decision making, until the process of

collaboration is well defined and conceptualized this type of training may suffice. At that time discernment as to who does what may be clearer.

Gender

Gender has been identified as a barrier to collaboration (Wear & Keck-McNulty, 2004; Zelek & Phillips, 2003). Historically, physicians were male and nurses were female but these statistics are changing. Currently males account for 9% of the nurses and approximately 50% of the physicians. However, the greatest change is that approximately 50% of the physicians are now female and perhaps more likely to collaborate.

The attitudes of 23 female resident physicians and 28 female nurses towards each other were examined in a qualitative study by Wear and Keck-McNulty (2004). The result is that nurses identify more with gender, i.e. they are female before they are nurses whereas the physicians identified more with their profession, i.e. female physicians were physicians before they were female. With regard to collaboration, female nurses were more likely to approach the female physicians with ideas or suggestions for patient care as they believe them to be more approachable. Female physicians felt that female nurses were less willing to assist them and treat them with less deference than male physicians.

Zelek and Phillips (2003) studied the effect of gender and power in the nurse physician relationship. As approximately 93% of all nurses in the United States are women the authors looked primarily at the gender of physicians. What was found was that the female nurses would still defer to male physicians even if they knew what was medically necessary. They also found that female nurses reported it was easier to

approach female physicians but they were less likely to clean up after them and are more hostile when female physicians exert medical authority. These conflicting reports signify discomfort on the part of female nurses with female physicians because it breaks the stereotypical dynamic. The authors suggest if female nurses are more likely to approach a female physician with a suggestion about patient care perhaps increased collaboration can take place.

Gender can appear to impact collaboration positively if both professionals are female whereas if the nurse is female and the physician is male the patriarchal relationship may continue. The next barrier for discussion is provider and organizational culture.

Provider and Organizational Culture

The influences of provider and organizational culture on collaboration have been identified as a barrier to collaboration (Headrick et al., 1998; Henneman et al., 1995; Hojat et al., 2001; Orchard, 2010). Personal, professional and organizational beliefs may impact provider's willingness and desire to collaborate.

History, language and education shape the culture of a profession and can be seen as barriers to collaboration according to Headrick et al. (1998). These factors combine and shape the thoughts and actions of the individual providers. In addition, autonomy is promoted in each profession. If the culture changes to one of collaboration as opposed to one of autonomy and is built into the language and education, then the history of nursing and medicine may soon be one where collaboration took place.

These are not the only factors that shape providers perceptions of collaboration. Security in one's own professional identity (Henneman et al., 1995) does as well. If a provider feels confident in their skills and expertise in their own area, they are then better able to see how their contribution fits into the whole picture. On the opposite end, insecurity will cause providers to be defensive about their role and can be a barrier to collaboration.

Orchard (2010) determined that nurses need to believe that they are a vital part of the healthcare team in which they have specialized knowledge and skill to share. Nurses have been persistent isolationists and need to stop removing themselves from the team. Nurses can and should be central players on the interdisciplinary team.

Both organizational and personal culture impacts providers' willingness and ability to collaborate. In-depth knowledge and feelings of confidence as well as a belief they are an inherent part of the team contribute on the personal side while organizations need to teach providers how to collaborate and then expect collaboration. Information technology is the next barrier for discussion.

Information Technology

The most current barrier to collaboration being studied is the use of information technology (IT), primarily the electronic medical record (EMR) (Green & Thomas, 2008) and computer physician order entry (CPOE) systems (Gorman et al., 2003). These systems require the users to work separately and often from remote locations. For example, with CPOE, the physician may input the order, the nurse may fulfill the order and the physician may retrieve the outcome. The actions may be conducted completely

independent of one another. Providers do not get the immediate feedback that they may have had if the order been discussed face to face (Gorman et al.). Gorman et al. recommends that the CPOE be integrated into a more multidisciplinary system of patient care. Ash et al. (2003) found that CPOE works best in an organizational climate that fosters collaboration as an ongoing process.

Another issue with CPOE is the lack of nurse notification of the order entry, specifically the initiation or discontinuation of urgent medications or treatments. Should the physician begin or end a medication for a patient by only logging it into the computer, the nurse may not know about the order until the next time they sit down at the computer. Not only does this not allow the nurse to collaborate with the physician, the result may be delays in treatment or the continuation of a treatment past the recommended time.

The EMR has also limited collaboration as the system uses checklists for the majority of documentation. A lack of narrative has frustrated physicians who are calling for more description of nursing interventions in addition to the checklists (Green & Thomas, 2008). On a positive note, Green and Thomas also found that if the patient goals and treatment plan are documented in the EMR then these are 60% more likely to be achieved. Once collaboration has been conceptualized as a process between nurses and physicians it may be easier to see where information technology can support the process.

Proximity and Locating the Provider

Two other barriers have been identified recently. These are: knowing who the doctor is for the patient; and how to find the provider. O'Leary, Ritter et al. (2010)

during a study on teamwork, while measuring communication and collaboration, surveyed 159 physicians and nurses. The authors determined that identifying the patient's physician was a primary barrier for nurses while physicians felt that the ability to reach nurses was their primary barrier. If one does not know with whom to collaborate or cannot reach them, collaboration cannot take place.

Another recently identified barrier is the lack of physical proximity of the team. O'Leary et al. (2009) surveyed almost 600 nurses and 600 physicians to determine barriers to collaboration. After learning that physicians dispersed randomly over several units correlated with decreased communication and lower levels of agreement on the plan of care for patients, O'Leary et al. conducted an experiment in which there was a control group and an experimental group that localized physicians to a single unit. The authors found that both communication and levels of agreement between the nurses and physicians were significantly increased.

The barriers to collaboration have been studied extensively. The patriarchal relationship remains the largest barrier along with the differences in perceptions of collaboration by providers. If only one party in the relationship is satisfied, the relationship is not strong. However, it is difficult to determine barriers to something that is not well understood. Until the process of collaboration has been conceptualized these barriers may persist. Understanding the stages in the process may allow steps to be taken to try to overcome these barriers.

While barriers to collaboration have been extensively studied so have outcomes. These are discussed next.

Outcomes

Positive outcomes for patients are the primary goal of healthcare providers. As evidenced by the Sentinel Event Statistics (Joint Commission, 2010) cited above, if providers fail to collaborate there can be disastrous results. For example, if a surgical team fails to collaborate the result could be the disfigurement or death of the patient. Conversely, the literature implies that increased levels of reported collaboration results in improved patient outcomes, such as decreased length of stay, mortality and cost and increased satisfaction (Baggs et al., 1997; Boyle, 2004; Curley et al., 1998; Estabrooks et al., 2005; Latimer et al., 2009; Latta et al., 2008; McGrail, Morse, Glessner, & Gardner, 2009; Narasimhan, Eisen, Mahoney, Acerra, & Rosen, 2006; O'Leary et al., 2011; O'Mahony et al., 2007; Segel et al., 2010; Tschannen & Kalisch, 2009; Vahey et al., 2004).

Patient Outcomes and Satisfaction

Collaboration has been identified as a process to improve patient outcomes and reduce the likelihood of adverse events (Joint Commission, 2010). Outcomes such as decreased mortality, decreased length of stay and decreased cost are a few of the outcomes to be discussed here.

Many authors have studied the impact of nurse physician collaboration on patient outcomes. However the outcomes of nurse physician collaboration are conflicting in that nurse physician collaboration correlated positively to decreased length of stay and cost (Curley et al., 1998) and decreased adverse events (Boyle, 2004), it also correlated *negatively* to length of stay (Tschannen & Kalisch, 2009).

Boyle (2004) conducted a study on medical surgical units using the NWI-R instrument with 390 nurses and reviewed six months of patient discharges (11,496 encounters). The purpose was to determine if there was a correlation between levels of collaboration and patient outcomes. The author reported collaboration (noted as autonomy/collaboration) had an inverse association with adverse events such as UTI's ($r = 0.29$) and failure to rescue ($r = -0.53$). The NWI-R examines characteristics of the nurse work environment of which nurse physician collaboration is just one. The study by Curley et al. (1998) was set in the ICU where it was determined that increased levels of collaboration correlated significantly with a decreased length of stay (from 6.06 days to 5.46 days) and decreased cost (from \$8,090 to \$6,681). Tschannen and Kalisch (2009) conducted a study of "quality of nurse physician relationships" on four units with 135 nurses and reviewed 310 patient encounters. The authors surmise that high quality nurse physician relationships equate to collaboration. They found that the units reporting higher levels of collaboration resulted in longer stay of one day. The authors provide a reasonable explanation by stating that patient issues could be recognized through the collaboration that may have otherwise gone untreated or resulted in a readmission to the hospital.

Both Boyle (2004) and Curley et al. (1998) did not define collaboration whereas Tschannen and Kalisch (2009) defined it as "leadership, coordination, communication, conflict management, team cohesion and unit effectiveness" (p. 798), including both attributes and processes. If researchers are all trying to measure collaboration, then a

unified definition should be used so providers have the same foundation on which to base their responses .

Baggs et al. (1997) conducted a study with three different groups of ICU nurses (N=162) and physicians (N=160) and found that when nurses, not physicians, reported collaboration took place, positive patient outcomes, such as lower mortality rates and fewer readmissions to the ICU, were the result. It should be noted that Baggs et al. (1997) used the CSACD which has been discussed previously and shown to measure attributes of collaboration.

Nurses were also the subject of a study by Estabrooks et al. (2005) in which they examined nursing unit characteristics of which nurse physician relationships was one. Using outcome data from 18,142 patients the authors found that higher scores for nurse physician relationships correlated positively to reduced 30-day mortality (odds ratio of 0.74, 95% confidence interval). The nurse physician relationship is unclear so it is difficult to understand if what they measured was collaboration.

In a study of pain control in the NICU, Latimer et al. (2009) found that when nurses scored higher levels of nurse physician collaboration (1.04 odds ratio, 95% confidence interval) evidence based pain control procedures in neonates were more likely to be completed. A total of 93 nurses were surveyed after having given painful procedures such as heel sticks to neonates. The instrument was the CSACD which measures the attributes of collaboration. In addition, it is unclear from the study what the nurses and physicians collaborated on.

A different study was conducted by Narasimhan et al. (2006) in which a daily goals sheet that was completed at multidisciplinary rounds was introduced as a method to improve nurse physician communication. Both nurses and physicians were surveyed as to their understanding of the goals, not their input into the goals. It was found that their perceptions of the goals improved (on a 5-point scale, nurses scores improved from 3.9 to 4.8 and physicians scores went from 4.6 to 4.9) when the goal sheet was used. Perhaps the physicians' scores did not increase that significantly because they had determined the goals and therefore understood them. Collaboration was not studied.

Implementing multidisciplinary rounds as an intervention resulted in outcomes of increased resident knowledge and decreased length of stay by 0.5 days for patients with congestive heart failure, pneumonia or myocardial infarction. These outcomes were positively associated with the presence of nurses on interdisciplinary rounds (O'Mahony et al., 2007). O'Leary et al. (2011) also implemented interdisciplinary rounds in an attempt to improve patient safety. The authors had an experimental unit which received the interdisciplinary rounds and a control unit. After controlling for variances in the units, the authors report the number of adverse events, determined from a retrospective chart review, decreased by 2.3 events. The authors did not elaborate on the content discussed in the rounds so it cannot be assumed that collaboration took place.

Not only do patient outcomes improve when nurses and physicians collaborate but so does patient satisfaction (Vahey et al., 2004). Using the NWI-R which looks at nursing unit characteristics, as well as a patient satisfaction scale, the authors surveyed 820 nurses and 621 patients on 40 units treating patients with HIV. It was found that, on

units where nurses report good relationships with physicians, patients were twice as likely to be satisfied with their care. The inherent issue with this instrument is that the NWI-R measures the nurse physician relationship not collaboration.

In a qualitative study conducted by Latta et al. (2008), it was found that parents of pediatric patients are also more satisfied when nurses and physicians collaborate on the patient's plan of care. The authors surveyed a convenience sample of parents following an intervention in which the parents of the patients were included in the rounding process. Overall, parents were pleased with being included and reported liking the "teamwork and communication" that went on. The authors combined teamwork and communication and reported it as collaboration. These concepts are separate from collaboration.

Lastly, and perhaps most importantly, the agencies that oversee healthcare organizations are requiring nurses and physicians to collaborate. The Agency for Healthcare Research and Quality states that, for optimal patient care outcomes, nurses and physicians must be viewed as co-leaders collaborating clinical areas (Hughes, 2008). The Joint Commission has determined from the sentinel event data that the most common cause of sentinel events is a lack of communication and collaboration. The accrediting organization has deemed nurse physician collaboration to be a high priority as healthcare organizations must have evidence of nurse physician collaboration in order to maintain accreditation (Havens, 2001; Kramer et al., 2010; Joint Commission, 2010). Without accreditation, healthcare organizations cannot receive Medicaid/Medicare funding.

Provider Outcomes

Positive outcomes for nurses and physicians have been studied as well. Increased collaboration as defined by listening on the part of the physician, as well as the physician providing clear and empathetic messages, increased nursing job satisfaction (Wanzer, Wojtaszczyk & Kelly, 2009). Increased collaboration also correlates positively with nurse satisfaction with decision making in the ICU (Baggs et al., 1997; Higgins, 1999) and during simulation (Messmer, 2008). Improvements in nurse job satisfaction have led to reduced burnout and hence turnover (Vahey et al., 2004). Residents also found their core knowledge of the patients improved during interdisciplinary rounds (O'Mahony et al., 2007) while their gratitude towards nurses (McGrail et al., 2009) and collegiality with nurses (Messmer, 2008) both increased while the amount of time residents spent on the unit decreased (Hall et al., 2007).

The barriers and outcomes of collaboration have been widely studied using a variety of definitions. While the patriarchal relationship has inhibited collaboration other barriers such as a lack of interdisciplinary education, gender, role confusion, information technology, proximity and locating the provider have limited it as well. The outcomes have demonstrated modest success but without a unified definition, the results are not comparable to one another. However, taking the above results at face value, a discussion of how to overcome the barriers and improve outcomes by implementing interventions is below.

Interventions to Improve Collaboration

Organizations are now realizing the necessity of collaboration and are employing various interventions to teach providers how to collaborate. Interdisciplinary rounds (Cowan et al., 2006; Curley et al. 1998; Hall et al., 2007; Latta et al., 2008; O'Leary et al., 2011; O'Mahony et al., 2007; Segel et al., 2010; Timmel et al., 2010; Wilson et al., 2009) and simulation (Dillon et al., 2009; Maxson et al., 2011; Messmer, 2008) are the two most common in the literature.

Interdisciplinary rounds can be used as a structured platform to allow collaboration to take place. Implementing interdisciplinary rounds can have an impact in many ways. Curley et al. (1998) examined the impact of implementing interdisciplinary rounds on outcomes such as cost, length of stay and mortality. It was found that the rounds significantly decreased cost and mean length of stay, but did not have a significant effect on mortality. Wilson et al. (2009) implemented daily interdisciplinary rounds with the addition of a daily goals sheet specific to each patient. The results were a decrease in ventilator days, decreased length of ICU stay, decreased mortality and a significant savings on pharmacy costs. It appears that interdisciplinary rounds can significantly effect patients in a positive way.

In a similar study, Timmel et al. (2010) determined that by including nurses on rounds as well as implementing other interventions such as team-based patient goal worksheets, nurse turnover decreased from 27% per year to 0. With the addition of several interventions, it is difficult to determine which one(s) to attribute to the change in turnover.

Segel et al. (2010) also studied the implementation of interdisciplinary rounds on outcomes and found that discharge time and efficiency both improved. O'Mahony et al. (2007) also found that by implementing interdisciplinary rounds, patient length of stay decreased and resident's knowledge of the patients increased. Hall et al. (2007) also studied the implementation of nurse-physician rounds. They found that not only were nurses and physicians satisfied with the rounding process, it also shortened the time the physician spent on the unit. Lastly, O'Leary et al. (2011) studied the impact of interdisciplinary rounds. They found that, while there was no impact on length of stay or cost, the nurses' perceptions of collaboration with physicians increased significantly. Interestingly, they found that nurses perceived patient safety to be higher as well.

The addition of a nurse practitioner to interdisciplinary rounds to be the liaison between nurses and physicians was a slightly different intervention studied by Cowan et al. (2006). This addition was positively received by both the nurses and physicians and resulted in a decrease length of stay and cost but did not improve the collaboration between the staff nurses and the physicians. Without a clearly defined process, it is difficult to know if collaboration is occurring during these rounds. It should not be assumed that nurse physician collaboration is taking place during interdisciplinary rounds.

Simulation is a newer intervention being employed to teach and evaluate collaboration. Dillon et al. (2009) utilized simulation for a mock code with nursing and medical students as a method to teach collaboration. The authors did not discuss what was taught about collaboration. The Jefferson Scale of Attitudes towards Physician

Nurse Collaboration (Hojat et al. 2001) was used to measure their attitudes towards collaboration but actually measured the attributes of teamwork and autonomy. While pre-test scores showed the nurses as more inclined to collaborate, the post-test showed the medical students significantly trended towards collaboration ($p=.05$). Both groups stated in the narrative portion that their feelings toward collaboration were much more positive and the simulation experience was an excellent learning tool. With the lack of clarity in what was taught and the definition, it is difficult to interpret these results as positive outcomes of collaboration.

Both Messmer (2008) and Maxson et al. (2011) used simulation scenarios as a method to promote collaboration, open communication and mutual decision-making between nurses and physicians. Both authors also used the CSACD to measure participant's satisfaction with collaboration. The results showed a significant improvement perceived by both professions as both medical and nursing concerns were factored into the decision making process. The second post-test given at two months past the intervention showed sustained scores. By using the CSACD the authors were measuring if the attributes of collaboration were present, not necessarily if the process of collaboration was taking place.

Dechairo-Marino et al. (2001) designed an action oriented intervention that included a four hour class on decision making and conflict resolution. Using the CSACD as a measurement instrument, the authors surveyed the nurses from the medical-surgical and intensive care unit and found a strong correlation between the level of collaboration

reported by nurses and their satisfaction with the decision making process. Physicians were not trained or surveyed due to decreased levels of participation in the past.

When physicians are not part of the intervention, it sends a message to nurses that physicians do not need this training and that collaboration is only a nursing issue. Nurse physician collaboration is between nurses and physicians, not just between nurses. It should be an organizational priority that both professions partake in all interventions.

Interventions to improve nurse physician collaboration have been in three areas, interdisciplinary rounds, simulation, and training. All three areas have resulted in positive outcomes but two issues arise. The first is it is unclear how nurse physician collaboration is conceptualized for the providers, perhaps because it has not been clearly done before. The second is that the primary focus of the interventions has been on nurses. Physicians must be included in the intervention as well. However, until collaboration has been clearly conceptualized, the interventions may not result in successful collaboration.

Summary

These studies had little similarity in their focus on collaboration. Relevant theories and frameworks have been presented, discussed and found not to work properly as they are based in other professions than healthcare. A theory for nurse physician collaboration should be empirically derived from the healthcare providers participating in it. The lack of consistency and imprecision in defining collaboration, has resulted in multiple definitions and meanings for both the provider and the reader. As the measurement instruments have been based on these imprecise definitions and theoretical

foundations not based in healthcare, lacked a definition completely or used hierarchal questions, they have may not succeeded in measuring collaboration as it stands today.

Barriers to collaboration have been demonstrated but as they were determined through studies with varied definitions, using measurement instruments that may be outdated or imprecise, it is unclear if these are barriers to collaboration or some other process such as communication. Perhaps the most striking and important barrier is the hierarchal relationship between nurses and physicians. The most clarity in entirety of the collaboration literature is the seven studies all showing that nurses and physicians have vastly different perceptions of collaboration with each other. Without achieving consensus as to what collaboration is according to both professions, the results will continue.

The interventions that have been employed have also shown moderate success but may be addressing other issues such as a lack of teamwork or communication as opposed to collaboration. It has also been demonstrated throughout this literature review that collaboration has lacked clarity in its definition as a basic social process. In other words, it is still unclear as to how collaboration between nurses and physicians takes place. These studies lacked a theoretical foundation based on a clear and complete definition.

Gaps in the Literature

While a plethora of diverse studies exist in the literature, significant gaps in the literature remain. The first gap in the literature is a concise, concrete, coherent definition to be used by both professions. Without this definition the disparity in providers' perceptions of collaboration with one another will continue. While a working definition

of collaboration has been determined for this study, it requires further study and confirmation. The literature also lacks measurement instruments that measure collaboration, not teamwork, communication or group effectiveness, as it takes place between nurses and physicians. The study of the barriers to collaboration and outcomes of collaboration needs to be based on a consistent, theoretically clear definitive process. Only at that time can interventions be designed to overcome the barriers and improve the process. It is clear that the primary problem is that the study of collaboration has not focused on collaboration as a process that takes place between nurses and physicians. A study in which a substantive, empirically derived theory of nurse-physician collaboration is conceptualized as a basic social process that takes place between nurses and physicians regarding patient care is needed. This study can begin to address the gaps in the literature and provide a foundation for measurement, intervention and evaluation.

CHAPTER III

METHODOLOGY

The goal of this study is to conceptualize collaboration as a basic social process that takes place between nurses and physicians. Although many studies have identified different aspects of collaboration, such as barriers and outcomes, it was determined from the review of literature that it is not known exactly what nurse physician collaboration is.

Nurse physician collaboration is a social/behavioral phenomenon and is best studied using a naturalistic design. According to Guba and Lincoln (1981), this design upholds the belief that the phenomenon, in this case collaboration, exists in the minds of the people who each experience a different reality but the different realities collectively make a whole. However, if one attempts to look at the realities on an individual basis the whole falls apart. If one examined each provider's reality of collaboration one would get different results but by examining all of the realities together one understands collaboration as a whole.

The research design and methodology focuses on several criteria to ensure rigor. These will be discussed shortly. The naturalistic design also takes into account relevance. Based on the current literature, the study of nurse physician collaboration has been found to be quite relevant to patients, providers and organizations. Grounded theory was identified as the best method by which to conduct this study of nurse-physician collaboration as it allows the theory to emerge from the data and uses the researcher as an

instrument thereby achieving flexibility and building upon prior knowledge (Guba & Lincoln, 1981). Current quantitative measurement instruments have failed to explain collaboration between nurses and physicians.

As a qualitative research method, grounded theory provides nurses with strategies to build theories in areas previously unexplored or under-explored (Byrne, 2001). This practical knowledge significantly contributes to the core body of healthcare knowledge. In nursing theory development is greatly needed. Middle-range theories that span the gap between the metaparadigm concepts and current practice are in demand (Walker & Avant, 2005).

Collaboration is thought to be a basic social process that involves human interactions within the organization of healthcare. Grounded theory allows for the inductive study of the behavior within a social process and is able to “transcend time, place and persons’ sampled” (Glaser, 2001, p. 5) and explain the behavior.

The use of grounded theory method allows for the conceptualization of the major categories to develop in relation to their significance in and of themselves and to each other. It is anticipated that, though detailed depiction of the process, the resulting theory will be transferable to other healthcare organizations. This theory will fill a gap currently in the literature, add to the body of nursing knowledge, and contribute to the understanding of nurse-physician collaboration while simultaneously being directly applicable to nurses and physicians.

Study Site

An urban, academic medical center was the site for this study. The 850 bed medical center serves as a primary teaching hospital for a major university and has received many awards. In addition the hospital has received Magnet© status, a recognition given for nursing excellence in patient care. Evidence of nurse physician collaboration is a requirement to receive this recognition (American Nurse Credentialing Center, 2008). It is also a regional transplant center, level one trauma and stroke center and level three, neonatal intensive care unit.

This academic medical center was chosen for several reasons. A site was needed that included multiple care areas such as medical-surgical units, outpatient clinics, emergency departments and intensive care units. The studies in the literature primarily focused on a single unit or disease process. A variety of different patient care settings provides data to generate variability in the categories thus resulting in a theory that is transferable to diverse care sites. It was important not to limit the site to only one area, such as emergency departments, as “all sites yield comparable data” (Glaser, 2001, p. 131). Second, collaboration is an integral component to being successful both in teaching and in research (Houldin, Naylor, & Haller, 2004). It was hoped that the staff at this center could explain not only if collaboration takes place but also how and why.

Sample

The study was open to nurses and physicians from units and clinics throughout the hospital who volunteered to participate. Recruitment of participants continued until saturation of the key categories was complete. The sample (n=22) was comprised of 15

nurses and seven physicians from the various units of the academic medical center who volunteered to participate in the study. Any bias incurred due to the self-selective nature of recruitment was accounted for by constant comparison of data analysis discussed below (Glaser, 2001).

The inclusion criteria for the sample was nurses and physicians from within the medical center who would provide their experiences of nurse physician collaboration. The grounded theory method lends itself to inclusiveness rather than exclusiveness. Therefore instead of limiting the study to a few units such as the emergency department and operating room or specific professionals such as only RN managers or attending physicians, all RN's and physicians could participate regardless of their professional level or assigned unit. Allowing a wide range of experience and training from nurses and physicians and a variety of settings can provide a great deal of variability to the data, thus allowing the theory to be applicable to a range of professionals.

The sample population at this site was sufficient to saturate the key categories and subcategories. No additional sites were necessary.

Recruitment

Participants were recruited following IRB approval of this study. Two methods for recruitment of participants were used: word of mouth and electronic mail. This researcher presented the study to the nursing research council to garner interest and support for the study. Next, a broadcast email was sent by the Director of Nursing Education to all nurses within the organization announcing the study. To invite physician participation, the Chief Hospitalist sent an email to the physicians in the organization.

Participants contacted this researcher by phone or email to communicate their interest in the study. This researcher coordinated with the subjects via the phone to set up a time and location for the individual interviews. Subjects received a \$15 Starbucks gift card for their participation.

Protection of Human Subjects

Institutional Review Board (IRB) approval was first garnered from Loyola University Health System and then the university associated with the academic medical center prior to the initiation of the recruitment and data collection periods.

All necessary ethical and legal considerations were upheld. Informed consent (see Appendix A) was necessary per both IRB guidelines. Prior to the start of each interview, the principal investigator went through the informed consent procedure by informing participants they had the right to: not participate entirely, not answer questions, request that the tape recording be turned off, or to cease participation at any time during the interview. No participants chose any of these options.

Once verbal agreement to participate was obtained, each participant was asked to sign their name on the consent form. By providing their name, anonymity was not guaranteed, however strict confidentiality procedures were implemented. An identification number was assigned to the participant via the consent form and that number was attached to the transcribed data. Personal identifiers were not used. The list of participants and their identification numbers were known only to the researcher and were kept in a locked drawer in the researcher's office. The researcher accessed the identifying information, linked by the study identification code, on a need-to-know basis.

Upon acceptance of this dissertation, the list of participants will be destroyed. The data received during the interviews was abstracted, aggregated and generalized into the theory. This process during the data analysis removed any distant links between the data and the provider and assuring the provider of confidentiality of their identity.

No interventions took place and no specimens (tissue or otherwise) were obtained. Participants were asked only for their demographic data and to describe their experiences regarding nurse-physician collaboration. No video taping took place and the digital recordings will be erased by the researcher following the acceptance of this dissertation.

Demographic data were collected on tape during the interview with regard to level of education, unit, age, role, experience and tenure on the unit. No identifying information other than unit, age, gender, years of experience and role on the unit, and level of education was asked. Demographic data were described in aggregate form only.

The interviews were tape recorded and emailed via a secure line to a professional transcriptionist who agreed via email and phone to keep all data transcribed confidential. Participants were not referred to by name in the audio tapes or field notes and were asked to not name others. In addition, to minimize risk to the participants, they were asked to not disclose any errors which resulted in a fatality. Participants did not name any other professionals during the interviews nor were fatal errors discussed.

Field notes were kept and transcribed by the researcher as well. Electronic files of interview and demographic data were kept on a password protected hard-drive and will be deleted upon conferral of degree. The tapes, notes and transcribed interviews are kept in a locked drawer in the researcher's locked office.

Protection of Human Participants ethical guidelines was followed. In this study, there was minimum risk to participants.

Data Collection

For this study, data were collected via semi-structured, face-to-face interviews with individual participants so as to understand the phenomenon of collaboration between nurses and physicians. The interviews took place in the hospital but in a conference room away from the unit on which the subject worked so as to make the subject as comfortable as possible. Interviews ranged 15-45 minutes in length.

The interviews began with a brief opening statement regarding the nature and purpose of the study. This was followed by consent procedure. Upon receiving consent, participants were asked the following demographic questions:

1. What is your role on your unit?
2. On what type of unit do you work?
3. What is the highest degree you have attained?
4. How many years of experience do you have?
5. How many years of experience on the unit on which you currently work?

The participants were then asked open-ended questions regarding their perceptions and experiences with nurse-physician collaboration and provided answers in their own words. The researcher followed the data by clarifying responses, asking for examples and probing for additional meaning. The questions were similar to the following:

Table 4. Interview Questions

Open ended questions	Follow up questions
What do you believe collaboration to be?	Can you give me an example?
Can you provide an experience you had collaborating with a nurse/physician?	Why did you believe it to be collaboration?
Can you tell me how information about patient care is passed between disciplines?	Do you believe that method sufficiently conveys the information?
How do you go about making sure both nursing and medical concerns are incorporated into the patient care plan?	
What happens if there is a conflict regarding the plan?	
Do you believe that collaboration needs to be face to face? Y/N	Why?
What role does experience play in working together?	
Can you provide an example of when your opinion was sought by an MD/RN?	
Who do nurses seek out with questions about patient care?	Why?
Who do physicians seek out with questions about patient care?	Why?
What do you believe is necessary for collaboration to take place between nurses and physicians?	Why do you believe that is necessary?
What do you believe impedes collaboration from taking place?	Why do you think that occurs?
Can you give me an example of when you believed collaboration took place and what was the outcome?	
Can you give me an example of when you thought collaboration did not take place and what was the outcome?	

The interviews were concurrent with the coding and analysis phase, thereby allowing the interviewer to prompt new participants regarding specific categories which may have been mentioned frequently by previous participants. For example, “*liking face-*

to-face conversations” was stated several times by the first few participants and thus became a question “What method is used to exchange information between providers?” to subsequent participants, thereby forming the developing theory.

These interviews were audio-taped, assigned a code, and after ensuring no identifying data were included, sent electronically via a secure line to a professional transcriptionist who transcribed the interviews verbatim. The transcriptionist then returned the files electronically where they were saved on the researcher’s password encrypted hard drive. The transcribed interviews were reviewed by the researcher for errors or omissions and corrections were made.

Extensive field notes were kept during the interview by the researcher. These notes, lacking any identifying information, were coded and categorized shortly after the interview. The researcher’s notes provided credibility and confidence to the coding and categorizing of participants’ experiences (Glaser, 2001). The data were coded, analyzed and categorized using the constant comparison method which will be discussed next.

Data Analysis

Following the first transcribed interview, the researcher began coding the data. This is done by hand-writing relevant phrases in the margins of the transcription. These phrases became codes, such as *working together*, *achieving goals* and *being open-minded*. These codes were then typed into a separate document along with the interview code number as a reference.

Simultaneously, during the collection or analyzing of the data, the researcher kept writing memos regarding assumptions, speculations, or hypotheses. These memos served

as a point of reference and allow the researcher to interconnect the codes and categories and note when saturation of a category is complete (Glaser, 2001). As memos are the perceptions and thoughts of the researcher these are believed to capture any bias on the part of the researcher. These memos were also coded. Per Speziale and Carpenter (2007), this type of coding is the first level of coding called substantive coding and contains codes from the participants themselves and codes the researchers believe to be implicit in the data.

The next step involved the categorization of the codes, i.e. placing similar codes into groups. A total of 963 individual codes emerged from the data. Categories were conceptualized into patterns and named. For example, multiple participants discussed *finding the nurse* or *finding the doctor* as relevant to collaboration. This became the category of *finding the person*. The basic properties of each category were defined and checked for interrelatedness. It was important to avoid “one incident categories” (Glaser, 2001, p. 188) that would not lead to saturation. In this study, the idea of gender being a factor in collaboration was brought up by one participant. It was not supported by the following participants. All “single” codes that did not fit into categories were placed to the side in order to limit the working space to only those categories and codes which had relevant fit. Following completion of the categorizing step these omitted codes were reviewed a second time to revisit if they now had relevance to current categories.

According to Glaser (2001) categories are viewed for relevance, fit and workability. Relevance involves the categories pertaining to one another. If categories fit, they are said to explain the data that they are supposed to explain. Categories are

workable if they can justify inclusion. At this point the researcher wanted to ensure that the categories or groups are mutually exclusive (Speziale & Carpenter, 2007) thus creating a diversity in the data by spanning the breadth and depth of the material.

Categories were named but the names were continually compared for fit, relevance and workability also (Glaser, 2001, p. 194). For example, comments made by participants such as “I’m the person who pulls it all together” or “we are making sure everything gets done” became codes of “pulling it all together” and “making sure everything is done” that then became the category of *making it happen* and represented how the patient goal is accomplished. Theoretical sampling continued until saturation in the category was reached, i.e. the researcher no longer found new information or properties for that category even from diverse participants (Glaser & Strauss, 1967, p. 61). For this study, in their individual interviews, the nurse and physician participants would provide data regarding the other profession. This information would be formed into a question and then asked in a subsequent interview of the other profession. Saturation of the categories was achieved with 22 participants.

The next step was to reduce or integrate the number of main categories to those that are central to the theory. Here again, constant comparison of the categories was used to eliminate duplicate categories or place similar categories together thus creating a parsimony of categories, for example, the categories of *sharing information*, *offering suggestions*, *asking questions*, *working out differences* and *discussing* became sub-categories of the higher abstracted core category of *exchanging ideas and information*.

Using the memos and accumulated data, this researcher used the integrated categories to form the boundaries, and removed those categories that did not fit. From these data the core category emerged as “working together towards a common goal.” In order to be the core category, it must resolve the main concern of understanding the process of how nurses and physicians collaborate. This core category provides an overarching explanation of the process as well as a central infrastructure for the main categories. The high level core category forms a canopy over the nine main categories which have been organized into the boundaries of the theory beneath the canopy, thus “constructing a parsimonious theory with the concepts linked together in explanatory relationships that, in accounting for the variation in data, explain how the participants conduct their social process” (Schreiber, 2001, p. 78).

The credibility, plausibility and trustworthiness of grounded theory are based on specific criteria. These criteria are discussed next.

Credibility, Plausibility and Trustworthiness of Grounded Theory

Due to the flexible nature of the data collection and analysis, grounded theory has been criticized as an inexact method of theory construction (Glaser & Strauss, 1967). Therefore the authors use five questions, explained in Chapter V, to judge the resulting theory. In addition, by the researcher immersing themselves in the field and the data simultaneously, and living the experience, “the researcher knows systematically about his own data” and “feels it in his bones” (Glaser & Strauss, 1967, p. 225). The researcher has tested the data by comparison, coded and categorized it into a substantive theory. The researcher keeps an audit trail to validate the credibility within the coding procedure.

In this way, the readers can view how the researcher came to the constructed theory (Glaser & Strauss, 1967). The theory has been derived by inductive means directly from the data. The researcher can also demonstrate credibility, according to Glaser and Strauss (1967) by describing the theory in such a “vivid” way that the readers can almost see and hear it thereby understanding it.

Glaser and Strauss (1967) also note when grounded theory is presented in such a way that the reader can see, hear, and understand it the reader will feel the theory is plausible. If the theory helps the reader to understand a problem and guide their research, it is plausible. When the theory guides the reader’s thinking about the problem, it is worthy of approval.

Guba and Lincoln (1981) denoted four criteria by which to judge the trustworthiness of the findings. The first criteria involves the credibility of the findings, in other words, are the subjects confident that the findings from the inquiry are credible? The researcher will use the participants own words to empirically derive the theory. In addition, the researcher will feel confident about the theory after have spent prolonged time with the subjects and the data. The transferability of the findings is the second criteria. In other words, would the findings from the inquiry be transferable in other settings or with other subjects? There will be subjects interviewed from many areas, both inpatient and outpatient, who will exhibit a breadth of experience that will be described in depth, rendering it transferable to other care sites.

The third criteria relates the dependability of repeated inquiries, or how dependable are the results if repeated in a similar study with similar subjects? The

researcher is using a variety of participants from different care sites thus the resulting theory should be dependable. In addition, the theory with its categories will be reviewed by a member of the researcher's committee to insure correct placement of the data. The last criteria is regarding confirmability of the findings. The worry is that the findings are not based on the subjects but on the researcher. However, by reviewing the audit trail resulting from the method of constant comparison, one will understand the way in which the categories were decided and placed.

The criteria discussed here will be used to judge the resulting theory and is presented at the end of Chapter IV. It is the intention that the theory that resulted from this study will stand up to the criteria and therefore be considered sufficiently credible, plausible and trustworthy.

Conclusion

Although nurse-physician collaboration has been studied at length it remained unclear as to *how* the process of collaboration takes place between the two professions. Nursing and medicine are practice-based professions that depend on sound evidence to further their practice and provide the best possible patient care. A study was necessary to inductively understand the process of collaboration. Grounded theory was the method used to understand the basic social process of nurse physician collaboration and provided a substantive theory, based in healthcare and grounded in empirical evidence, as a solid foundation on which to base future studies.

CHAPTER IV

RESULTS

Grounded theory, the method used to collect and analyze the data, utilizes the participants' own words to derive the theory therefore generating an inductive, substantive theory. This chapter will present the grounded theory that emerged from the study, *Working Together Toward a Common Goal*. This theory fulfills the purpose of this study which was to empirically understand and explain the process of collaboration as it takes place between nurses and physicians. The basic social process to be described includes the core category, nine main categories, and their sub-categories.

Participants discussed how nurse physician collaboration takes place as well as why it is necessary where they work. Specific examples were given of what participants considered "good" collaboration and what was "poor" collaboration. The conditions necessary for collaboration to take place were provided. They also determined the outcomes of successful collaboration.

Overall participants spoke very respectfully of one another, with the residents, in particular, speaking highly of the nurses in terms of their experience, knowledge and skills. Often they spoke fondly of those with whom they worked closely as many had long standing relationships with their colleagues. The word "team" surfaced regularly as most participants talked about "team members" and "being part of a patient care team".

Participants understood their role and knew what knowledge, skills and experience they brought to the team. They also understood the roles others' played on their team.

Sample

A total of 22 participants (15 nurses, 7 physicians) from an academic medical center in the Midwest were interviewed in this study. The nurses in this sample were experienced, with the average being 21.4 years of work experience. The physicians who participated were first, second or third year residents thereby having relatively less experience than the nurses.

Due to the teaching nature of the academic medical center, the chain of command requires nurses to contact the least experienced doctor first with any questions or concerns and then work their way up the hierarchy to the attending physician if the issue is not resolved satisfactorily to the nurse. As there can be 3-4 levels of physicians between the first year resident and the attending physician, staff nurses do not have a great deal of contact or interaction with attending physicians. The departments represented by the participants were both outpatient clinics and inpatient units and included; critical care, labor and delivery, operating room, renal clinic, emergency department and general medical-surgical.

Table 5. Demographic Data

Profession/role	Gender	Level of education	Years of experience	Tenure on unit
staff nurse	F	BSN	33	10yrs.
advanced practice nurse	F	MSN	30	5yrs.
staff nurse	F	BSN	5	2yrs.
staff nurse	F	BSN	18	11yrs.
staff nurse	F	BSN	7	5yrs.
staff nurse	F	BSN	35	4yrs.
nurse coordinator	F	BSN	31	5yrs.
staff nurse	F	BSN +	4	2yrs.
nurse case manager	F	BSN	20	3yrs.
nurse care facilitator	F	Associates Degree	26	15yrs.
nurse practitioner	F	MSN	25	10yrs.
2 nd yr resident	F	MD	5	2.5 mo.
3 rd yr resident	M	MD	6	2.5 mo.
1 st yr resident	F	MD	4	1 mo.
staff nurse	F	BSN	16	7yrs.
staff nurse	F	BSN	30	12yrs.
1 st yr resident	M	MD	4	1 mo.
nurse educator	F	DNP	20	1 mo.
1 st yr resident	M	MD	4	1 mo.
staff nurse	F	BSN	18	5yrs.
1 st yr resident	F	MD	4	1 mo.
1 st yr resident	F	MD	4	1 mo.

Data Collection

Face-to-face interviews were conducted in a conference room on the hospital campus but away from the unit on which the participant worked. The interviews began with a brief introductory statement and consent process that included what the study was

about, what was needed from the participant, their right to decline at any time, and necessity of audio-recording the interview. Once consent was obtained, the interview began with the researcher asking a few basic demographic questions and, then using an interview guide, asked participants to describe in their own words their experiences of what they believe to be collaboration between nurses and physicians on the units on which they work. Participants explained why and how collaboration currently takes place and included information as to why and how collaboration breaks down. The interviews were audio-taped and transcribed verbatim by a professional transcriptionist. Once returned from the transcriptionist they were reviewed for accuracy and corrected as necessary.

The first three interviews were with nurses who spoke of working closely with the physicians to develop treatment plans for patients. They spoke highly of the physicians with whom they worked. The nurses provided examples of patient problems for which they felt the need to seek out the physician to collaborate and also when they were sought out by the physician for collaboration. The nurses also discussed how they contacted the physician, whether it was in person, by phone or text, and that the urgency of the issue determined the method of contact. Consistent with the process of theoretical sampling, the next several participants recruited were physicians as they were the next relevant group to be sampled. Theoretical sampling captures any data that either confirms or denies the previous data collected and allows the emerging theory to control the data collection process (Glaser & Strauss, 1967). Consequently, it is imperative to gather data from both professions to completely understand the process of collaboration. Interviews

continued and questions were modified as necessary to explore theoretical categories that were emerging from the data as theoretical sampling continued.

As discussed previously, the data collection and analysis occurs simultaneously within the grounded theory method. Open coding is the first step in the analysis process and occurs by the researcher going line by line through each transcript to identify words or phrases relevant to the main concern. These codes are hand-written into the margins of the transcript and then typed into a separate document along with the identification code in case the researcher needs to refer back to the transcript for further meaning. A total of 963 codes emerged from the data.

The next step is to group the codes by similarity of the wording or meaning into as many categories as possible (Glaser & Strauss, 1967, p. 105). These codes and categories are compared against one another for similarities and differences. Each category represents data that are similar in nature. These categories are now grouped again by likeness into a higher abstracted category. For example, it became apparent early on that when participants were asked about why people came together, everyone gave examples of a patient need, such as a patient “having a pain issue” or “needing a tricky medication change” or “needing adjustments in ventilator settings,” these became the properties of the higher level category of *something needs our attention*.

Integration of the categories is the next step in the grounded theory process. In this step, the constant comparison continues as now categories are compared against one another and grouped together according to similarity. At this point, a level of abstraction is necessary in which higher level categories become supported by sub-categories. For

example, the categories of “being sought out” and “seeking someone else out” became sub-categories underneath the main category of *knowing who to talk to*. Theoretical sampling continued until the researcher confirmed the current organization of the data and was assured no new data could be found. In addition, the researcher reviewed the transcripts again to assure the categories accurately represented the participants' experiences. The researcher thereby determined that theoretical saturation was reached with 22 participants and data collection ceased. The result of the integration and abstraction of categories is parsimony of the categories that, according to Glaser (2001) have earned their right into the inductively derived theory.

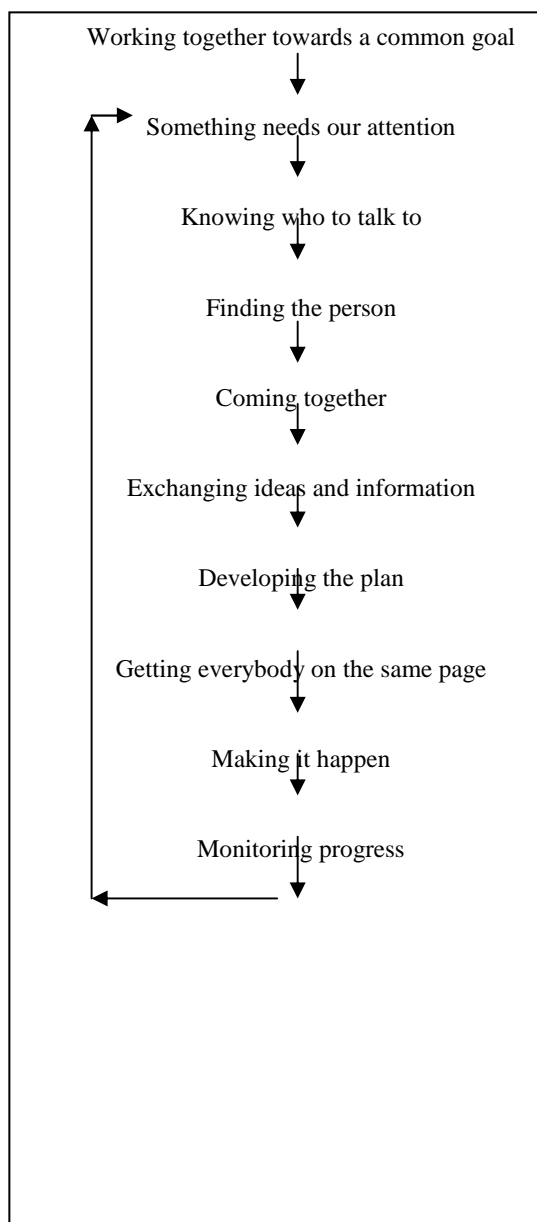
The ordering of the categories and determination of sub-categories followed. To assure the relatedness and fit, the researcher consulted with a committee member to review the final results. *Working Together Toward a Common Goal* resulted as the core category with nine main categories and consequent sub-categories.

Findings

Working Together Toward a Common Goal describes the basic social process of nurse physician collaboration by explaining how it takes place. As a process there are stages that are taken in sequence and occur over time (Glaser, 1978), thereby denoting a beginning, middle, and end to the process. The amount of time spent on each stage varies by both the providers and the patient. The nine main categories represent the stages in the process and are as follows: *something needs our attention; knowing who to talk to; finding the right person; coming together; exchanging ideas and information; developing the plan; getting everybody on the same page; making it happen and monitoring process.*

The process can be linear with a start and end point or loop back to the beginning if the patient goal is not achieved or a subsequent issue arises (see Figure 2).

Figure 2. Working Together Toward a Common Goal



The core category, nine main categories and related sub-categories will now be discussed.

Working Together Toward a Common Goal

The core category that emerged from this study was *working together toward a common goal*. This is the core category because it occurred so frequently in the data, has the most explanatory power, and is both central as well as related to the other categories (Glaser, 1978). “The core category encompasses and summarizes the overall process and groups all of the other categories together” (Glaser, 2001, p. 203).

This category quickly became the core category as every participant stated in some way that ‘we are all working together toward a common goal’ resulting in complete saturation. The core category summarizes collaboration as a basic social process and thus fulfills the purpose of this study. It is evidenced by participants’ comments such as:

Collaboration to me is a voluntary consensual relationship between two people to work together towards a similar goal. So, when you collaborate with somebody that's what they could do.

I think that collaboration is working towards a goal together and both having input in whatever the decision making process is.

Collaboration, I would say, would be where all the healthcare providers working toward one common goal that they all agree on to provide the best patient satisfaction, outcome.

I think collaboration is everyone working together towards a common goal.

I think it works with nursing, physical and occupational therapy, social work, the physicians, the medical students, all those who can offer their contributions and their different areas of expertise kind of working up the patient and figuring out whatever it is that they may need.

When two people come together to discuss a particular topic or issue and come to some type of consensus I suppose, and to work for a common goal. Like in our case, taking care of a patient.

It takes place for us to understand that we all work together for one common goal, for the patient. That's our team. We have team work.

The thinking around collaboration was similar between both nurses and physicians, and fell into two interrelated thoughts. The first is that collaboration involves two or more people from different professions discussing what the patient problem is and then determining what treatment and care the patient is going to receive. The second is that the collaboration is for the patient.

Patients are complex beings and may have multiple problems. Participants needed the expertise of others as each person contributed to a certain portion of the patient's care. All participants stated the patient was the reason why they were there and everyone spoke of wanting to do the best job possible for the patient. Needing to work together to achieve a goal was necessary as described by these participants:

“In terms of patient care nobody can take care of a patient all by themselves.”

“Patients all have different needs, and no one person can usually take care of all those needs.”

Collaboration is only needed when you have a multi-faceted problem. If you have a single problem, then a single provider can take care of they can do that in a clinic settings.

More team members are involved in the patient's care, just because there wasn't really just one thing wrong with them. Multiple team members are necessary as each brings unique knowledge to the patient and can help solve their portion of the patient problem.

Everyone on the interdisciplinary care team talks about what their portion of the patients care is and it is brought all together to make one reasonable plan for the patient that is hopefully seamless.

The common goal, all of the participants agreed, was the best outcome for the patient. The goal may be different for each patient. The participants felt that it took the expertise and knowledge of the different professions to achieve the best outcome for the patient. No one felt they could treat the complexity of the patients by themselves.

Working together just for the best interest of our patients for great outcomes with our patients.

The purpose of collaboration is providing the best patient care. That is really it, and it is the opportunity to teach, to learn and work together for the betterment of the patient.

We are working towards a common agreed upon goal will yield the best patient outcome.

We are all working together to improve the patient's clinical status.

I feel that usually the way it works is that you have multiple players, doctors, nurses, social workers, secretaries, techs, everyone all working together and then basically for one particular patient gets the brunt of all that work.

We collaborate on what the best plan of care would be to get the patient prepared for surgery.

We collaborate to make sure we are seeking what the patient wants.

We would collaborate with other to get like the best patient outcome.

We need to collaborate because, you know what, your patients don't want to be stuck three times if you could just kind of get everything together at once, do it once, it just works for a better outcome for the patient. Cause they don't like that.

We talk to the docs a lot during the day as our patients are pretty complicated.

Participants viewed the patients on an individual level and did not employ a one size fits all approach. As each patient presents a different picture, participants felt they needed to be treated as such. Patient safety was top of mind and part of the reason why people were working together. Often the common goal was that participants wanted patients to be safe as well as satisfied. This idea was reinforced with comments such as:

Collaboration needs to happen in the hospital situation safety wise for example, making sure there aren't contradictory things that are going to harm the patients, or somebody puts a med in that's going to or wants to order medication that is going to negate another medication or have a untoward reaction.

We are all working together because we all want a safe patient outcome.

When we are meeting, we are talking and making sure the patient is ok to go home.

Working together toward a common goal is emblematic of the process and “resolves the problematic nature of the pattern of behavior to be accounted for” (Glaser, 1978, p. 93). *Working together toward a common goal* is a basic social process that contains nine main categories, which represent stages, have a beginning and an end, are integrated, and can show a transition from one to another. These will be discussed next.

Categories and Subcategories

Working Together Toward a Common Goal is a theory consisting of nine main categories with related subcategories. These nine categories are the stages in the process of collaboration and provide the framework for the theory. As stages, they represent a beginning, middle and end to the process and occur in order. Nurses and physicians discussed that collaboration occurs due to a complex medical problem with a patient that

cannot be handled by a single provider. It must be made clear at this point that for the purpose of this paper, the term “medical problem” is a health care issue and pertains to both nurses and physicians.

Something Needs Our Attention

The process begins with the first category that is *something needs our attention* and is the purpose of the collaboration. When participants spoke of the reason why collaboration needed to take place it was because patients have complex medical problems that arise requiring more knowledge and expertise than one person had and therefore they needed to find and discuss the problem with another provider. Abstract examples were given such as:

Collaboration is needed when you have a multi-faceted problem, all patients have different needs, and no one person can usually take care of all those needs. Patients need physician, nurses, therapists etc.

I would have to say that I’m a patient advocate and if I see something that is wrong I need to let somebody know about it in order to protect the patient and myself, because if I document something that is abnormal and I don’t tell somebody and they don’t look at ultimately it is going to fall on me because I’m the one who found out the information but then did nothing with it.

If something happens you have to tell someone.

You collaborate with several different people to achieve the same common goal of improved oxygenation, improved activity tolerance, or whatever, improved blood gases.

If it is something that we are not familiar with or we are not sure because it is a close parameter then we will contact the physician and ask them.

I know that my attendings are relying on me to let them know if things happen to patients, just how it works, if something happens you have to

tell someone. So I guess I'm just relying on essentially that's what we are all there for...

Participants also gave many specific examples of patient problems that required the attention of more than one provider. They encountered a patient problem that was out of their scope of practice and knew that other providers were necessary. For example:

The patient that I was assessing for surgery, had diabetes that needed to be better controlled prior to surgery. Then we try to, we need to get that under better control prior, so we just have a discussion as to how that is going to happen with her.

When we are harvesting a patient and they develop complications such as hypocalcaemia, or their platelets drop then we call the physician to see what they want us to do.

“We know things like if their blood pressure is dropping and they are a kidney transplant. If their pressure starts to drop and you know they had ordered any kind of diuretic or blood pressure meds we have got to tell them immediately and not give them, cause you don't want their pressures to drop even into like the normal range.

Both physicians and nurses described patients that were having problems that required intervention as the reason why the collaboration needed to take place. They were working toward the common goal of solving the patient's problem in order to achieve the best outcome. Both professions understood their roles and what was within their scope of practice.

We have a patient who is in heart failure, or having difficulty breathing post operatively so you need to work together to improve their clinical status.

In our ICU we have a critical care anesthesiology team, so the anesthesiologist will help us with managing the ventilator if their ventilator, or weaning to extubate, blood respiratory therapy, collaborating with us in terms of giving treatments, nursing staff in terms of delivery meds that we order.

If we are harvesting a patient we need to talk to the nurse, the physician and the patient everyday, as there are certain orders that we need to be done, like we might want the hemoglobin and the hematocrit at a certain level or the platelet count at a certain level before we can harvest a patient.

Like there was a young guy who fell and he had an intercranial bleed and like blood was coming out of his ear and we were all working together to get him ready for surgery and give him a tetanus shot and drawing his blood and calling his mom. It took everyone on the ED team to get the patient ready to go to surgery because he needed to get there fast.

If a patient is having an issue with pain or elevated blood pressure, we can respond, give them medication and then reassess and we are all kind of involved in talking particularly if the patient is sick there's obviously going to be a lot more back and forth.

Often participants did not completely understand what the problem was so they needed help identifying the issue before being able to solve the problem.

I can remember having a really bad fetal strip and I talked to the doctor. They pulled it up and they are like yeah, I don't really, it doesn't look too bad to me, so then at that time I went and talked to the unit attending and the residents and then we all looked at it and decided that we were not going to sit on the strip, so we took the patient back and did emergency C-section and the baby actually came out looking fine.

I have a very difficult patient right now, a very sick patient that has got chronic lung disease along with his heart surgery so it has been a real team effort to get pulmonary counsel, respiratory therapy, cardiology heart failure, then ourselves as advanced practice nurses together to solve the patient's problems.

If for instance the baby starts looking bad on the monitor strip and is doing these like decelerations in the heart rate you need to be the one that is going to page the doctor and let them know.

These participants knew they could not handle the patient problem by themselves and that they needed the expertise and knowledge of one or more of their colleagues to help solve the problem. Participants knew they needed to work together. Once there is a

patient need requiring the attention of another provider, one must transition to the next stage of knowing who can help resolve the issue.

Knowing Who to Talk to

The second category of the theory is *knowing who to talk to*. *Knowing who to talk to* explains who is sought out to collaborate with the provider who noticed the patient issue. One must know each person's role and scope of practice in order to *know who to talk to*. Participants were sought out themselves as well as sought out others, by definition of their role.

Since we know our roles then we know what to expect from each other and then we help each other out in that sense.

Collaboration just works better when I think you understand someone else's role.

Knowledge and experience are central to *knowing who to talk to*. Participants discussed why knowledge and experience were necessary.

When we collaborate we are seeking information from those who are the expert in the field and then using that information to collaborate with the rest of the team about what needs to happen for the patient.

When people have experience and knowledge they can be considered a credible source to talk to because they know what they are talking about.

Getting the feedback from the people that are interacting and observing is key to being able to figure out a plan, and because patients and humans are dynamic beings.

You have the knowledge level, again the experience and that you know about the situation, that you've had enough sense about situation to be able to talk about it in an intelligent manner. You have to be considered to be a credible source when you are talking to team, so that focuses on your education, your experience, how long you have been on the unit, what

you've seen in the past, etc. and then how familiar you are with what they are going to order or what they can do.

I think that is important too, that you are able to know where you need to go, or who you need to talk to, to get whatever issues resolved.

When you know who to talk to it makes a difference in patient care.

Often people knew with whom they needed to collaborate to achieve the common goal. This category was separated into two sub-categories by the participants, seeking someone out or someone coming to them. Others were sought out to help the provider with the patient problem as they did not feel comfortable handling it on their own or it was out of their scope of practice

Seeking someone else out. When one knows who has the knowledge and expertise they need then they *know who to talk to*. Providers sought out others when they had questions, needed answers, and wanted general patient information in order to help the patient achieve the best outcome. When seeking someone else participants knew who could help them and generally named the role of the person they were seeking.

In case there was a bad looking strip and the doctor you were talking to you didn't agree with what they were telling you to do, and you thought that it would either hurt the patient or something like that, you can go yourself to the unit attending, talk to them about it.

We are always seeking out our nurse practitioner for things because the surgeons are always in surgery and can't come up to the floor or talk on the phone.

I have more direct patient contact, I'm watching the patient's condition change, and so I need to be the one that's proactive about doing that, and I make it a point to make sure that I keep the physicians abreast as to what is going on with my patients.

Sometimes the common goal was an immediate patient need. Participants were being proactive when seeking someone out as a way to help achieve the common goal of the best and safest patient outcome.

I like to be very active in the plan of care and in my patient care and so a lot of the times I'm the one who will seek out physician and ask for orders, or say, this patient is nauseous can I give IV zofran?

I had a patient come in for a medical complaint and after I talked to them I found out that they were depressed and even suicidal and so I escalated things from there. So then we initiated safety protocols and got psych involved. Had I not asked the questions and then shared the answers with someone it would have just been left alone and who knows what would have happened.

When there are issues they (the nurses) will just come and find us and tell us what the issue is and talk to us directly about it.

When a patient has an issue we don't necessarily understand, we seek out consult teams because of their expertise in their specific area and that weighs into the whole plan.

I'm not one to sit around and wait for an order, I'd rather be the one to say, hey, this is going on I need you come assist me on this.

Sometimes the patient needs are not as urgent but still require seeking someone else out to help achieve the common goal.

A physician needed assistance setting up home nursing care, they knew they needed additional help from other team members whose expertise was different from their own.

We have a patient who bounced back from rehab, who was in the hospital for a prolonged period of time. He had a stage two ulcer when he came in, the nurses were reporting it as a stage three, we then looked at it ourselves and thought it was a stage two. Then he developed a third ulcer in addition to the two he already had while he was at rehab and so today we were discussing how the physicians and the nurses were going to look at it together to actually, with the wound care nurse to explain why they thought it was a stage three ulcer.

Nurses were sought out frequently. They physicians came to find them because they had knowledge and experience as well as knew a great deal of patient specific information.

You know that you need to keep them (the nurses) up to date and you know that they are the ones that kind of like get the ball rolling and they are the ones that gets the job done.

I mean there are a lot of doctors in labor and delivery but once you've been there for a while they all know you by name and by face and so they will call and check up on their patient.

We communicate with the nurses constantly throughout the day, that's where the most information is exchanged in both ways to kind of help move things forward.

If I have a question about a patient I seek out the nurse because the nurse knows the patient better than I do.

It is great to have the nurse practitioner on service. We seek her out because she knows everything.

We either talk to an APN or the physician resident, sometimes a fellow if they are there too, and we can just ask them for what we need, any orders if something is going on with their patient. We let them know if something is happening and ask if they can change their medication, do you think they need this, you know their pain level is not being taken care of, that type of thing.

So we have a unique role on our service cause as an attending service we manage the patients totally but many times seek out consults from multiple different services, ancillary services, so they all will collaborate with us but we have to put the orders in, and then we also kind of dictate what gets done.

If participants were not seeking others for help, guidance or information, they were being sought out themselves. This will be discussed next.

Being sought out. Just as they sought out others to collaborate, many participants felt that they themselves were sought out to collaborate on the common goal for the patient. They reported that other providers sought them out to talk about specific issues such as a discharge plan or for specific information they may have had about a patient in order to help the patient achieve the goal. They felt they were sought out because of their role, experience and knowledge, i.e. their contribution to helping the patient achieve the common goal.

The physicians seek us out because of our knowledge and expertise. They count on your ability to do assessments, because you are giving them information that they base their decisions on.

There are times when the residents are there, I mean especially it is more like at the end of the day and the nurses are still coming up to you (The APN) even though the resident might be sitting right next to you, they are still coming up to you just cause you've been the go to person all day.

...with home care work we are always being sought out, because we basically manage it So when they want to initiate home care they just come to us and consult us and then we figure out what we are going to do, they order the medications, we decide when the labs need to be done, when they need to follow up, what other things need to be monitored in the home.

Often participants would know what role they needed to help the patient achieve the common goal but not know who was the person filling the role. The transition to the next stage in the process can be difficult for some if it is not known who is filling that role.

So you have to look up to see who is handling each patient separately and for that day cause they switch up too daily. So that is a little bit of a problem that is where I see problems coming in. That you don't know exactly who is going to be on that patient's service.

In the ICU it was a little bit harder because there was more team members involved in the patient's care, just because there wasn't really just one thing wrong with them. All different teams had to come and evaluate the patient and it is hard to know which team is overseeing the care of this patient.

It was just kind of difficult just because of all those teams involved who was actually the primary care giver, like who do you consult, what team is in what care of this patient.

Breakdown in the collaboration process could occur if it required a great deal of time to determine who was the person filling the role at that time. *Finding the person* is contingent upon *knowing who to talk to*.

Finding the Right Person

Once one knows who to contact, the next stage is to *find the right person* in order to collaborate. Therefore the third main category or stage in the process is *finding the right person*. Finding the right person involves knowing where they are located at that moment and determining the best method as to contacting them. Participants stated that knowing how to find someone is vital to making patient care decisions. The common goal cannot be achieved until people have found each other to collaborate. Participants wanted to be able to find the right people quickly and easily.

It is important that you can find people, being able to reach people easily is the key to making the connection in a timely manner.

Physicians in particular were often trying to find the right nurse for the right patient to discuss an issue that will bring them closer to achieving the common goal. Often the fastest, easiest and best method of finding people was just walking around the unit.

When I first started my residency I'd just call the nurse on the phone because it was quicker than walking over there, but I don't like doing that, that is just my own personal opinion, so I would always walk over there and take a minute longer and you get more information anyways.

Just because sometimes a nurse may have called from the phone and then she gets called to someone else's bedside and it is easier sometimes to just go and find them and have that talk face to face then like sitting on hold waiting for them to get back to the phone.

It is just easier to walk around and find the nurse instead of sitting on the phone on hold.

When I have a question or I need something, I think that going to find the nurse is easier than paging, I'll take a lap around the unit to look for the nurse.

The nurses also reported knowing where to find the right physician with whom they could discuss important issues regarding their patient that were arising and confounding the patient from achieving their goal.

The attending physicians are always in the same spot on the other side of the counter. Which is good because then we always know exactly where they are if we do need something from them, should we have to escalate if we thing that there is an order that we don't necessarily agree with or something dangerous.

It is important to know where the docs are...the residents and interns are always in the computer room so we just run over there if we have a question.

Usually we (the interns) are all kind of huddled in a little room, but everyone knows where the room is, everybody knows that that's probably where all the interns are furiously putting in orders before rounds. The door is always open so you could always poke your head in and see who's there.

When there is a delay in finding the right person, such as proximity, there was a concern that the patient might be delayed in receiving care and possibly a delay in achieving the patient care goal.

That was like something that we brought up well, if our physicians are going to sit over here in one area and the nurses are over here how are we going to be able to work together. What if we needed something, would it prevent you from walking over and talking about a plan of care, so maybe like that, like a spatial aspect of where people are set up.

Others felt that methods of communication such as phoning and texting were not helpful, especially if the problem was urgent. Collaboration can be delayed if participants are unable to find one another, thereby potentially jeopardizing the patient achieving the common goal of a safe and best outcome. Many physicians expressed frustration about trying to find the nurse in charge of their patient:

The nurses do page us with issues and then we have to call to the nursing station and then we have to wait and hold for the nurses to go to the phone and pick up the phone, which is actually really annoying.

It is definitely trying to get a hold of them has been an issue for me last year because it is time consuming, like they will page me with a question and I'll try to call them back but I'll end up sitting on the phone for 15 minutes waiting for them to pick up the phone for whatever reason they are unable to pick up the phone, and it is time consuming.

It makes it difficult when the collaboration is difficult, like when you can't get a hold of a nurse and you are sitting on the phone for like 15 minutes waiting for them to pick up the phone.

But if it is something urgent I'll usually do an order and then I'll go find whoever I need to find to make sure that order is executed.

Sometimes you can use the EMR if it is not terrible urgent or important, but for other things such as holding a heparin drip or something usually try to call them or find them on the floor.

Participants discussed the importance of knowing peoples' names. One difficulty participants discussed was if they knew the name of the right person but not what they looked liked.

So I try to learn names. It is not always possible especially if you are kind of looking for someone who you have no idea who they are, the unit secretary is not there to kind of give you a little hint.

I would love to be able to call or page a nurse. I honest find it difficult, especially if you don't know people's face or names, it is hard as of now to really like track down everybody's nurse.

If I don't know who the nurse is, I will ask the unit secretary to describe the nurse.

It is easier to find someone if someone tells you that she has blond hair in a ponytail and is wearing blue scrubs.

Having a good relationship with nurses and knowing their names especially when I'm calling the station knowing who to contact, knowing who to go to really makes a difference in patient care.

I just switched this week to a new rotation, I don't know any of the nurses by name, and I don't know what they look like and but where I just was for a month straight, overnight every fourth night I got to know everybody. This is harder because I just feel like knowing people and knowing a few names and being friendly with support staff and nursing goes a long way.

If participants are unable to reach the person they need they are unable to transition to the next stage in the process, *coming together*.

Coming Together

Once you know who to contact and how to find them, participants felt that providers must come together in some fashion in order to collaborate to achieve the common goal. Therefore the fourth main category or stage in the process is *coming together*. This category defines how providers physically are in relation to one another in order to collaborate. The act of *coming together* occurred in one of two ways, either *face-to-face* or *over the phone*, making these the sub-categories of *coming together*.

Face to face. Coming together face-to-face also occurred in one of two ways, either formally in groups of providers from various specialties or informally such as a nurse and physician. Interdisciplinary rounds were cited most often by the participants as the method to come together formally in groups in order to collaborate on patient care that will achieve the common goal, whatever that may be for that particular patient. Interdisciplinary rounds are generally defined as a group of providers from various specialties coming together to discuss patients. Rounds could occur in a conference room where participants are face to face. The process involved going around the table and everyone contributing what they knew about the patient. Discussion would follow these brief reports, i.e. the next category of *exchanging ideas and information*.

All the physicians on the team, the nurse practitioners, coordinators, the bone marrow lab, the pathologist, pharmacy, social service, I think that about covers it, oh, and finance meets together in a conference room and goes over the patients.

We have a meeting every week where we come together and discuss what to do with the patients and we decide how we would best manage their antibiotics at home and what their other problems are and whatever else they may need.

We round with nursing, physical and occupational therapy, social work, the physicians, the medical students. Everybody offers their contributions and their different areas of expertise to kind of work up the patient, figure out how we can get them home and figure out we can follow up with them as out-patients or whatever it is that they may need.

There are interdisciplinary rounds where all the teams kind of get together, the staff that is working with the physical therapy, and the staff that sees patients directly at the bedside, etc. etc. they all work together and are collaborating that way, so that they can talk.

Walking rounds also occurred where participants would go room to room covering each patient on their service. Depending on the time of day, the participants might go into the patient's room and include them in the collaboration process.

Participants liked including the patient in the collaboration process as then they felt like the information discussed about the patient was correct. This point was demonstrated by participants who made comments such as:

The best case scenario to me is when the nurse and physician go see the patient together so if you could come together and put all this together it gives you a better whole picture I think.

When the nurse and physician go into patient room together the patient sees them as a team.

So instead of go sitting at the nurse's station we actually go in the patient's room and talk about them. First we ask obviously if everyone in room can hear your medical story. But then ask the patient to chime in if we are reporting off to the night nurse or the day nurse if something is wrong in this medical history that she should know about or that something is wrong. I think it involves the patient and they feel more like they are a part of what is going on than just our report that they didn't even hear about and maybe some of the information is false.

It is better when the physician and nurse doing the assessment and story together so that they are seeing the same thing at the same time. Do you know what I mean, like they might tell the nurse one aspect of what their chief complaint is and the physician something else.

When the physicians are in there seeing the patients, we will be in the room with the patient and the doctor, so then everybody is on the same page and knows what the plan is, and how we are going to proceed.

It is more efficient to round by their rooms or by the nurses stations, so even the nurses taking care of patients can look in and also be there when we are rounding on the patient.

When physicians and nurses round together on a patient, it makes sense from all aspects. I think the patient sees it as so important. They know that

each person is valued on the team, each person knows what's going on. I mean if I were a patient and my team members were coming in just, and I had to repeat myself a million times, and I had to get them in on what the plan was, I'd be really frustrated, like I wouldn't be trusting of my caregivers. How would I know what was going on?

In the OR we are doing briefings while the patient is still awake we discuss the case. And the whole team is there.

And with poor outcome I would say more so when that happens it is because somebody hasn't included the patient in the collaboration.

Participants felt interdisciplinary rounds provided them with access to the other providers who were participating in the patient's care.

It (interdisciplinary rounds) is an opportunity to glean information from each other and the purpose is providing the best patient care.

It is helpful to have that one time in the day where you come together and talk about the plan.

The IDR rounds are pretty useful because that way we can discuss mainly with social work, I see the IDR rounds as an opportunity to really get a hold of social work, sometimes they are kind of hard to get a hold of, so you can kind of discuss like discharge planning with the patient, and often times that is like the biggest issue for patients, finding placements.

Coming together didn't always need to include the entire team. It could also occur just between the nurse and physician. Individual nurses and physicians came together to talk to one another about a specific patient. This could happen in a variety of ways.

So if I need to have this blood test drawn, or this patient needs this test, or this patient is being discharged and I go and find the nurse to talk to them about it.

I knew the resident was in the computer room so I just went over there to talk to her (about the patient).

Residents wanted to be available to nurses to discuss any issues that may have arisen since interdisciplinary rounds regarding the common goal for the patient. They made themselves available for face to face discussion about patient care issues by walking around the units.

I'm going to make it a point to just walk around a lot this afternoon, probably right after this, and touch base with nursing and just be visual. I try to walk around as much as I can.

It is more efficient usually and it kind of helps everyone if I go and talk to the nurse and I say, by the way I ordered this just so you know, and I find many times she or he will come back and say, well why did you order that, don't forget about this and this. And I'll say, oh yes, I forgot about that and that.

It is easier sometimes to just go and find them and have that talk face to face then like sitting on hold waiting for them to get back to the phone.

Rounds is where the biggest chunk of information is, but probably the majority of our interactions, are just kind of face to face communication with the individual nurses for that patient throughout day.

I mean literally just trying to find the nurse for all of my patients and say how is it going, do you know about these changes and just talk to the secretary for five minutes or the social worker for five minutes.

Because I just don't think, whether it is the format of the power chart or how many patients each nurse has to take care of it just doesn't seem like an EMR alone is enough. I mean that's based on limited amount of experience, but I just, I don't feel very comfortable that I've done the best job I could that day unless I touch base with the nurse at least once like mid-afternoon.

Either way it occurred *coming together* face-to-face was very important to some participants. Face to face conversations allowed participants to have a dialogue, a give and take by both parties to ensure the treatments being discussed will help the patient achieve the common agreed-upon goal. Statements to this fact were made such as:

Face to face communication always works better, just because again you get that dialogue instead of, it is really easy for someone to bark orders to someone over the phone, or to write them orders and just send them that information. But if you are having that dialogue back and forth then you can get your opinion in, and I think that is really valuable.

I think one other face to face incident that is really helpful is when I talk to the nurse face to face and I say, one day I ordered this, this, and this, I feel better that that happened versus talking on the phone, because I know she is really busy running around.

I think there is a lot of information that you get when interacting with people from body language, so if I say, I think a lot of times not always, I think certain nurses will feel that they are just going along with what the physician says and that's not across the board but that does happen. I think and sometimes I can have this experience in the ICU where I will say something that I think should happen, and they agree, but because I'm talking to them I can see that they are making a face and are saying they agree because they think, they are like oh I don't want to say I disagree, but I'm like, and then that leads me to say well what's the issue. I think that's actually important.

I think for me face to face conversations are friendlier so I think it is important. I want to get to know the nursing staff and know their names. I think it also just helps because then you are able to face to the name that you are getting the pages from and I think that it helps you to kind of gain an understanding of what their style is like and they also get an idea of what you are like.

I think it definitely helps if you are communicating with each other face to face and talking, and then you can play off each other. If you could come together and put all this together it gives you a better whole picture I think.

I just had someone who was in a tricky medication change and regimen that is just unique to today only and I put all the orders in the computer how I thought they would be acceptable and I thought that just made some computer changes they would be understandable but just in case I just side tracked in the hall to find the nurse and talk it over. It turns out from their perspective and how they do their medications she wanted a completely away the computer so that it would work out correctly so if I wouldn't have like gone out of my way and just talked to her about that one logistical thing for the patient care day it low chance would have happened correctly.

I think it is important to go out of your way to go have face to face communication, that is the biggest thing.

Having face to face conversations was also believed to help develop or improve relationships as participants establishing collaborative relationships. In addition, having face-to-face conversations were helpful in that the participants also felt the conversations also improved efficiency for the patient and the providers perhaps expediting the achievement of the patient's common goal.

Also you start to develop relationships with the people on the consulting team so it is easier to talk to somebody who you consider as like a friendly acquaintance or a friend, rather than some random person that you've never seen before.

When I have a face to face conversation with the nurses taking care of my patients, it seems to decrease the amount of times I get paged.

When I go have a conversation with a nurse about an order or something, it increases my understanding of the patient.

You actually pick more and you hear about more and you see things that you wouldn't otherwise see if you are in your own little box.

We don't collaborate face to face as much as we used to and I think it does us a disservice.

Nurses have a great deal of patient-specific knowledge. This knowledge is pertinent to the collaboration occurring and must be incorporated in order for the patient to have the best possible outcome. Both nursing and medicine felt that nurses must be included when *coming together*.

The nurses are required to be on rounds with the physicians. They have a system set up where the nurse meets the physician and the whole team in the room and there's a collaboration that goes back and forth with questions and answers about the patient and they very much listen to the nurse's input since the nurse is with that patient for 12 hours plus a day.

She (the nurse) is always there, he or she knows that she is as much a part of our rounds as we are. So, we don't really ask, we wait until if there is anything to report.

You are missing a critical piece of your information unless you have the nurse there. The nurse has been caring for this patient for 24 hours so they probably know more about the patient than you do. So why would you begin rounds and begin making a care plan for a patient without the nurse being present?

Nurses need to step it up a notch and get confidence in themselves to participate in the rounds and go, and when they see physicians going in the room, go in there and offer what they have to offer, because I think nurse become a little apprehensive and we do a disservice to ourselves and a disservice to our profession because we don't go out there and try to be a part of the rounds.

I think one thing that we don't do that would be helpful, well that we do in some situations, so having the nurses round with the team would be immensely helpful, and I think that doesn't happen for a bunch of reasons but if that was somehow feasible on the floor that that would dramatically impact patient care. I think that, I mean this is a total assumption, but I think that maybe they feel like they are not supposed to be there for that. They are like the physicians take rounds and then they don't really have a role in it, which I think is not true.

So, collaboration there involves the nurses being involved on rounds with us and us being in probably more frequent communication then maybe you are on other floors.

While face to face conversations seemed to be preferred by providers it was not always possible. If collaboration did not take place face to face, it could also take place over the phone or by text page.

Over the phone. The other method of *coming together* is over the phone or by text page. Often face-to-face discussions were not always possible or necessary. Not all participants felt that the conversations needed to be face-to-face. Some participants felt that having face-to-face conversations depended on the issue and were only necessary for

complex patient issues. *Coming together* over the phone allowed non-urgent patient care problems to be discussed by providers. While not urgent, the issues still contributed toward the patient achieving their best outcome.

“If it is something really simply that is like an FYI page or something, I think a text page is adequate.”

Usually if it is something that is short and quick we’ll just put in a text page and say call back if you have any questions.

There are times when you just can't be face to face with another care provider, and you have to do it in another way.

If they come up with a plan they will usually call, if they have a specific question they will call the consulting team, kind of discuss what’s been going on, kind of what they plan on doing and what exactly the question is for the consulting team.

However, the problem of waiting on hold appeared again and was often the reason why participants chose face to face. Once participants were able to come together in some way, they were able to transition to the next stage of *exchanging information and ideas*.

Exchanging Information and Ideas

Exchanging information and ideas took place after participants came together.

This category has several sub-categories: *discussing; sharing information; offering suggestions and opinions; working out differences; and asking questions*. When providers are *exchanging of information and ideas* they are talking about how to proceed so that the patient will achieve the common goal of their best outcome.

Discussing. When participants described the sub-category of *discussing*, the discussions always revolved around the patient. These discussions could take place in groups such as at interdisciplinary rounds or just between two or more providers such as a nurse and physician in the hall. Discussions are centered around resolving a patient care issue so that the patient can achieve the common agreed-upon goal.

Everybody meets together and discusses all the patients that are going to come into the program at the beginning. The patients' history is presented, then discussed and if anybody is having any questions with any part of the program that is when it is discussed, at the meetings.

If they have any ethical concerns about a patient or anything, they will bring it up at that time and it is discussed among everybody in the room.

Pretty much everybody is there, they will go through each patient that the medical team has and they will kind of discuss if there is any issues that are outstanding and what needs to be done.

We kind of have a dialogue, so it involved dialogue back and forth and then working together, but their expertise in their specific area is weighed into the whole plan.

We are getting the feedback from the people that are interacting and observing is the key to being able to figure out a plan.

During interdisciplinary rounds we are discussing what we need to do for the patient.

I see the need to discuss whatever is going on with the patient medical wise, whatever the nurses assessment may be, maybe there is a change or what have you.

For the primary team if they come up with a plan they will usually call and kind of discuss what's been going on, kind of what they plan on doing and what exactly the question is for the consulting team.

Discussions involve a give and take between providers and occur one time per day or many times per day depending on the acuity of the patient. These discussions are

either determining the plan for the patient or the progress, or lack thereof that the patient has made towards the common goal. Participants were communicating their thoughts, knowledge and past experiences in hopes of the patient care achieving their best outcome.

Sharing information. Not only were participants *discussing* they were also *sharing information*, the next sub-category. *Sharing information* occurred by each participant who provided their role-specific knowledge of the patient or disease process during the time they came together. It could be the nurse telling the physician what has already been done, such as having sent labs or it could be the physician wanting to share information about lab values, medications, or responses to treatment. Information sharing was regarding what has been done, or what needs to be done, in order for the patient to achieve their goal.

That is why the partnership, I think, works in interdisciplinary rounds is because the nurse and nurse practitioner, or the physician, are equals at the table. They want to get just as much information from the nurse as the nurse wants to get from them.

I usually like to come out and tell the physician what I know. If I'm ordering the labs first I need to let the physician, hey I already put in these labs for you, you don't need to order them, if the physicians put in an order already he or she needs to tell me, hey I already ordered these labs don't worry, don't worry I've already taken care of it.

So I think just the hospital really wants us to be a lot more open with things. So we stand in the room more and I share what I've heard and ask the patient, does that sound right, did I sum that up correctly, and then the physician will say, you this is what they've told me and then we can all talk about it.

I have more direct patient contact, I have more, I'm watching the patient's condition change, and so I need to be the one that's proactive about doing

that, and I make it a point to make sure that I keep the physicians abreast as to what is going on with my patients.

In some situations the doctors have more information about the patient and they give it to the nurse and you can provide a better level of care. Then vice versa, the nurses sometimes know patients extremely well, especially in the out-patient setting, they just are repeaters and you know what their other issues are, and you can relay that to the physician and make a better plan.

Usually I'll tell them what I've done already, you know turned off the pitocin, I've flipped the patient, I put oxygen on and then they will say, OK well what does it look like, does it look bad, do I need to come in type of thing.

It is more so sharing information and just getting as well as responding to what you think is immediate is what it comes down to. So, this is my view, this is my preparation and what I seem to think is important for the patients and so this is what my input is for the situation.

They usually text page us with their recommendation or if it is something extensive they will say just call me back and we'll talk about.

This was an area where participants could bring their skill and experience to the table and share information and knowledge about previous situations similar to the current one. Although participants felt that no two patients were alike, it was helpful if someone had experience with this problem before and could share it with other providers.

Without experience you wouldn't even know the questions, you would still be thinking of, what step do I take now, what do I do?

In the beginning I think that every little thing kind of makes you nervous in the beginning so I guess maybe sometimes for me it is also that, like I can see the look on the nurse's face and be like, ah you are not worried about it, so I don't need to be that worried about it. Because like I said before they have more experience in things like that, so they know whether or not whatever this value is a big deal or not.

In terms of talking with consulting teams it is the experience kind of knowing what you are doing is pretty important because that helps to keep the interaction efficient.

...from your experience you'll understand what is being said. You will know various situations that may have happened in the past with the particular issue. You will know what the rules and the policies are of wherever you work in the hospital, what have you, and you will be able to converse more about it, and come up with a solution, you could say in the past we have done this, this is hospital policy, this is how we can do this?

The resident participants noted that the nurses had specific information to share about the patients which was necessary to their understanding of the patient problem. Often the residents would ask the nurses to share their information with them as it gave them a more complete picture of the patient.

I think that it is just a sharing of information that allows input of opinions on the plan.

The physician call me and says can we round, and we go on round and one of my patients that has been transferred back to the ICU a couple times with this chronic pulmonary issues, he asked me 'when do you think he could transfer out of the unit?' They tell me he is ready. Do you think he is ready? OK, if you don't think he is ready then keep him.

The doctors are very much relying on our assessment cause they know that we are with the patients 10-12 hours a day and they see them periodically for a minute or two between cases.

The nurses are the ones that are seeing the patient most frequently and if the patient is constantly complaining of pain or having issues with nausea and vomiting, obviously that is much more at the forefront of their minds.

As information was shared and discussed participants were also *asking questions* to clarify and fully understand the scope of the problem or the plan.

Asking questions. Participants also reported that one of the ways they were *exchanging information and ideas* was by *asking questions*. Several nurses stated that it

was the physician asking for the nurse's opinion after discussing the patient, or they were asking questions and relying on their experience. Participants asked questions in order to tap into everyone's skill, knowledge and expertise and achieve the best outcome for the patient. Sometimes it was to ensure that everything possible had been done:

At the end of the code we had kind of, not exhausted all of our options, but the physician said, ok you guys what have we not tried and then just looked to the other members of the, like the other physicians looked to the nurses and said, what have we haven't tried, what are we missing here, what do we need to do, and it was really, really like a team effort to find out what we hadn't done or what else we could do for this patient.

Other times, questions were asked to determine what the goal should be:

We would call the oncology physician and ask if they want to harvest or not. If yes, then we would call the nurse and the hospitalist on that service, and then we would say, OK the doctor decided that wants a harvest today, and ask them 'is the patient stable from your point of view, can they harvest today, did anything happen during the night, do they need anything.

I think with the younger physicians and nurses there is a lot more conversation, like hey I'm thinking of doing this, well and then the nurse could say why are you doing that, or what about this, or I never thought of that. So I feel like with the younger group it is a lot more of a conversation as to what should we do, or what do you think, or why are you doing this.

Often the questions would be about checking in to see patient's progress:

I talk to the nurses and I ask, any problems, any concerns, anything I should be worried about, you know so I make sure to touch base with them.

The nurse will kind of come in and be like hey what do you want to put in this, are you sure that's what you wanted to do, or would you mind doing this, or whatever.

The physician's read our triage note, read our assessment, then they ask us questions, hey what do you think?"

One reason to ask questions was to make sure each person understood what was being discussed. In this way, participants clarified their knowledge of the patient and the plan as to how the patient was going to reach their goal.

We do ask, does anyone have any questions or any concerns, so they would speak up hopefully at that point in the beginning of the case.

It was important to participants that providers were open to questions. Physician participants spoke to this point frequently by noting that they themselves were open to questions.

I would always rather have people ask questions than not and have something go wrong.

I'm fairly approachable for that kind of stuff and I would rather have somebody page me 40 times than not page me once if it was important.

...But the last thing I want to be is one of the doctors or one of the people on the care team that is isolated and can't be, I'd rather be paged 100 times extra for questions than get not paged cause they think I'm going to be mad.

Just as physicians were fine with questions being asked, the nurses felt fine to ask questions especially if their patients were in jeopardy of not reaching their goal.

If I felt the physician was going to make a decision that adversely affected the patient I would question them about it.

In this way, the nurse was trying to insure the patient met their goals. None of the nurses discussed being talked down to for asking questions. The residents reported how if there was a question, they often deferred to the nurse because the nurse had more experience. Most participants felt that, even if no one asked them, they could *offer suggestions and opinions* freely.

Offering suggestions and opinions. During the participants' discussions they were *offering suggestions and opinions*. This was an important factor to the decision-making process as each provider brings a level of knowledge and experience from their own profession that could be helpful to the patient reaching their goal. While some nurses had reservation about speaking up, most participants related that they did not have to have their opinion solicited prior to offering it.

For me (nurse) I tend to just give my opinion because I feel comfortable and I've been here for a while.

A lot of times if you are rounding basically you are listening to physicians and you may suggest something especially at the staff nurse level.

I am fine giving my opinion but I know that some of the newer staff (nurses), more often than not, I feel like they need to be asked for input because they might not feel as comfortable just kind of putting it out there.

It was noted by several participants that people are expected to speak up if they have something to add to the plan for the patient to reach their goal and not wait to be asked.

When we round everyday, we don't ask people but we expect them to chime in if they have something to say.

The nurse is always there, he or she knows that she is as much a part of our rounds as we are. So, we don't really ask, we wait until if there is anything to report.

There was one time in particular where I basically, the nurse knew the patient better than I did. So I simply went over and I asked her for this particular patient should we give him medicine A or B, and she said definitely B, because A) he would never take it, and B) he can't take it in this method.

It is like it is the rule of thumb is if you have anything to add, speak up.

All of the nurses are really well trained, they know what's going on so if they, they will let the intern present and then afterwards be like, you know his fluids are still on, should we shut them off, you know things like that.”
“We have a conference every Thursday where we bring cases that are interesting or complicated and we discuss those and everyone chimes in their opinion. I think it works out really well there.

They are either present while we are doing rounds, we go inside to the bedside after talking to the patient seeing how they are doing overnight. The physician will examine them and then we will talk about the plan for the day and the nurse will be present for that discussion and can also comment about, like do you think this patient is well enough that she could go home, or do you think this patient is well enough that no longer needs to be in a critical care unit and can go to the floors, what is your perspective of their mental status, their vitals, have you noticed any differences, they have had decrease urine output, they can comment on that. Whatever it is that is going on they might be able to comment like, oh, this vital is elevated, well, was it because they were pain and they were in need of their pain medication, and once they got the medication their heart rate went back down or something like that.

With the nursing staff it is allowing the nurses to contribute their opinions about how the patient is doing and whether or not they are in agreement with what our plan for the day is.

Nurses appreciated their opinion being sought out by the physician. Almost all providers spoke to the point that everyone's opinion should be considered when making the plan for the patient towards achieving their goal.

Everyone's ideas and opinions are as important as their own. Because we are here for the same thing...the patients.

If the physician reaches out and says, 'well, tell me, what are your thoughts? You have been taking care of this patient for the past 8 hours, what are your thoughts about their functional ability?' Then they really feel valued as part of the team.

Everybody's opinion is extremely valued. And even if they don't always offer things, the physicians will ask the different departments, is this ok? And at every single meeting Dr. X goes around the room and asks every single person if they have any questions.

Especially as an intern, I am definitely seeking the opinions of the nurses (regarding patients).

Only a few nurses discussed having their opinions discounted or overruled after having offered them, bringing about the sub category of *working out differences*.

Working out differences. While most people felt that it was okay to voice their opinion, occasionally the discussions were not entirely agreeable. The last sub-category is *working out differences*. Participants felt that disagreements happen but almost all of the participants felt as though the differences were eventually worked out in an agreeable manner with no participants discussing any sort of abusive behavior.

When we have a disagreement, we will talk it out. Sometimes we think things should be done more often, or they think things should be done more often, and we will give an example of maybe why that isn't the best way to go.

If anybody had any objections to the patients' history or with any part of the program it is discussed at the meetings.

Currently we have a patient and there is disagreement in terms of her treatment, and so there are two consulting teams, of course we respect their opinion, but however someone needs to call the shots. And it is hard to please everyone especially when it is a complicated case.

I had a patient who had a bleeding episode and we ordered fragments but the patient didn't get them. So I asked why are you giving it to her. She said, well she's had a bleed. So I kind of talked about it a little bit. Basically her concern was that she didn't want to give the patient fragments because she just had this bleeding episode which is completely valid. But we kind of talked about it and talked about the risk benefit, what would happen if she had a clot when she was in the hospital and we both decided that would be a problem for both of us and also for the patient cause she was kind of frail. So having her have a clot wouldn't have been a good thing, and the cases of her, and she had pretty minor bleeds, so the chance of her actually bleeding are pretty slim, so anyway we talked about and we came to a conclusion together, but I think it worked out better that way.

I think a lot of times people don't realize that their actions actually inhibit collaboration when it is, especially when Team A sees things one way, and Team B sees things another way and not seeing eye to eye and it almost seems as though they are battling against each other because of that. I think that happens quite a bit. They either talk it out and they realize why they see things differently. Or it just keeps compounding and I've seen both.

I've had some conflicts with other residents that typically the best thing is go right to them. In private and say, your behavior in this matter was not appreciated.

When agreement could not be achieved participants felt they had the ability to go around the person if they felt the patient was in jeopardy of being hurt or not achieving their goal.

If you didn't agree with what the doctor was telling you and you thought you might hurt the patient, you could go around that doc to the attending.

While no one likes have their suggestions turned down, the nurses were okay with the physician not agreeing with them as long as they understood why the decision was being made. If the resident would have to override the nurse based on a decision made by the attending, they often wanted to explain the reasons for it.

If the nurse disagrees with the order, I'll hear what they have to say, and if it sounds reasonable then I would be happy to kind of do what they suggest. A lot of times there is just like basic miscommunication, not miscommunication but like the nursing sometimes don't know what our intention is and then I'll explain it, and oh well we decided not to do that way because of blah, blah, blah, and we'll continue with what the orders say.

Most of the time I just have a very benign and open conversation about why they feel one way and more often than not I'll find a compromise or now rely on their experience to help me, I think if there is anything, there is a disagreement and my attending has specifically said there needs to be one way, then Ill just say, no, unfortunately for this reason or because Dr. Smith said so, we definitely can't do that, or we don't really need to do it

this way. But I'm going just try to keep it friendly and, I mean I know they want to know why, like what medical reasons are preventing or causing these happening too. I try to give the medical reason get us all the same knowledge base of why we are doing it. I think it is frustrating for me to say we are doing it this way, I mean if there no reason why you are doing something, just communicating that, you know.

There are many times where they say, 'Do we really need to have this done this way? Wouldn't it be better if we did this?' Most of the time they are absolutely right, and some of the times they just didn't understand why it was done that way and they wanted it explained. Pretty much everyone is on the same page. It is usually a fault of communication rather than a disagreement on most of those things.

Even though I understood what the nurses wanted, we couldn't do it that way but I wanted to make sure the nurse understood why I was doing this.

The *exchanging of information and ideas* needs to take place in an environment of respect, open-mindedness and listening. Respect clearly played a role in the participant's ability to collaborate as a team.

This is a good place to work because there's a lot of respect for nurses here and a lot of respect for nurses' opinions.

I don't think you can collaborate with somebody until you develop some sort professional respect for each other. That takes time and experience.

So I feel like in our department it works really well just because it is a very respectful environment and I feel like more often than not we are kind of the same age. And we just share kind of like a mutual respect for each other there is not a lot of, you know I'm the attending, you are the med student, you are the nurse, it is just kind of everyone working together and I think part of that stems from to how autonomous we are.

It is just the new staff that come in they learn early, like what we are capable of doing and how we know how to do things. They show us a lot of respect because of those things.

I think having respect for everyone that is involved in the patients care is important. Speaking rudely to people will cause them to lose respect for you.

I get upset when people speak to me rudely and you are not going to get a great response from people. Even if that does result in whatever order it is being executed you are not going to have respect of that person, and that person is not going to go out of their way to help you in the future.

Open-mindedness was also vital to the decision making process. Participants felt that hearing other peoples' ideas was imperative to the process of collaboration. Participants felt it was important to consider new ideas as they could lead to achievement of the common goal for the patient. Open mindedness did not always occur and it frustrated participants when people were not willing to hear ideas from others. This was felt to be a barrier to collaboration and could prohibit the patient from reaching their goal.

If it is an attending I've seen people not question things that they should have questioned, and I don't know if it is because they are older or if it is like an authority type thing. But it is definitely a different scenario depending on who the physician is.

In terms of inhibiting collaboration, if people come in with preconceived notions about how things are supposed to be that can definitely, and sometimes that I guess would be a place where like experience might hinder things because someone might look at something and be like, well this is the way we have always done this and it works so why would we add this new variable and try something different.

There were a lot more attendings who did more telling of the plan rather than ask for any kind of input and it was frustrating.

If they are not asking for their opinion or they are just kind of delegating to the nurse without gathering the information from the nurse, they are really put off.

When the attending is not willing to consider other people's opinions, they are discounting or ignoring important information to consider.

I mean I try to see everybody's input as just going to help as far as, I'm trying to avoid the thought process that I'm the doctor and that what I say goes.

You should have an attitude of like openness and friendliness.

Listening was reported by many participants as essential to collaboration and the patient reaching their goal because it is where information and ideas are heard and considered by participants. Listening goes between professions as providers from both professions spoke of listening to each other.

When you stop and listen first, and then take that data gathering in you tend to be a better collaborator because you understand you are getting all the data.

Being an objective listener is important, taking the time to listen before you speak, and I think everybody wants to have their side heard.

When patients have problems, you want to collaborate with someone who will listen.

If it is a complex situation then there are times where I've had to go, ok listen to me, and then say what I need to say.

Once the *exchanging of information and ideas* take place in an environment of respect and open-mindedness, providers can move forward to *developing the plan* for the patient to achieve the common goal.

Developing the Plan

The sixth main category is *developing the plan*. During this stage all of the information has been gathered and weighed and the common goal has been determined. Patient care decisions are being made so that the patient achieves that goal. Including everyone was important as participants each contribute to the overall plan. Here again, it is vital to understand the knowledge and expertise participants have as well as their scope of practice to understand what each person can do for the patient. The plan details the

steps necessary for the patient to achieve the goal. It entailed all of the collaboration took place as well as who was putting the plan into action.

We do interdisciplinary rounds first thing in the morning, just the logistics of the day and how things play out because patients want to know right away in the morning what's the plan for the day.

They kind of make their way down the team and you know that if your rooms are next you kind of stick around so that you can listen and then add any input that you have to the plan.

So we (the nurse practitioners) are representing medicine, correct. And then, we also work with social work and nursing as well to determine what the plan is for that patient.

All the questions really are directed at the nursing staff, and but we have to discuss what the plan will be with the medical staff, cause that is not something that we could carry out independently, we are just the ones who kind of organize it. So we usually develop a plan together....

We are working together with everyone to use their expertise in their specific area as it is weighed into the whole plan.

So when we collaborate we are developing a plan of care with all the professions beyond even just nursing and physicians to develop a plan of care for the patient.

Communication in both directions with kind of the physician and nurses back and forth in effort to collectively formulate a plan, to then execute that plan for the patients benefit.

The transplant service has a Care Coordinator. They have a daily meeting usually from about 8 to 9 and our CC goes to their meeting and that's where they discuss the plan of care for each patient.

When you are making rounds you are collaborating with the patient and the physician is there, you are making a plan. Everyone on the interdisciplinary care team is talking about what their portion of the patients care is and bringing it all together to make one reasonable plan for the patient that is hopefully seamless.

The physician will present the patient and then each one of us will add whatever it is that we need to add to that patients care to bring a plan together.

If the plan is not developed in a timely manner, participants felt it may result in an increased length of stay, and adverse event or the patient not reaching their goal.

We were discharging a patient and realized that we were discharging them to somebody, or to home where they didn't have anybody to help them with what they needed, so we really needed to get home care set up for them, and we hadn't worked with the physicians to come up with an ideal plan for that, or what the actual need was, so the patient ended up having to stay an extra day.

Although one nurse reported that the physician should make all of the decisions the remainder of participants felt that it is imperative that the plan be made with all participants. Once the plan has been developed the next stage in the process is *getting everyone on the same page*.

Getting Everybody on the Same Page

The seventh main category is *getting everybody on the same page*. This category reached saturation quickly. It is about everyone knowing about the plan as to how the common goal is going to be accomplished as well as knowing their part in the plan. Participants felt that being on board with the plan equated to being in agreement with the plan and that was important because it meant that all providers considered it. Some participants felt that they were all on the same page regarding the plan of care because of like-mindedness about patient care.

We've kind of gotten really deep into the patient center of care model and service matters and they really encourage bedside rounding. Just knowing that the expectation is to get everybody on the same page.

When the patients are seeing the physician we will be in the room with the patient and the doctor, so then everybody is on the same page and knows what the plan is and how we are going to proceed.

That is my job is to collaborate with the team. Getting everybody on the same page and I'm kind of that person that helps make that happen.

Everybody is on the same page to make sure that we are optimizing patient care and getting patients out of the hospital in a timely fashion. Cause when patients stay in the hospital they get sick with other things.

I think that it is just a sharing of information that allows input of opinions on the plan and it kind of gets everybody on the same page.

When we round in the room, they (the patient) know that we are all talking to each other and that we are all on the same page and they know that we are working together collaboratively to take care of them.

Everyone being on the same page in terms of the plan because, I mean patients always want to know about the plan and when they hear more than one thing from somebody who's a part of the large health care team it could throw things off track big time. So knowing the plan, everyone on the same page and then also, so that is kind of like the big picture plan.

Interdisciplinary rounds clearly promotes collaboration and we would not have that collaboration without those rounds, no matter how hard we try. Then actually those facilitate further collaboration throughout the day because everyone is on the same page and then you can communicate with people as things change and they understand what was happening, what is happening, what should happen.

Getting everyone on the same page can occur in two different ways, either through notifying everyone or documenting the plan in the chart. These will be discussed next.

Notifying. Notifying others of the plan was vital to each person knowing what they needed to do for the patient. Notifying could be a verbal process or could be done through technology such as sending a text page or calling.

If there is a change in the plan we need to get a hold of the nurses and let them know about the changes to the plan.

They (the physicians) will inquire as to who the nurse is and talk directly to them, and then probably come by and see us and say, hey I talked to so and so and this is.... just keeping us all in the loop.

Documenting. Various methods of communication were used to get everyone on the same page, including documenting the plan and the common goal in the electronic medical record. While it is good to notify people verbally, providers can change due to the shift nature of the work, therefore documenting the plan in the chart so that providers can refer back to the electronic chart if they had questions as to what should be done for a patient. This is important as shown by comments such as:

We use power charts (electronic medical record) primarily the way to be sure information is passed, but obviously communication can be verbal or written.

We go by what is written so it is important that the written documentation is absolutely correct.

When we documenting the plan in the chart, that is a way of disseminating information.

In the EMR there is a place for everybody to document what they do, so it is really easy if you are the covering physician for example if the doctor is off that day and somebody else is covering it is easy for them to look and see what the plan is going to be.

We all have our place for documentation and it actually pulls forward, an interdisciplinary plan of care, so that the whole team has it, to be able to view the plan.

I documented in a section that will continue to pull forward until it is changed within the plan his religious beliefs and what the patient had outlined that he wanted his care to be (the common goal for the patient), so that everybody would be on board.

Documenting the plan could also take place in the patient's room so that the patient knows what the plan is as well. This method was felt to be beneficial to everyone.

We document the plan was on the white board in patients' rooms so that patients and their families also know what is going to be happening as the patient's room is generally the central place of care provision.

You know in the rooms we have white boards and there is a section for plan, and the nurses will write things up and the physicians will write things up, and so that is another place where we kind of get informed on the plan.

Breakdown can occur in this stage when participants did not know about the plan.

Participants stated that they often would learn about the plan either from the patient or the white board in the patient's room.

What really drives the staff nuts is when we hear things from the patient rather than the physician. So, oh did you hear I'm going home today. Um, I didn't hear that, but thank you, I'll touch base with the physician. Oh, he advanced my diet to general so I can have crackers now. Um, ok, well you are still ordered for clears so just let me verify it with the physician, so it is embarrassing as such a vital member of team you should know what is going on.

...when we have no clue nor any idea about like what the next step is going to be. That is a big frustration.

The white board is also unfortunately sometimes that is where we learn about the plan for the patient.

If participants do not know the plan, they were probably not that involved in the planning process which could lead to poor outcomes such as:

The consult doc decided to get an MRI with contrast. Had he discussed the MRI with me I would have told him the patient was allergic to contrast. Thankfully I caught it in time.

If you write and order and I don't know about it and may not agree with it I have to contact you and I've got to say, OK, I've got a question about this

order. You have got to call me back, then we've got to call about it, then you've got to cancel the order, then you've got to rewrite the orders, so have we been on the unit making those decisions together probably would have gotten done a lot faster.

Once everyone is on the same page, the plan can be implemented. Implementing the plan entails each person does their part to achieve the goal.

Making it Happen

The eighth category, or stage, is *making it happen* and involves putting the plan into action. Although the patient care plans were made collectively, carrying out the details of the plan can happen on an individual basis. Participants knew what was required of them to help the patient achieve their goal. Participants discussed it from an individual perspective as well as a team perspective. These statements reflect the participant's individual knowledge of their role as well as their desire to achieve the goal. Sometimes individuals do not have a specific part in the plan, but they knew who did and would going to find the person who could make it happen.

We communicate with the nurses constantly throughout the day, that's where the most information is exchanged in both ways to kind of help move things forward.

There is a lot of verbal sharing of, you know this is what I'm going to do, this is what I need, when this comes back will you let me know, those kinds of things and then we try to do rounding with them as well.

As APNs we direct the care and write the order, so they are going to seek our opinion cause they know that we can make something happen. Cause sometimes the residents also might say, talk to doctor so and so, or I haven't talked to him yet or her yet and ... so we may, and they got to go off and they are in a big case so we will take that ball and run with it.

I'll usually do an order and then I'll go find whoever I need to find to make sure that order is executed.

I just think mid-level providers dictate a lot of the care here because we are the ones who pull it all together and make it happen.

I propose orders and say what I think should be done, and then my attending approves it. My senior makes sure it happens.

Participants gave examples of how the plan happens, i.e. help the patient attain the common goal:

I make sure to put in the orders, communicate with the nurse what I have ordered and then also let the patient know.

Most likely the first person to see that patient is the nurse at least that's how I like to practice. I like to get in there even before the physicians to kind of like IV started or labs drawn.

So I would say to the physician, 'Hey while you are maybe doing your assessment really quick I'm going to go ahead and put in the labs.

You know, like you know that you need to keep them (the nurses) up to date and you know that they are the ones that kind of like get the ball rolling and they are the ones that gets the job done.

Participants want the patient to have the best outcome. Once the plan is under way it is important to evaluate the progress the patient is making toward the goal.

Monitoring Progress

The ninth and final category is *monitoring progress*. Putting the plan into action and just assuming the common goal for the patient will be accomplished is not a realistic expectation. Participants feel the need to continuously monitor the progress of the patient. Monitoring progress generally meant checking to see how much progress the patient has made toward the goal.

There are times when it is more of a formal process such as meeting formally on a scheduled basis to discuss the patient's progress. Or it could be informal as in the resident just checking the chart or checking in with the nurse a few times per day to see if there have been any changes. Often the residents were checking to see what had been accomplished towards the goal and what remained to be done.

We run the lists at the end of the day to make sure that everything is done and things that are pending the next day are lined up so we need to know exactly what we need to do in the morning.

When I checked, this particular patient had not gotten their antibiotics and to this day I have no idea what happened, but I can only assume that it was sort of communicative/collaborative failure at some point. I think actually what happened was, and I wasn't there so I don't know this for sure, but the orders were in.

Results of tests or labs gave residents a data point on which to base patient's progress towards the common goal.

I look first to see if tests and labs were done or whatever. Then I check the results and then I look to see if medications have already been given, especially if something looks funny on the vitals or on the labs.

Usually the first thing we do when we come in is we get sign out from night on call team and find out if they were called for something, and they say that this happened with this patient over night then I'll actually probably go to the nurse before I go to the chart to find out the details of exactly what happened.

I have to look at the day before to see if there were any conflicts on notes that were done after I had left, or any other results like CT, chest x-ray, results for that. Then I would check the patients' vitals and also labs for that day. If I have time I go to see the patient.

Sometimes it is a conversation with another provider on the patient's care team.

I make sure not only to read the notes but also to verbally touch base with all the services that I'm consulting.

We have a meeting every week where we discuss what to do with the patients and we decide how we would best manage their antibiotics at home and what their other problems are and what else.

I don't feel like I've done the best job I can do if I don't have face to face or phone call communication with my patient's nurse at least once in the mid-day to talk about changes.

I'm going to make it a point to just walk around a lot this afternoon, probably right after this, and touch base with nursing and just be visual.

Literally I just try to find the nurse for all of my patients and say 'How is it going? Do you know about these changes?'

The patient or plan does not always progress as desired or new issues may surface so the process begins again with *something needs our attention*. The need to collaborate to start again as evidenced by:

We need to seek out the physician because the plan of care is not going accordingly.

We re-evaluate the plan after assessing the patient because a new issue may surface.

Working Together Toward a Common Goal can be summed up as follows:

Working Together Toward a Common Goal is a basic social process in which *something needs our attention*, and this issue requires *knowing who to talk to* and *finding the right person* to talk to about the issue. Once the right person is found the parties are *coming together*, and are *exchanging information and ideas*, *developing a plan* and *getting everyone on the same page*. Implementing the plan requires *making it happen* and *monitoring progress* toward resolving this issue that needed our attention.

Judging Credibility, Plausibility and Trustworthiness of Grounded Theory

Glaser and Strauss (1967) and Guba and Lincoln (1981) provide criteria to be used to assure that the proposed grounded theory of *Working Together Toward a Common Goal* fits the purpose of “how does collaboration between nurses and physicians take place?” This theory will be judged by these criteria to determine if the theory is credible, plausible and trustworthy.

Glaser and Strauss (1967) pose five questions or criteria by which to assess the credibility of the theory. First, the criteria as stated by Glaser and Strauss questions whether the theory explains the social process studied? Participant’s own words were used to generate the substantive theory, *Working Together Toward a Common Goal*. The theory explains how the overall basic social process of nurse physician collaboration occurs in a stepwise manner. The nine main categories and subsequent sub-categories delineate the individual stages of the process and explain, in logical order, how the collaboration takes place as well as where the process can break down.

Glaser and Strauss (1967) next want to know if, by knowing the process as described by the theory, is the behavior is predictable? The participants described the process of collaboration as *Working Together Toward a Common Goal* in their own words. The stages in the process explain how collaboration between nurses and physicians takes place in a logical and organized manner. By following the steps in the process, future providers will be able to predict the process of collaboration in the future. As the participants came from a variety of units, all with varying amounts of experience,

the process as described does indeed predict the behavior of nurses and physicians and is transferable across healthcare organizations.

The third question used to judge credibility is “is the theory useful in advancing social research?” (Glaser & Strauss, 1967). Hospitalized patients incur multiple problems each day that require nurses and physicians to *Work Together Toward a Common Goal* in order to achieve positive outcomes for these patients. As discussed in Chapter II, nurse physician collaboration has been defined in various ways and has lacked theoretical support causing the results that were achieved in these studies to be brought into question. The theory described here clearly outlines the basic social process of nurse physician collaboration as it occurs on a daily basis, thus allowing healthcare providers to understand each stage in the process itself, what is necessary for it to occur and what causes it to break down. This theory can be used to develop instruments measure whether all of the steps in the process are being taken and if the order of the steps is followed. Also, interventions to improve collaboration such as improving methods of *finding the right person* can be created.

Glaser and Strauss (1967) also want to know if it is useful to the practitioners to provide them with an understanding to the research problem. The research problem was to thoroughly understand collaboration as a basic social process. *Working Together Toward a Common Goal* as outlined in this paper is helpful to providers in that it empirically conceptualizes how collaboration takes place. It portrays such a vivid picture of the process that providers can almost see and hear it and thereby allowing them to understand it (Glaser & Strauss, 1967). By understanding the stages in the process as

well as knowing what happens and where it breaks down, practitioners can make the appropriate changes at the potential points where the process breaks down. When the theory is presented in a way that allows the participants to see it and hear it, rendering it understandable to participant, it is plausible (p. 233).

The fifth and final question Glaser and Stauss (1967) ask is “does the theory help practitioners gain control of the process that was studied?” As discussed in Chapter II, collaboration has not been well defined in the literature nor has it be studied as a social process and given a theoretical foundation. By taking the participants’ own words to describe how collaboration takes place, specifically outlining the stages in the process and noting where and how the process can break down, practitioners can control and modify their behavior in order to alleviate these disruptions in the process. For example, if providers are unable to find the right person, causing collaboration to cease at this stage, an investigation can be undertaken to determine what the problem is and take steps to intervene and gain control.

There are four criteria to judge the trustworthiness of the theory according to Guba and Lincoln (1981). The first criteria is regarding credibility, i.e. are the participants confident that the findings from the study are credible. The theory was empirically derived from the participants’ own words. The participants provided the information that described the stages and the order in which they go. Therefore, participants can be confident in the credibility and truth of the findings. In addition, through prolonged engagement in the field, speaking with subjects and understanding the phenomenon the researcher is also confident the findings are credible. Using the constant

comparison method of data analysis in grounded theory, the researcher has used persistent observation to identify the stages in the theory and to provide depth to the understanding of the basic social process.

Transferability of the findings to other settings or providers is the second criteria of Guba and Lincoln (1981). The findings resulted from a variety of participants from both nursing and medicine representing various types of units, departments and specialties. Participants from across the healthcare organization provided detailed description of their experiences and observations (i.e. thick description). Evidence of these experiences is the quotes used to support the categories as described here in this paper. Thus one can feel confident that the findings are transferable to nurses and physicians in other urban academic healthcare settings.

The third criteria is regarding dependability of the findings (Guba & Lincoln, 1981), in other words, will a similar study with similar participants yield similar results. While this question can only truly be answered by conducting a similar study, the findings were empirically derived from participants across a wide variety of settings who partake in the process of collaboration each day, therefore participants can feel confident that these findings represent the process of collaboration. To insure the dependability of the findings, the data was reviewed by another member of the researcher's dissertation committee as it was being analyzed so as to perform an inquiry audit of the data.

Confirmability of the findings is the last criteria (Guba & Lincoln, 1981), in other words can the findings from this study be confirmed. While only an additional study can confirm the findings, the constant comparison method of data analysis serves to provide

an audit trail, in which the data is coded, categorized and compared for relevance etc. as part of the confirmation process in which the categories earn their way into the theory. Glaser and Strauss (1967) also report that the constant comparison method of data analysis removes any bias on the part of the researcher. During the coding and categorizing phases the researcher kept memos regarding the thoughts, perceptions and questions regarding the data analysis and emerging theory. Memos serve to capture any bias on the part of the researcher and help to organize the data into their respective categories with defined properties and form the emerging theory (Glaser & Strauss, 1967). These memos are also coded and categorized. For this study, the memos specifically helped to delineate the subcategories within each category. Furthermore by using the words of the participants to derive the theory one can be confident that the findings and resulting theory are based on the participants.

The criteria posed by Glaser and Strauss (1967) and Guba and Lincoln (1981) were used to determine the credibility, plausibility and trustworthiness of the resulting theory. Readers can feel confident that *Working Together Toward a Common Goal* has met these criteria and is therefore credible, plausible and trustworthy and insure consistent application of neutrality within the research process.

Conclusion

Working Together Toward a Common Goal is a basic social process in which nurses and physicians to collaborate. There are nine steps in the process and it needs to occur within an environment of respect, open-mindedness and listening. As will be discussed in Chapter V, researchers can apply this theory to future studies of nurse-

physician collaboration. If the study was conducted properly, the application of this theory will help to predict the behavior, know the results they achieve to be true to the theory, be accurately measured, and useful to practitioners on a daily basis to insure collaboration is taking place. As it has been demonstrated here, nurse-physician collaboration is an important social process to study and understand as it directly impacts patients, providers, and organizations.

CHAPTER V

DISCUSSION

Collaboration is the process that nurses and physicians use to *work together toward a common goal*. This chapter will discuss how both the study and the resulting theory relate to, and differ from, the literature as well as how participants feel about the process.

The participants described the basic social process of nurse-physician collaboration as *working together towards a common goal*. This over-arching core category has nine main categories subsumed under it. These are, in order: *something needs our attention; knowing who to talk to; finding the right person; coming together; exchanging information and ideas; developing a plan; getting everybody on the same page; making it happen; and monitoring progress*.

Collaboration begins when a *patient issue arises that requires the attention*, i.e. skills, experience and knowledge of more than one provider then that provider needs to *know who to talk to* and how to *find the right person*. The providers *come together* and *exchange ideas and information*, *develop the plan* and then *get everyone on the same page*. Once everyone understands the plan and their piece of it, providers work to *make it happen* and continue to *monitor the progress* until either the patient is discharged or needs the attention of the providers again. In this way, the process has a feedback loop depending on the patient's needs.

The study that produced the theory of *Working Together Toward a Common Goal* was different than the majority of other studies on collaboration in four major ways. The first is that this study did not seek to quantify, compare or evaluate collaboration. The purpose of this study was to be able to fully understand and explain the actual process of collaboration as it takes place between nurses and physicians. By fully understanding the process one can more easily quantify, compare and/or evaluate collaboration.

Secondly, this study sought the perspective of both nurses and physicians, not just a single profession. Many studies have focused solely on the perceptions of the nurse primarily due to the belief that collaboration was not of interest to physicians (Aiken & Patrician, 2000; Boyle, 2004; Bratt et al., 2000; Choi et al., 2004; Dechairo-Marino et al. 2001; Estabrooks et al., 2005; Kaissi et al., 2003; Kramer & Schmalenberg, 2003).

The third major difference in this study was seeking participants from a variety of units and settings. Other studies limited the geographic area to a specific unit such as the ICU (Baggs & Schmidt, 1995; Bratt et al., 2000; Choi et al., 2004; Latimer et al., 2009; Reader et al., 2007; Thomas et al., 2003) or specialty group (Foley et al., 2002; Hall et al., 2007; King & Lee, 1994; Puntillo & McAdams, 2006). This factor should allow this study to have transferability to the majority of other healthcare units and settings.

Lastly, and most importantly, this study determined the individual steps in the process of collaboration as well as the order in which these go. Whereas other studies focused on the perceptions of providers as to barriers (Baggs et al., 1997; Council for Graduate Medical Education, 2000; Dillon et al., 2009; Druss et al., 2003; Foley et al.,

2002; Gorman et al., 2003; Green & Thomas, 2008; Grindel et al., 1996; Hammond et al., 1999; Headrick et al., 1998; Henneman et al., 1995; Hojat et al., 2001; Kaissi et al., 2003; Keenan et al., 1998; Nelson et al., 2008; O'Leary et al., 2009; O'Leary, Ritter et al., 2010; Orchard, 2010; Reader et al., 2007; Rosenstein & O'Daniel, 2005; Schmalenberg et al., 2005a; Stein, 1967; Thomas et al., 2003; Tschannen, 2004; Vazirani et al., 2005; Wear & Keck-McNulty, 2004; Wood, 2001; Zelek & Phillips, 2003).

With regard to participants' feelings about the process of collaboration, participants spoke freely about what was difficult about collaborating. Connecting on the phone was hard and required long wait times. Close-mindedness and a lack of desire to listen were cited as another barrier by several participants. A lack of respect for nursing was brought up by nurse participants and residents often spoke of not wanting to ask questions for fear of looking "dumb".

The majority of participants understood and expressed the need for and value of collaboration. Only one nurse participant felt that collaboration would not be necessary as the physician should decide what care the patient should receive. Participants spoke of their overall satisfaction with the outcomes of collaboration. However, almost all participants felt there was room for some improvement in the process as it took place on their unit.

These affirmations and differences in the literature will be explained next during a discussion of the categories.

Related Theories

The basic social process of collaboration described by this theory is similar but much more detailed than other theories found in the literature in that the nine main categories form a framework under the umbrella of the core category to explain the process of nurse-physician collaboration. There are similarities and differences between the substantive *Working Together Toward a Common Goal* and two theories or frameworks discussed in the literature, the analytical framework of interdisciplinary collaboration (Sicotte et al., 2002) and the theory of goal attainment (King, 1981).

The Analytical Framework of Interdisciplinary Collaboration was developed by Sicotte et al. (2002) and used Gladstein's (as cited in Sicotte, D'Amour & Moreault, 2002) group effectiveness framework. Collaboration was defined in this model as "a process where professionals share goals, make collective decisions, and share responsibilities and tasks" (p. 993). While the definition provided for the analytical framework is similar to the theory developed here, there are two ways in which the *Working Together Toward a Common Goal* differs from this analytical framework. The first is that in the analytical framework, collaboration is merely stated as taking place whereas *Working Together Toward a Common Goal* clearly delineates and describes the process in a stepwise manner thereby making it clear to the reader how and why collaboration takes place. The second difference is a methodological one in that the analytical framework was derived using an analysis of the literature on collaboration whereas *Working Together Toward a Common Goal* was empirically derived using participants' words to describe the process itself as well as the steps within the process.

Working Together Toward a Common Goal both encompasses the analytical framework and expounds upon it.

The theory of goal attainment was developed by King (1981). King's theory assumed that the nurse and client exchanged information, set goals and acted to attain those goals. Historically, the theory focused on the interaction between the nurse and client however, King stated "it can be used not only by nurses with their patients but by any individual in any interactions with other professionals" (personal communication, April 11, 2006). Goal attainment is a mutual process between any two individuals who have formed a relationship such as a nurse and client (King, 2006). In this case, the combination of people can be any or all of the providers on the interdisciplinary team. The interaction is the coming together of providers and the transaction is the collaboration that takes place between providers towards goal attainment (Fewster-Thuente & Velsor-Friedrich, 2008). *Working Together Toward a Common Goal* is similar to the theory of goal attainment in that it does state that information is exchanged, goals are set and attained. However, *Working Together Toward a Common Goal* differs in that it goes several steps further by stating how providers choose and find each other, come together, develop and communicate the plan and then monitor progress towards the goal.

Working Together Toward a Common Goal differs from these theories by using empirical data to conceptually establish the stages and determine the order in which they should go. During the study the antecedents necessary for collaboration to take place as well as the barriers preventing collaboration were discovered. The result is a substantive

theory of the process of nurse-physician collaboration that is grounded in healthcare. The remaining theories and frameworks discussed earlier in this paper such as The Model of Team Effectiveness (West et al., 1998) and Role Theory (Biddle, 1979) differs significantly from this theory. The literature pertaining to the specific categories will be presented next.

Core Category

The core category of the theory was determined to be *Working Together Toward a Common Goal*. The core category also provides an explanation of the overall process, as the remaining categories set about to attain the common goal. *Working Together Toward a Common Goal* is somewhat similar to the few definitions found in the literature that define collaboration as a process. As a process, Lindeke and Sieckert (2005, paragraph 3) provide the definition as “Collaboration is a complex process that requires intentional knowledge sharing and joint responsibility for patient care” or as stated by Schmalenberg et al. (2005a, p. 450) “a process consisting of ongoing interactions.” While these authors defined it as a process, the steps in the process were not described or explained, nor are they placed in logical order.

In the literature, when healthcare providers were asked to define collaboration they did not define it either as a process or an outcome. Many providers defined collaboration as teamwork or communication. Physicians have traditionally described collaboration as the nurse acting as the assistant to the physician and fulfilling orders (Rieck, 2007) or the nurse providing the physician with complete and accurate information regarding the patient (Vazirani et al., 2005). While the authors of the above

studies provided these definitions of nurse physician collaboration in their studies for the nurse and physician participants, this study was a first in that it allowed nurses and physicians to describe how collaboration takes place in their own words, thereby empirically deriving the definition and explanation of the overall process.

The current study of nurse-physician collaboration enhanced and elaborated on a previous concept development study conducted by this researcher. The definition determined in the previous study was:

Collaboration is *communication with a goal*. A cohesive team is *accessible to one another*. It *seeks the opinions of others, respects profession-specific roles, is patient and open-minded*. Team members are both *autonomous and responsible* when *communicating information about a patient* (Fewster-Thuente, 2007).

The results of this study expanded upon the previous definition. *Working Together Toward a Common Goal* can now be summed up as follows:

Working Together Toward a Common Goal is a basic social process in which *something needs our attention*, and this issue requires *knowing who to talk to and finding the right person* to talk to about the issue. Once the right person is found the parties are *coming together*, and are *exchanging information and ideas, developing a plan and getting everyone on the same page*. Implementing the plan requires *making it happen and monitoring progress* toward resolving this issue that needed our attention.

Working Together Toward a Common Goal is tied to the literature in several additional ways. If not defined as a process, many researchers chose to view collaboration as an outcome. When participants described why they were working

together, it was “for the betterment of the patient” and “for the best patient outcome.”

These statements were reaffirmed in the literature with studies that show increased levels of reported collaboration resulted in improved patient outcomes, such as decreased length of stay, mortality and/or cost (Baggs et al., 1997; Boyle, 2004; Curley et al., 1998; Estabrooks et al., 2005; Kaissi et al., 2003; Kramer & Schmalenberg, 2003; O’Mahony et al., 2007; Segel et al., 2010). Conversely, participants stated that when collaboration did not take place “care was delayed” or “discharges were delayed” thereby aligning with the literature (O’Leary et al., 2011; O’Mahoney et al., 2007).

The results of this study clearly demonstrate that collaboration is a process that results in an outcome that is the resolution of the common goal, whatever that may be for the patient. There are steps within the process that have a clear beginning and transition from one to the next leading to an end. These steps lead to the resolution of the common goal which is hopefully positive for the patient. *Working Together Toward a Common Goal* encompasses the above definitions found in the literature and provides additional information, such as how and why nurse and physician providers collaborate as well defining the intended outcome. In the current information in the literature an inductively derived theory in which the participants define the steps in the process in their own words could not be found.

Main Categories

Several of the main categories or steps have direct ties to the literature. The main categories of *knowing who to talk to*, *finding the person*, *coming together*, *exchanging information and ideas*, and *getting everybody on the same page* all have related literature.

For the remaining main categories of *something needs our attention*, *developing the plan*, *making it happen* and *monitoring progress*, there are few, if any studies.

Something Needs our Attention

The first main category related to the literature is *something needs our attention*. It is the first step in the process toward reaching the common goal and the reason why collaboration takes place. Participants in the study defined *something* as a patient problem or issue. Patient issues were personal to each patient and resolving the issue was the common goal and gave purpose to participants working together. The participants in this grounded theory study believed that collaboration was necessary especially for complex patients, as “patients with multiple problems require multiple specialists” and “no one person can take care of all of the patient’s needs.”

A qualitative study conducted by McGrail et al. (2009) identified a similar “category” in their phenomenological study of healthcare provider narratives. They found that patient care crises triggered collaboration. Of all the studies described in this paper, this study was the most similar to the grounded theory study conducted for this paper in that participants described patients “having a bleeding episode” or a “pain management crisis” as the reason necessitating the collaboration.

Fung et al. (2008) affirmed that there are an increased number of patients with two or more chronic illnesses requiring attention. The problem for healthcare providers is that they are expected to achieve the same level of care for these patients as less complex patients and in the same amount of time. Therefore collaboration among the multiple providers must take place quickly and concisely to solve the patient issue.

Mion (2003) discussed how the aging population will experience increasingly complex illnesses that will require multiple providers.

Knaus et al. (1986) found that the nurse-physician relationship in the ICU differs from the relationship between nurses and physicians on less acute care units. It is the acuity of these patients that bring the nurses and physicians together more frequently to make decisions about patient care. The other studies with a focus on specific illness such as congestive heart failure (Estabrooks et al., 2005) and cancer (Friese, 2005) or a health care specialty such as palliative care (Hall et al., 2007) or gerontology (Gitlin et al., 1994) found the complexity of these patients also requires the knowledge and experience of multiple providers.

The providers interviewed for this study knew when they encountered a problem outside their own ability they needed to seek the help of someone else. Other studies in the literature did not address this topic on an individual level, only in an abstract manner.

Knowing Who to Talk to

The main category of *knowing who to talk to* is linked to the literature. *Knowing who to talk to* can be difficult as identified by the participants in the grounded theory study, i.e. “knowing which doc is handling your patient is difficult” and “trying to put a name to a face” were a few of the comments. The “who” could be a specific individual or a role (i.e. the nurse practitioner).

There was one study in the literature that discussed this portion of the theory. O’Leary, Ritter et al. (2010) studied this problem by asking if hospitalist physicians and nurses could correctly identify one another and if communication had taken place. The

authors found that “nurses correctly identified the correct physician 71% of the time and physicians correctly identified the nurse only 36% of the time. In addition, nurse and physicians did not reliably communicate with one another” (p. 195). It was felt that this was a difficulty for the nurses and physicians. Many of the participants in the grounded theory study discussed how knowing peoples’ names and faces improved their ability to find one another in a timely manner. No other studies addressed this topic.

Finding the Right Person

One of the major barriers to *finding the right person* that has been studied is physical proximity of nurses and physicians. One study directly discussed this factor. O’Leary et al. (2009), after learning that physicians dispersed over several units correlated with decreased communication and lower levels of agreement on the plan of care for patients, decided to conduct an experiment in which physicians were localized to a single unit. The authors found that both communication and levels of agreement increased on the experimental unit whereas they stayed the same on the control unit.

Working Together Toward a Common Goal also found that proximity matters when *finding the person*. Participants stated “by sitting at the computers (in the nurse’s station), we are approachable”, “we sit at the computers so nurses can ask us questions” and sitting “shoulder to shoulder makes it easier to collaborate.” Many participants discussed “going to find the nurse to discuss the order because it was better than over the phone” and they “like having face-to-face conversations because they could tell if the nurse understood”, further reiterating the need for close proximity.

Another barrier to *finding the right person* found in the literature is the use of technology, specifically computer physician order entry (CPOE) and the electronic medical record (EMR) (Ash et al., 2003; Gorman et al., 2003). As discussed in Chapter II, the EMR and CPOE require providers to work separately, where one doesn't *find* anyone. At any time, or place in some cases, a physician can input an order that requires a nurse acting upon the order. However, the nurse does not know about the order without going into the computer chart nor can the nurse provide feedback prior to the order entry. Participants in the grounded theory study agreed in that while they "use the EMR to share information," they "use face-to-face conversations for important issues," "go tell the nurse about an important order" and "go find the person who can make the order happen" instead of just putting the order in the computer. However, other participants discussed how even when they were in close proximity the use of the EMR diminished collaboration, "People are so focused and just staring at the screen that sometimes I think that they forget that there are actual people around them." Technology may continue to hinder collaboration as many people may feel that it is a sufficient method of communicating. The important point is that communicating is just the passing of information such as lab values or vital signs, not ideas and opinions; therefore technology needs to be combined with other methods of communication to allow the social process of collaboration to take place.

Coming Together

Coming together is the third main category and it also finds support within the literature. *Coming together* in this study was identified either formally in groups such as interdisciplinary rounds, or informally as two or more individuals coming together in the hall of the unit.

In the literature, there are several intervention studies involving the implementation of interdisciplinary rounds. Curley et al. (1998) examined the impact of implementing interdisciplinary rounds on outcomes such as cost, length of stay and mortality. It was found that the rounds significantly decreased cost and mean length of stay but did not have a significant effect on mortality. Wilson et al. (2009) implemented multidisciplinary rounds and saw a decrease in mortality, ICU length of stay, ventilator time and cost. Segel et al. (2010) also studied the implementation of interdisciplinary rounds on outcomes and found that discharge efficiency and time both improved. One of the common goals that the participants in the grounded theory study were trying to achieve was to “discharge patients in a timely manner” and conversely, participants stated if collaboration did not take place “discharges were delayed”.

O’Mahony et al. (2007) also found that by implementing interdisciplinary rounds, not only that patient length of stay decreased but also resident’s knowledge of the patients increased. This particular outcome was reinforced by participants in the grounded theory study who reported liking interdisciplinary rounds because “we can figure out what is going on with our patient.”

Hall et al. (2007) also studied the implementation of nurse-physician rounds. Aside from increased nurse's and physician's satisfaction with the rounding process, it also shortened the time the physician spent on the unit. Participants in this grounded theory had a similar finding, "having face-to-face conversations decreases the number of times the physician gets paged."

Messmer (2008) used simulation as method of *coming together* to study outcomes of nurse physician collaboration. By the completion of the third simulation, the outcome was that nurses and physicians felt their collaboration and cohesion improved and was based on mutual respect, trust and power. Their satisfaction with the collaboration process via simulation increased as well.

These studies attempted to link outcomes to nurse-physician collaboration. This grounded theory study did not intend to seek out information on outcomes and participants were specifically asked not to discuss outcomes if these lead to a fatality. However, several participants discussed that "discharges were delayed," "orders got missed" and "being delayed in sharing information impedes the process" when collaboration did not take place. Also, when participants were asked the question as to what can be done to improve collaboration many stated they would like interdisciplinary rounds implemented on the unit on which they work as a formal method of *coming together*.

Additionally, one aspect of interdisciplinary rounds found both in the literature and the grounded theory study that was interesting was that nurses should be participating in rounds. Latta et al. (2008) studied the impact of including patients and families on

interdisciplinary rounds and found the patients and their families were more comfortable if their nurse was present. Kramer et al. (2006) determined that it was the responsibility of all health professionals to be present on rounds in order to provide the best, safest outcome for patients. In the grounded theory study participants discussed how “collaboration involves the nurses being on rounds with us”.

Exchanging Ideas and Information

The literature shows that nurses are dissatisfied with the patriarchal relationship between nurses and physicians (Baggs et al., 1997; Foley et al., 2002; Grindel et al., 1996; Kaissi et al., 2003; Keenan et al., 1998; Reader et al., 2007; Rosenstein & O’Daniel, 2005; Stein, 1967; Thomas et al., 2003; Tschannen, 2004; Vazirani et al., 2005), especially when physicians dictate the order (Baggs et al., 1997; Baggs & Schmidt, 1995; Boyle, 2004; Curley et al., 1998; Eastabrooks et al., 2005; Higgins, 1999; Kaissi et al., 2003; Kramer & Schmalenberg, 2003; Vahey et al., 2004). This point was reaffirmed by the participants in the study who stated “dictating orders puts me off,” “the physician just barks orders at me” and “it’s frustrating when the physician makes patient care decisions without nurse input.”

Conversely, participants commented “they feel valued and satisfied when the physician seeks out their opinion.” The physicians in this study appeared to know and understand, as evidenced by comments such as “I try to avoid dictating orders because no one wants to be spoken to rudely.” When nurses get to participate in the decisions that affect patient care they are more satisfied and report higher levels of collaboration

(Baggs, 1994; Dechairo-Marino et al., 2001; Maxson et al., 2011; Moore-Smithson, 2005; Szekendi, 2007; Troseth, 1997).

As discussed in Chapter IV, the exchanging of ideas and information needs to take place in a environment of respect, open-mindedness and listening. There is agreement in the literature with this finding. The study conducted by Thomas et al. (2003) determined that nurses felt it was difficult to speak up as their input was not well-received by physicians. Similarly, Vazirani et al. (2005) found that nurses rated collaboration with physicians lower than the physicians rated it with nurses because the nurses did not feel their input was valued. The physicians in this grounded theory study discussed how and why they sought the nurse's opinion before putting in orders for the patient. Perhaps because they were residents but all of the physician participants stated "the nurse knows the patient better," the physicians were "needing the nurse's input to get things done," and they were "relying on the nurse's experience." The majority of the nurses in this study felt that the physicians trusted and respected their opinions. In turn this made the nurses feel valued and respected for their knowledge, expertise and skills.

Kramer and Schmalenberg (2003) described nurse-physician collaborative relationships as "good." Good translates to mutual respect and equal power where the nurse's power came from the amount of time the nurse spent with the patient as well as the knowledge and experience the nurse has about the patient. The physicians in *Working Together Toward a Common Goal* often sought the nurses' opinion as they agreed that the nurse had more knowledge about the patient than they did.

Nurses in the study conducted by Wanzer et al. (2009) were more satisfied in their jobs if they perceived physicians to be good listeners. Participants from both professions in the grounded theory study made comments such as “the docs really listen to us,” “it’s important to be an objective listener” and “you need to stop and listen first.”

In the literature the need for open mindedness, respect and listening is clear. The study by Reader et al. (2007) conducted in the intensive care unit also found that open communication, not collaboration, between team members was significantly correlated to the degree of understanding of the patient care goals (p. 350). Lindeke and Sieckert (2005) determined that there is an improvement in the quality of patient care when physicians and nurses both communicate using their knowledge, expertise and profession specific perspective. The participants in the *Working Together Toward a Common Goal* study made similar comments such as “we are constantly going back and forth about the patient” and “if you have something to say about the patient, you need to speak up.” No one expressed that their opinion was not welcome.

Getting Everybody on the Same Page

Getting everyone on the same page is an important category and is described as everyone knowing and being on board with the plan. There is agreement in the literature regarding this category demonstrating its necessity of inclusion in the theory. Collins, Bakken, Vawdrey, Coeira and Currie (2011) found that if the common goals for treatment were not documented in the electronic health record, that is, not everyone having access to the plan, it was 60% less likely that it would be achieved. This was affirmed by participants in the grounded theory study when they discussed documenting

the plan in the EMR where everyone could see it and making sure everyone knew about the plan. In a similar study, Narasimhan et al. (2006) implemented a standardized worksheet to communicate the daily goals for the patient to nurses and physicians and found that understanding of the goals increased significantly for both groups and patient length of stay significantly decreased. Wilson et al. (2009) implemented multidisciplinary rounds with the addition of a daily patient goals sheet to communicate the patient plan. This resulted in a decrease in length of ICU stay, mortality and ventilator time.

In the O'Leary et al. (2009) study, one variable studied was to determine if there was agreement between nurses and physicians on the plan of care. The authors learned that nurses and physicians had little agreement as to the plan of care. The nurses in the Thomas et al. (2003) study felt that nurses and physicians did not resolve the disagreements well and the nurses wanted more input into decision-making. If there is little to no agreement between providers on the plan, the result for the patient may not be as favorable as found in the Narasimhan et al. (2006) and Wilson et al. (2009) studies.

There are data in the literature about the conflict that can occur between nurses and physicians surrounding the patient plan of care. The Two-Dimensional Model of Conflict Behavior (Thomas & Ruble, 1976) describes the structure of the phenomenon on two dimensions, where collaboration is as a combination of a high level of assertiveness (concern for one's own interests) and a high level of cooperativeness (concern for others). Collaboration in this model was defined as an absence of conflict. However, many researchers do not feel there needs to be a complete absence of conflict because it can be

used to improve outcomes (Forte, 1997; Hendel et al., 2007; Keenan et al., 1998; Lindeke & Siekert, 2005; Weiss & Hughes, 2005).

In opposition to O'Leary et al. (2010), the participants in the grounded theory study discussed how everyone usually agreed on the plan of care. The participants also felt that there did not need to be an absence of conflict. There were times when disagreement did occur and the participants tried to resolve the conflict. Many participants try to talk it out and learn why they are disagreeing. It was often found that perhaps the other person did not understand the order etc. However, the participants did discuss that there were occasions when the physician just overrode either the nurse's recommendation or that of the consult team. Participants stated this was frustrating, especially for residents if they were caught in between the attending physician and the nurse.

As shown above there is literature supporting some of the steps in the process of *Working Together Toward a Common Goal*. However, there are also gaps in the literature as well. These will be discussed next.

Gaps in the Literature

While there is a great deal in the literature *why* collaboration takes place, there is a paucity of research that discusses *how* it takes place. This part is simply stated as to whether or not participants collaborated, and if so, at what level. *Working Together Toward a Common Goal* learned how nurses and physicians *develop the plan, make it happen and monitor progress*.

There is very little in the literature regarding how the treatment plan is developed. What is present measures how people felt about the decisions made, i.e. the Collaboration and Satisfaction with Patient Care Decisions (Baggs, 1994), not about how they made these decisions. How the plan is developed is an important piece of the collaboration process. Participants in this study discussed how “we go around the circle and everyone says their part” and “everyone is contributing their opinion” in order to develop the patient care plan. This is important as each person contributes their own knowledge about the patient and role they play in achieving the patient care goal. As discussed in Chapter IV, breakdown can occur in this category if the physician creates the plan without input from the nurse. A unilateral plan may be incomplete and have multiple gaps in the patient’s care resulting in a poor patient outcome. By understanding where and why breakdown can occur, measures can be put into place as to prevent the breakdown. As there is much in the literature about outcomes it would be interesting to study the impact on outcomes of unilateral decision making.

The nurses and physicians in this study also discussed how to implement the plan or *making it happen*. As each person has “their own piece of the plan” and they are “active in the patient’s care plan” by “focusing on what they are doing” and “making sure we are not letting anything go.” Participants described how they knew what needed to be done from their part, to help the patient attain the common goal. They gave examples such as setting up the home health, giving tube feedings or putting in the necessary lab orders. In this way each person fulfilled their portion of the plan and by each one “doing what we have to do” they were “moving forward as a team.” Other studies have not

addressed this aspect of the collaboration, regardless of the study site or subject group. Many authors did not give any description of what they actually did to collaborate.

Respect, trust and experience are necessary for the plan to happen. Participants understand that “no one person can meet all of the patient’s needs” and it is necessary to have “a team of people taking care of the patient.” They also talked about respecting each others’ roles and that, having had past experiences with the person, they are able to trust that each person will complete their part.

Monitoring progress, as it relates to the collaboration process is another step in which the literature is lacking. *Monitoring progress* is how the participants know the patient is either responding to the treatment plan and will thereby reach the goal or not and require additional attention from the providers. Although there is much about the final outcome, good or bad, a study in which nurses or physicians were “checking in with each other” or “touching base about the patient” could not be found. Monitoring progress is both the final step as well as the loop back to the beginning if the patient is not progressing or a new issue surfaces.

These gaps in the literature represent unique findings by this study. These findings help to explain and describe how collaboration takes place regarding the patient care plan and fills a significant gap. Unlike other studies, the physicians in the grounded theory study seemed to truly respect and rely on the nurses and there were few incidents cited by nurses regarding disrespectful physicians. This has allowed nurses and

physicians to accurately *Work Together Toward a Common Goal* to the best of each of their abilities.

Limitations of the Study

There were several limitations to this study. Collaboration is a voluntary process and those who participated in this study volunteered to do so. People who choose to volunteer to participate in studies may be more similar to those who choose to collaborate. People who declined to participate in the study may have had different views on collaboration than those who chose to participate.

A second limitation could be Magnet® designation. The study was conducted at a major metropolitan academic medical center that has Magnet® designation, which requires evidence of nurse-physician collaboration to receive the award. As an academic medical center, nurses are required to follow the chain of command by contacting the medical student or first year resident first, to allow for the teaching and learning process to take place. As a result, nurses may need to contact many layers of residents prior to contacting the attending physician. It may be determined that the findings may not be transferable to a community hospital where residents are not present nor a hospital that does not have Magnet® status.

Lastly, a limitation to this study is that nurse practitioners are used at this academic medical center to act as mid-level providers, akin to a resident physician. The nurse practitioner often fills the role as the link between the nurses and physicians, especially surgeons as even the surgical residents are in surgery. Often the nurses would seek out the nurse practitioner for suggestions, questions or information over the

physician who would be elsewhere. The nurse practitioners would then either fulfill the nurse's request or seek out the physician themselves. In this way, there were several nurses who had limited contact with physicians. This too may limit transferability to community hospitals or hospitals without nurse practitioners.

Implications for Practice

Grounded Theory is developed so that it may be applied on a daily basis (Glaser, 1967). *Working Together Toward a Common Goal* describes a basic social process between the two professions, nurses, including nurse practitioners, and physicians. Glaser (1978) discusses the basic social process as having the ability to be abstract of a specific unit (general) and the ability to change over time (flexible), thereby assuring fit and workability (p. 101). These two conditions will allow the theory to continue to be utilized in the future in a variety of hospital units. As the theory was generated by interviewing healthcare providers from a variety of units and specialties throughout the organization, *Working Together Toward a Common Goal* meets these two conditions.

As a basic social process the steps of the process are clearly delineated and placed in order. The theory was inductively generated by using nurses' and physicians' own experiences. By fully understanding how collaboration takes place, it is also understood where and how the process breaks down, such as when respect and open-mindedness are lacking. This information will allow providers to take steps to prevent breakdown from happening thereby achieving optimum results for the patient.

Healthcare providers who participated in this study know they need to be collaborating with one another in order to achieve the common goal of the best patient

outcome. The use of interdisciplinary rounds as a mechanism for collaboration was stated by the participants as their “ideal method.” Conducting daily interdisciplinary rounds with nurses and physicians present, as well as other pertinent providers, should be the norm throughout the organization. During these rounds, each profession should share their knowledge of and recommendation for the patient. Each profession needs to respect the others, be open-minded and truly listen to what they have to say.

This study disclosed several areas that directly impact nursing. The resulting theory will add evidence-based information to be applied to practice. There is a great deal in the literature about nurse dissatisfaction with the lack of collaboration on the part of the physician (Grindel et al., 1996; Kaissi et al., 2003; Nelson et al., 2008; O’Leary, Ritter et al., 2010; Reader et al., 2007; Thomas et al. 2003; Tschannen, 2004; Vazirani et al., 2005). These studies have shown that nurses participate more often in collaboration studies and it is thought that a lack of physician participation is due to lack of interest. The physician disinterest may be resolving as there has been a focus on collaboration in the last few years. There is a great deal in both the nursing and medical literature about the necessity of collaboration taking place as well as the benefits and outcomes of collaboration. Many organizations are choosing to train nurses and physicians as to how and why to collaborate. The result has been, as evidenced by both the physician participants in this study as well as physician comments in the literature, an increased willingness to collaborate as well as an increased respect for nursing knowledge.

Through understanding the process of collaboration, nurses will know what is expected of them regarding collaboration. This study had determined that physicians are

expecting nurses to participate in rounds. They know the nurses have important information about the patient that is directly relevant to the outcome. Physicians are expecting nurses to speak up and give opinions and recommendations about their patients. Physicians are also expecting nurses to be part of the decision-making of the plan of care. Nurses need to realize and understand that without the nursing information, the plan is not complete and may even be incorrect. Nurses need to be making recommendations about patient care problems because they are with the patient more often than the physician. This point is reiterated in the literature by both Allen, Bockenbauer, Egan, and Kinnaird (2006) and Krairiksh and Anthony (2001) who found that, as nurses are with the patients more often, there are more opportunities for participation in decision making. Kramer and Schmalenberg (2003) also determined that nurses are expected to speak up because they have knowledge based on their extended time with the patient.

Nurses are doing a disservice to themselves, their profession and their patients by not actively providing their information, knowledge and experience about a patient. It is a nurse's duty to advocate for the patient and part of advocating is making sure the physician has the most current information about a patient. As demonstrated by this study, collaboration is a give and take situation. When nurses and physicians go back and forth and determine a plan together, the patient is situated to receive the best care the team has to offer. As discussed in this paper, a lack of collaboration can severely impact a patient's outcome and, as this study concluded, the purpose of collaboration is to

achieve the common goal, i.e. the best patient outcome. When collaboration does not take place, everyone loses.

Implications for Research

There are several considerations for research. The first is that a clear, concise and coherent theory of nurse physician collaboration is the foundation for future studies. The majority of studies discussed in this paper have focused on barriers or interventions and consequently the results may have been based on imprecise definitions and incorrect theoretical foundations. It was important to determine exactly how collaboration takes place as a process.

Now that nurse physician collaboration is conceptually understood work can continue again as to barriers, interventions and measurement instruments. A specific intervention of interest to this researcher is to further the work of educating nursing and medical students, through the use of simulation, as to how to collaborate during interdisciplinary rounds.

The study conducted for this paper should be replicated at another academic medical center to confirm the findings and analyze any differences found. It would also be interesting to conduct a similar study at a community hospital to determine if the same findings would result.

On another note, in this study of nurses and physicians' experiences of collaboration, the nurse practitioners often reported they were "representing medicine", not nursing. A study that looks only at the collaboration between nurse practitioners and physicians could be conducted also. In addition, a study that looks at the perceptions of

nurse practitioners' alliance to their profession would be quite interesting. There are many directions that can be taken now that the foundation is solid.

Implications for Education

Working Together Toward a Common Goal has identified areas with regard to education. Although most providers understand they need to collaborate, many of them don't understand what collaboration is or how to do it. As identified by the Council for Graduate Medical Education (2000) and several studies (Dillon et al., 2009; Schmalenberg et al., 2005a; Wood, 2001), it is clear that nurses and physicians need to be taught how to collaborate. An understanding of each other's roles as well as scope of practice will provide a basis for collaboration to begin.

The recommendation is that collaboration education and training should be started during the education for the profession so that it becomes engrained within their training. A project could be conducted with nursing and medical students as how to collaborate during interdisciplinary rounds. The students could spend a day together learning about one another's roles and responsibilities as well as how each profession contributes to the patient's overall care. During this session, participants would learn how to ask questions to solicit the information and opinions of all providers. The next step would be to assign each of the medical and nursing students "patients" on whom they must "round". Using simulation, the students would conduct rounds with a moderator who would be present to help if necessary. Each session would be videotaped and played back for the students to review their own behavior. A debriefing session could take place at the end of the day to determine the student's thoughts and feelings about the training. This intervention would

address a problem identified by participants in that they felt that very few of their current teachers' modeled collaborative behaviors.

Implications for Administration

Not only is it necessary for providers to collaborate, organizations need to make collaboration an organizational priority and train providers about collaboration (Kramer et al., 2010; Orchard, 2010). These organizations must understand that, by improving nurse physician collaboration, patient satisfaction and outcomes will improve. While organizations need to require providers to collaborate, instead of informing providers of this, the organizations should provide training and education as to *how* to collaborate with one another as well as the reasons *why* to collaborate. If necessary, organizations can align with the Institute for Healthcare Improvement and the Institute of Medicine to learn how to encourage providers to be more collaborative.

Organizations must also support and encourage interdisciplinary rounds that include all professions necessary for patient care in that area. If rounds are encouraged by administration and supported by allowing time for participation, rounds will be more likely to happen. Training may also be necessary regarding what should occur during rounds. As a quality control measure the Chief Nurse Officer and the Chief Medical Officer should plan to attend rounds on a quarterly basis to insure collaboration is taking place.

Recommendations for Future Studies

As grounded theory method employs the idea that the results of each study are as good as it gets for the current time period (Glaser, 1978), future studies may take this information to the next level. As this study can now provide the foundation for the process of collaboration, the study of the barriers, outcomes, interventions can proceed.

One area for future study is the areas of breakdown. By studying these areas, such as working out differences, in depth, it can be determined exactly what can be done to prevent breakdown from occurring. Preventing breakdown in the process will help to insure positive, timely patient outcomes and providers who are equally satisfied with the outcomes as well. Preliminary work, such as that by O'Leary et al. (2009), has begun to deal with the issue of proximity by localizing the physician on one unit.

Along with areas of breakdown, the barriers that have been learned thus far may no longer apply or these may, this will have to be determined. If they are found to persist or new barriers are determined, interventions can perhaps be more specifically targeted towards the direct problem.

As discussed in Chapter II, the measurement instruments for collaboration have been developed without a theoretical background in healthcare thereby rendering the results questionable. *Working Together Toward a Common Goal* may now provide that foundation on which to accurately develop and test a measurement instrument that assesses the level of collaboration from both professions. One potential study would be to correlate the results of this instrument to the number of medical errors in an attempt to link certain types of medical errors with levels of collaboration. If it is determined that

levels of collaboration do correlate directly to the number and severity of medical errors, it will be shown that nurse physician collaboration has the ability to decrease errors and promote patient safety and positive patient outcomes. In turn collaboration could be shown to also decrease costs to both patients and organizations.

The study that must come first however is to determine if the process of collaboration is the same with nurses and physicians in a different health care setting, such as a community hospital. It is important to corroborate the process with other providers thereby verifying the process overall.

Conclusion

Working Together Toward a Common Goal satisfies the purpose of this study that was to conceptually understand how the process of collaboration takes place between nurses and physicians. The theory consists of a core category of *Working Together Toward a Common Goal* and nine main categories that represent the stages in the process of collaboration. Not only are the steps in the process delineated in order, but it is also known where and why the process can breakdown. This empirically derived theory will be useful in guiding practice for both nurses and physicians thereby potentially improving patient outcomes and nurse and physician satisfaction as well as potentially saving billions of dollars and lives.

APPENDIX A
CONSENT FORM

Northwestern University (or) Rehabilitation Institute of Chicago

The Department of Professional Practice & Development

CONSENT FORM AND AUTHORIZATION FOR RESEARCH

Title: A study of nurse-physician collaboration

Principal Investigator: Dr. Fran Vlasses PhD, RN

Introduction

You are being asked to take part in a research study. This document has important information about the reason for the study, what you will do if you choose to be in this research study and the way Northwestern Memorial Hospital would like to use information you provide.

What is the reason for doing this study?

This study is being done because information is needed to understand how nurses and physicians collaborate on patient care. You are asked to take part in this study because you are a nurse or physician at Northwestern Memorial Hospital.

What you will do if you choose to be in this study?

As a subject in this study, you will be asked to come to a conference room within the hospital. Your participation in this study will last for 30-60 minutes and will involve only one interview. As a subject in this study you will be asked to answer questions regarding the collaboration between nurses and physicians that you have experienced.

What are some of the risks and discomforts that may happen to people who are in this study?

There is no physical risk to you from being in this study.

What are some of the benefits that are likely to come from my being in this study?

You are not likely to have any direct benefit from being in this research study. However, taking part in this study may help scientists to better understand how nurses and physicians collaborate on patient care.

You do not have to take part in this research study.

Are there any financial costs to being in this study?

There will be no costs to you for being in this study.

If I have questions or concerns about this research study, whom can I call?

You may call either Lori Fewster-Thuente MSN, RN @773-330-8788 or Dr. Fran Vlasses @ (708)216-9101 with questions about this research study.

What are my rights as a research subject?

If you choose to be in this study, you have the right to be treated with respect, including respect for your decision whether or not you wish to continue or stop being in the study. You are free to choose to stop being in the study at any time. Choosing not to be in this study or to stop being in this study will not result in any penalty to you or loss of benefit to which you are entitled. Specifically, your choice not to be in this study will not negatively affect your employment.

If you want to speak with someone who is not directly involved in this research, or have questions about your rights as a research subject, please contact the Office for the Protection of Research Subjects. You can call them at 312-503-9338.

What about my confidentiality and privacy rights?

We are committed to respect your privacy and to keep your personal information confidential.

When choosing to take part in this study, you are giving us the permission to use your demographic information and personal experiences regarding nurse-physician collaboration.

The results of this study may also be used to generate a theory of nurse-physician collaboration. This theory may be published in nursing or medical journals.

Please note that:

- You do not have to sign this consent form.
- You may change your mind and “take back” (revoke) this consent at any time. Even if you revoke this consent, the Principal Investigator may still use or share information that was obtained from you before you revoked your consent as needed for the purpose of this study. Unless you revoke your consent, it will not expire.

Optional Study Elements:

The interview will be audio-taped and transcribed by a professional transcriptionist. No personal identifying information will be attached to the audio-tape. Only the PI and project coordinator will have access to the list of participants and this list will be accessed only on a need-to-know basis.

Please initial one of the following to indicate your choice:

_____ (initial) I agree to the audio-taping

_____ (initial) I do not agree to the audio-taping

Consent Summary:

I have read this consent form and the research study has been explained to me. I have been given time to ask questions, and have been told whom to contact if I have more questions. I agree to be in the research study described above.

A copy of this consent form will be provided to me after I sign it. A copy of this signed consent document and information about this study will be provided to me following the interview.

Subject's Name (printed) and Signature

Date

Name (printed) and Signature of Person Obtaining Consent

Date

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VITA

Lori Fewster-Thuente was born and raised in Ohio. She earned a Bachelor of Arts in 1988 in Business and Economics from Wittenberg University in Springfield, Ohio. The next seven years were spent as a sales and marketing professional at which point she returned to school, this time pursuing a Bachelor of Science in Nursing through the accelerated program at Loyola University Chicago, graduating in 1997, summa cum laude. While pursuing a career in pediatric nursing, she returned to Loyola University, this time achieving a Master of Science in Nursing, graduating in 2002 with honors.

Lori Fewster-Thuente is currently a visiting instructor at DePaul University in Chicago, Illinois. She currently resides in Lake Forest, Illinois.