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

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Working together toward a common goal is an empirically derived theory that can guide education and practice to improve patient outcomes while saving money and lives. Grounded theory was used to explore nurses' and physicians' experiences with collaboration in order to understand the process intrinsically.

Effective nurse-physician collaboration is essential to superior patient care. The lack of effective collaboration has been cited as the root cause of over 70% of major medical errors (The Joint Commission, 2014) and costs the Centers for Medicare & Medicaid Services over $4 billion annually (U.S. Department of Health and Human Services, 2010). To achieve optimal patient outcomes, health care providers need and want to collaborate but often do not know how to do so effectively (Dow, Blue, Konrad, Earnest, & Reeves, 2013). The process of collaboration must be understood fully to build a curriculum by which to teach providers.

Inherent to understanding the process is a unified definition of collaboration. The literature reflects a great disparity in the definitions of collaboration (O'Leary et al., 2010; Tschannen & Kalisch, 2009), which has resulted in inconsistencies and discrepancies. Physicians have defined collaboration as nurses acting as assistants to physicians and fulfilling orders (Dillon, Noble, & Kaplan, 2009; Garber, Madigan, Click, & Firzpatrick, 2009) or providing physicians with complete and accurate patient information (Tang, Chan, Zhou, & Liaw, 2013). Nurses have defined collaboration as physicians listening to the nurse's information and opinion and helping to formulate a plan of care (Johnson & Kring, 2012). The inconsistencies in providers' definitions of collaboration reflect the challenges inherent to the study of nurse-physician collaboration and collaboration itself (Rose, 2011).

Although collaboration has been studied extensively (O'Leary et al., 2011; Tschannen & Kalisch, 2009), the conceptual and theoretical basis for understanding and practicing collaboration remains underdeveloped and imprecise. An inductively derived theory of the collaboration process as defined by nurses and physicians could not be found in the literature. The purpose of this study was to theorize collaboration as a basic social process occurring between nurses and physicians.

Literature Review

The literature search for this study was conducted within CINAHL and PubMed for the years 2009-2015. Exploration of the literature focused on barriers to and outcomes of collaboration, and interventions to improve collaboration.

Barriers to nurse-physician collaboration may prevent collaboration from occurring. Major barriers are the patriarchal relationship between nurses and physicians (Johnson & Kring, 2012; O'Leary et al., 2010), lack of interprofessional education (Clarke & Hassmiller, 2013; Interprofessional Education Collaborative Expert Panel (IECEP), 2011), proximity (O'Leary et al., 2010), and locating the provider within the organization (O'Leary et al., 2009). Patri-

archal relationships remain the largest barrier, along with differences in perceptions of collaboration (Johnson & Kring, 2012).

O'Leary and co-authors (2010) surveyed nurses and physicians (*N*=159) on four inpatient units. Providers were asked to give their ratings of communication and collaboration with team members as well as identify barriers to collaboration. Physicians rated collaboration with nurses as *high* or *very high*, while nurses indicated collaboration with physicians was lacking. Nurses also noted identifying the patient's physician, as well as the patriarchal nature of the role, as barriers. Physicians determined nurse proximity to be a barrier.

A descriptive survey conducted by Johnson and Kring (2012) included nurses (*N*=170) from medical-surgical and intensive care units in assessment of their perceptions of collaboration with physicians. Nurses from both units agreed concerning their satisfaction with nurse-physician relationships (*p*=0.11). However, intensive care nurses found physicians to be more patriarchal than did medical-surgical nurses (*p*=0.056).

The IECEP report (as cited in Clark & Hassmiller, 2013) discussed lack of interprofessional education

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Introduction

The results are presented from a grounded theory study that theorized nurse physician collaboration as a basic social process in which groups are formed and changed in harmony. Effective collaboration is essential to superior patient care and outcomes but a lack of theoretical basis for collaboration has hampered the study of collaboration and the optimization of patient care.

Purpose

The purpose of this study was to theorize collaboration as a basic social process occurring between nurses and physicians.

Method

Grounded theory was used to explore nurses' and physicians' experiences with collaboration to understand the process intrinsically. Following Institutional Review Board approval, 15 nurses and 7 resident physicians from various units within an academic medical center participated in face-to-face interviews regarding their experiences of collaboration. Data collection and constant comparison analysis continued concurrently until saturation was reached in the core and subsequent categories.

Findings

The basic social process of nurse-physician collaboration that emerged includes the core category of working together toward a common goal. It describes how nurses and physicians collaborate for patient care. The seven stages in the process are something needs our attention, knowing who to talk to, finding the right person, coming together, exchanging ideas and information, making it happen, and monitoring progress.

Conclusion

Working together toward a common goal is an empirically derived theory that can guide education and practice to improve patient outcomes, while saving money and lives.

as a barrier to collaboration. Four core competencies were identified for incorporation into education: values and ethics for interprofessional practice, roles and responsibilities, interprofessional communication, and teams and teamwork.

Physical location of the provider can be a barrier to communication and collaboration (O'Leary et al., 2009). An interventional study was conducted in which physicians were localized to specific units to assess if communication and collaboration between the two professions increased. Nurses and physicians agreed communication and collaboration increased in the areas of planned tests and anticipated length of stay (LOS) (68% vs. 50%; $p<0.001$ and 74% vs. 61%; $p<0.001$, respectively).

Overcoming barriers to nurse-physician collaboration is critical due to the impact on patient outcomes. Health care leaders, now realizing the need for collaboration, are employing various interventions to teach providers how to collaborate. Interdisciplinary rounds (O'Leary et al., 2011; Segel et al., 2010) have been studied to achieve patient outcomes, such as decreased LOS and subsequently lower cost. Simulation (Dillon et al., 2009; Maxson et al., 2011) is another common intervention to teach collaboration to students and licensed providers.

An experimental study by O'Leary and colleagues (2011) assessed 49 nurses' ratings of teamwork and communication following an intervention of structured interprofes-

sional rounds. These ratings were compared with patient data on LOS and cost. Although nurses rated teamwork and communication higher on the interventional unit (80% vs. 54%; $p=0.05$), no difference was found in cost or LOS.

A shorter LOS, as evidenced by earlier discharge, was found by Segel and co-authors (2010) after implementing interprofessional rounding on an obstetrics unit. Findings on the experimental unit indicated 45% more patients ($p=0.03$) than the control unit were discharged by the goal time.

Dillon and associates (2009) incorporated simulation of a mock code into the curriculum of nursing and medical students to teach collaboration. Using a pre-test/post-test design, researchers asked students to provide their perceptions of interdisciplinary collaboration. The medical students' post-test scores were statistically significant ($p<0.05$) for the factors of collaboration and nurse autonomy. The nursing students' scores revealed an increase in collaboration but the increase was not significant.

Interprofessional simulation also was used by Maxson and colleagues (2011) to teach providers (19 nurses, 9 physicians) collaboration. Pre-test findings indicated physicians perceived open communication existed ($p=0.04$); nursing opinions were considered in decision making for the patient ($p=0.02$). Post-test scores demonstrated significant improvement ($p<0.002$) by nurses and physicians.

Varied findings in the literature suggest a great deal of work remains to be done. Researchers must understand the process of collaboration so providers can become familiar with steps in the process. Thus, the purpose of this study was to conceptualize collaboration as a basic social process.

Methods

Design

As collaboration is believed to be a basic social process in which groups are formed and changed in

harmony, grounded theory was used to conceptualize collaboration. Grounded theory (Glaser, 1998) allows the researcher to develop a theory that offers an explanation about the main concern of the population under study.

Data Collection and Participants

This study was conducted at a major academic medical center in a large city in the midwestern United States. The university and hospital Institutional Review Boards approved the study. Participants were recruited via emails from the chief nursing officer and the chief hospitalist. Informed consent was obtained following a brief discussion of the risks and benefits of participation. Confidentiality was assured as personal identifiers were not used. Data were collected on-site via single, individual, face-to-face interviews in which participants were asked open-ended questions regarding their perceptions and experiences with nurse-physician collaboration. The interviews were audio recorded and transcribed verbatim. The audiotapes and transcripts were kept in a locked drawer in the researcher's locked office. Memos were kept by the researcher and also used as data.

Sample Demographics

The purposive sample consisted of 22 participants: 12 clinical nurses, three advanced practice nurses, and seven resident physicians. Attending physicians were not included because nurses primarily collaborate with resident physicians at the study site. Demographic data were collected by the researcher at the start of the interview and described in aggregate form, including level of education, unit, role, experience, and tenure on the unit. Years of experience ranged from 4 to 35 (average 21.4 years). Average experience on the current unit was 6 years. Physician participants were first-, second-, or third-year residents. Nursing education ranged from associate degree (*n*=1) to doctorate of nursing practice (*n*=1), although most participants held a baccalaureate (*n*=11) or a master's degree (*n*=2). Each participant worked on a different unit.

Data Analysis

Data analysis requires theoretical sampling, data collection, and analysis to occur concurrently. Through reading and rereading the transcripts, the researcher coded the data by selecting substantive words that conceptualized the data. A total of 956 initial codes emerged from the transcripts and were compared against each other for relevance (align with the core concern), fit (have a place among the other codes), and workability (explain and interpret the behavior). They then were categorized as themes emerged. Final concepts and categories were identified through focused coding. Theoretical sampling continued until saturation in each category was reached. Comparison of the categories continued until a parsimonious basic social process was developed

Trustworthiness

To assure reliability and truthfulness of the findings, a colleague experienced in grounded theory independently analyzed the data to ensure a credible interpretation. Both sets of findings were compared side by side throughout the analysis; differences were discussed and agreement reached. Data were compared constantly against the researcher's memos for further accuracy. Use of the participants' words provided final certainty to the results derived.

Theory of Nurse Physician Collaboration – Working Together Toward a Common Goal

Working together toward a common goal conceptualized nurse-physician collaboration as a basic social process that occurs in two major parts: *forming the group* and *creating harmony*. Forming the group included the following stages: *something needs our attention*, *knowing who to talk to*, *finding the right person*, and *coming together*. Creating harmony included *exchanging ideas and infor-* *mation*, *making it happen*, and *monitoring process*. Participants believed they were or needed to be unified in their actions toward the patient. This belief was evidenced by participants' comments: "Collaboration is all the health care providers working toward one common goal that they all agree on, to provide the best patient outcome." "Collaboration takes place for us to understand that we all work together for one common goal, for the patient."

Forming the Group

Participants believed collaboration involves two or more people from different professions discussing a patient problem (forming a group), and together determining the patient's treatment and care, and providing that care (harmony). A second belief was that patients are the reason for collaboration. Participants suggested the common goal equated to the best outcome for the patient, as one resident said, "The purpose of collaboration is providing the best patient care." Working together to achieve the goal was necessary and desired by participants, who found value and meaning in the process. No discussion occurred of a hierarchy or an "us against them" mentality.

The collaboration process can be linear with a start and end point (the group is formed and harmony is achieved), or loop back to the beginning if the patient goal is not achieved or a subsequent issue arises. A stage may be skipped if it is not necessary (e.g., the person needing to be found when a patient issue occurs might be standing next to the provider who realized the issue) but the stages must transition in this order for collaboration to occur. If the process is stopped at any stage, collaboration does not occur (the group is not formed) and a negative outcome for the patient may result (disharmony).

Something Needs Our Attention

The process begins with the first stage and is the purpose of the collaboration. "Something" is a patient medical issue. Nurse and physician

participants spoke of collaboration occurring due to a patient's complex medical problem that cannot be addressed by a single provider. A nurse gave an example: "Collaboration is needed when you have a multifaceted problem and no one person can take care of all those needs."

Health care providers must work within their scope of practice. Participants encountered patient problems beyond their scope and recognized involvement of other providers was necessary. One of the nurses said, "I had a bad fetal strip so I talked with the doctor. We decided to do an emergency C-section and the baby was fine."

As health care has become specialized, providers must recognize the expertise and knowledge of one or more disciplines are essential to start the collaboration process and result in optimal care as evidenced by this example: "We had a patient who was in heart failure, so we needed to work together to improve their clinical status." Once a patient requires the attention of another provider, collaboration transitions to the next stage to resolve the issue.

Knowing Who to Talk to

Additional providers are sought to help the initial provider when a patient does not feel comfortable or if the provider recognizes a problem out of his or her scope of practice. Knowledge of what role is needed requires previous experience with the type of patient problem as stated by a nurse: "A physician needed assistance setting up home nursing care. They needed additional help from other team members whose expertise was different from their own." The initial provider must know the role, responsibilities, and scope of practice of each type of provider to know who to contact. Both nurses and physicians said, "We know our roles, what to expect from each other, and we help each other."

In addition to seeking others, participants were sought themselves for having the right knowledge and experience. Physicians sought nurses for the patient-specific knowledge and experience essential to decision making, as evidenced by one resident's comment: "The nurse knew the patient better than I did. So I asked her, for this particular patient, should we give him medicine A or B, and she said definitely B because he would never take A in that method."

Without nursing knowledge, an incorrect decision or error could be made or patient care delayed. Participants often understood what role was needed but did not know who was filling the role at that time because providers work in shifts. Breakdown in the collaboration process could occur if considerable time was required to determine who was in the role at that time, and participants were concerned this could result in a negative patient outcome.

Finding the Right Person

Knowing where providers are located accelerates the process, an important factor when patients are critically ill. Locating providers quickly and easily is vital to effective collaboration. Both disciplines indicated physically going to find the right person was often the easiest and fastest method: "If I need information, going to find the nurse is easier than paging" or "The residents and interns are always in the computer room so we run over there with our questions."

Delays in finding the right person cause delays in group formation and potentially negative outcomes for patients, as stated by one resident, "It is difficult to collaborate when you can't find the nurse." Participants said knowing provider names expedited the collaboration process in part because the two providers may have had previous interactions; as one resident said, "Knowing peoples' names makes a difference in patient care."

Having found the right person, providers can transition to coming together and forming the group. As the second part of the collaboration process, creating harmony can occur once the group has come together.

Coming Together

Once providers knew who to contact and how to find him or her, providers wanted to come together to achieve the common goal. Interdisciplinary rounds were cited most often by participants as the method to come together formally in groups to collaborate. Participants indicated interdisciplinary rounds provided access to other providers who were participating in the patient's care. Rounds could occur in a conference room or patient rooms. Participants valued rounds because all providers contributed their patient knowledge and experience with this type of problem. A nurse voiced this opinion: "When we round with the entire team, we have a dialogue where everybody offers their contributions and their different areas of expertise to work up the patient."

Participants appreciated including patients in the collaboration process. Providers hear the same information and patients view them as a team. This sentiment was expressed by several nurses: "When the team rounds together with the patient, the patient sees it as important. They know each person is valued on the team and each person knows the plan." Including patients and families in the collaboration is imperative because harmony cannot be achieved and the plan cannot go forward without their consent, as said by one advanced practice nurse: "Patients are more likely to comply with the plan when they help create it."

Collaboration occurred frequently in smaller groups of 2-3 providers, often a physician and nurse coming together to discuss a specific patient. Providers preferred face-to-face interactions which allowed them to have dialogue that increased their understanding of the patient, improved their provider relationship, and expedited patient care. One physician stated, "Face-to-face communication always works better because you can play off each other." Providers also were able to read the body language of others to determine if it matched the dialogue. If it did not, providers then could question the meaning and try to determine the problem.

Providers also came together over the telephone or via text message, but this method usually was reserved for non-urgent issues. However they came together, everyone agreed it was vital to include nursing. Both nurses and physicians said, "Without the nurse, you are missing critical information. The nurse has been caring for this patient for 12 hours. Why would you make a plan for a patient without the nurse?" Coming together successfully allowed providers to transition to the next stage of exchanging information and ideas. Here, providers begin to create harmony.

Creating Harmony

Exchanging Information and Ideas

Providers exchange information and ideas to develop the plan of care so patients achieve their goals and harmony is created. This stage includes discussing, sharing information, asking questions, offering suggestions and opinions, and working out differences.

Discussions center on resolving patient care issues and occur in every collaborative exchange. Discussing involves a give-and-take between providers and can occur as often as needed based on the patient's acuity. Discussions help develop the plan for the patient or focus on the progress (or lack thereof) the patient has made toward the common goal, as evidenced by one nurse's comment, "During interdisciplinary rounds, we discuss what we need to do for the patient."

Participants experienced a sense of partnership when sharing information. By providing their role-specific knowledge of the patient or area of expertise, each was putting a piece in the puzzle. Providers were expected to speak if they have information to share. Sharing information also included what had been done or needs to be done for the patient to achieve his or her goal. For example, nurses share laboratory results with physicians so treatment decisions can be made. This

statement summarizes a position held by both nurses and physicians: "The doctors have more information about the diagnosis. The nurses have more information about the patient. By sharing this information, they make a better plan."

Participants also asked questions to clarify and understand the scope of the problem or the plan. Questioning highlights everyone's skill, knowledge, and expertise to ensure everything possible had been done, determine what the plan or goal should be, or assess the patient's progress. One resident said, "With the younger group, there is more questioning as to what should we do, or what do you think, or why are you doing this?"

Questioning did not suggest someone was wrong but often was used to explore the thought behind a statement or indicate agreement with the plan. For harmony to occur, it was important to participants for providers to be open to questions. Physicians spoke of this frequently: "I would always rather have the nurse ask questions than have something go wrong." Just as physicians appreciated being asked questions, nurses were comfortable asking questions, especially if their patients were in jeopardy of not reaching their goal. One nurse said, "If I felt the physician was going to make a decision that adversely affected the patient, I would question them about it."

Offering suggestions and opinions allowed each provider to bring knowledge and experience that could help patients reach their goals. Nurses appreciated their opinions being sought by physicians but those with experience, in particular, stated, "I tend to just give my opinion because I feel comfortable and I've been here a while." When there were questions, residents often deferred to nurses because they had more experience. Most participants noted everyone's opinion should be considered during care planning. This was evidenced by comments such as, "Everyone's ideas and opinions are important," and "We are here for the same thing – the patients."

A few nurses discussed having their opinions discounted or overruled, leading to the need to resolve differences. Participants noted disagreements happen, but most participants observed differences were settled in an agreeable manner without abusive behavior, and harmony was achieved. One of the advanced practice nurses noted, "If we have a disagreement, we will talk it out." A second-year resident stated, "If anybody has an objection to any part of the plan, it is worked out." When agreement could not be achieved, participants noted they could go around the person if the patient was in jeopardy. A labor and delivery nurse noted, "If you didn't agree with the resident and thought the patient might be hurt, you could go to the attending."

No one liked having suggestions rejected, but nurses were comfortable with physicians disagreeing with them if they understood the reason for the decision. Inherent in collaboration is being heard, hearing others, and deciding together what is best for patients. Residents felt bad about overriding nurses' suggestions and wanted to explain why: "I wanted to make sure the nurse understood why we couldn't do it that way."

The exchange of information and ideas to develop the plan must occur in an environment of respect, open-mindedness, and listening for collaboration to occur and harmony to be created. The plan details actions necessary for the patient to achieve the goal and identifies each provider's role within the plan. Adverse outcomes such as increased length of stay may result if the plan is not developed timely. Once the plan of care is developed, providers can implement it for the patient to achieve the common goal and attain harmony.
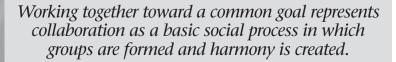
Making it Happen

Making it happen denotes everyone involved knowing the plan and his or her role in it, then putting the plan into action. Everyone, including the patient, must agree with the plan before it can be implemented. Participants made comments such

as, "When we are all in the room with the patient, everybody is on the same page and knows what the plan is and how to proceed." Participants expressed frustration if they did not know about the plan as they had not been included in the group, especially if they were notified of the plan by the patient. One senior nurse said, "It is embarrassing, as such a vital member of team, to find out what is going on from the patient."

Developing the patient care plan is done as a group but carrying out the details of the plan occurs individually. Providers fulfill their role responsibilities to the patient. One third-year resident said, "I input the orders, communicate with the nurse what I have ordered, and let the patient know." When providers change shifts, fluidity affects the group formation. Thus, documenting the plan and the common goal in the electronic medical record is essential. Several participants said, "We use the electronic medical record primarily to be sure information is passed." The record allows all providers caring for the patient to see the same information, limiting miscommunication. Once the plan is put into action, providers could transition to monitoring the patient's progress.

Monitoring Progress

Monitoring the patient's progress toward the goal was integral to patient care. Participants met on a scheduled basis to monitor the patient's progress. Participants also checked the medical record or informally checked with each other throughout the day to see if changes occurred. Residents walked around the units, making themselves available to nurses to discuss any issues that may have arisen since interdisciplinary rounds, as stated by one resident: "I try to find the nurse for my patients and say 'How is it going? Are there any changes?'" Residents also checked the tasks that had been completed or remained. "At the end of the day, we make sure that everything is done and things that are pending the next day are lined up so we know exactly what we need to do

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in the morning." Patients may not progress or new issues may surface, so the process begins again when something needs attention. The health care team prepares to restart the collaboration process: "We re-evaluate the plan after assessing the patient because a new issue may surface."

Working together toward a common goal is a basic social process in which something needs attention. The patient issue requires knowing who to talk to and finding the right person. Once the right person is found, providers come together as a group to exchange information and ideas, and to develop a plan. Implementing the plan requires making it happen and monitoring progress toward resolving the issue that needed attention, thus creating harmony.

Discussion and Implications

Findings from this study suggest collaboration is a social process in which a group is formed and harmony is attained through achievement of a common goal. The structure of this theory is grounded in the data and denotes the stages within the nurse-physician collaboration process. Each stage has a clear beginning and transitions to the next, leading hopefully to a positive resolution for the patient. Working together toward a common goal provides needed information, such as how and why nurses and physicians collaborate and how the intended outcome is defined, and adds to the current body of literature in several key ways.

First, while physicians and nurses were believed previously to define collaboration differently, this study created an interprofessional definition of collaboration. Second, along with Garber and colleagues (2009), the current study determined physicians and nurses had

positive attitudes toward collaboration and believed it to be important to quality patient care. Finding value in working together is an important competency in interprofessional education (IECEP, 2011) and leads to a less patriarchal, more balanced relationship.

In agreement with Rose (2011), participants spoke of equal partnerships and teams as opposed to a hierarchical relationship. No longer is the relationship one where the physician gives an order and the nurse fulfills it, with or without knowing the plan for the patient. Now the nurse and the physician create the plan for the patient together based on their combined knowledge and expertise, resulting in a better outcome for the patient and increased role satisfaction for providers (Suter et al., 2012).

Third, congruent with findings of O'Leary and co-authors (2009, 2010), this study determined other barriers, such as proximity and locating the provider, were integral to the collaboration process and must be addressed before nurse-physician collaboration can occur. Interdisciplinary rounds are desired by providers and may be the most convenient solution to address this barrier.

This study differed from others in determining individual stages in the process of collaboration and the order in which they proceed. The result is a substantive theory of the process of nurse-physician collaboration. The formation and use of theory may guide nurses and physicians in the way they practice, educate, and provide care (Reeves & Hean, 2013).

Nursing Implications

Nurses and physicians can use this theory to improve the ways in which they work together to decide upon and achieve their patients' goals. As Johnson and Kring (2012)

noted, understanding the process is critical to improving patient care. Having a defined process assists providers in determining where the process works well and where gaps exist. Addressing the gaps may improve patient outcomes and increase patient and provider satisfaction.

Several methodological considerations exist with the study. This study used a purposive sample from a Magnet® hospital to explore nurse-physician collaboration. To receive Magnet status requires evidence of nurse-physician collaboration. This study also was conducted at a teaching hospital; a different setting, such as a community hospital, may yield different results.

Future Research

Future research should focus on creating an instrument to measure the steps in the process. The ability to measure collaboration will allow researchers to determine if collaboration can be correlated directly to patient outcomes.

Conclusion

Working together toward a common goal represents collaboration as a basic social process in which groups are formed and harmony is created. The theory was grounded in data generated inductively by using nurses' and physicians' personal experiences. Development of this theory satisfies the purpose of this study, which was to understand conceptually how the process of collaboration occurs between nurses and physicians. This empirically derived theory can guide practice for nurses and physicians, and guide curriculum development for educators.

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