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## Utilizing Goal Attainment Concepts To Empower Nursing Students For Effective Interprofessional Communication

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Utilizing Goal Attainment Concepts  
To Empower Nursing Students  
For Effective Interprofessional Communication

University of North Dakota

Andrea M. Nelson

## PERMISSION

Title:

Department: Nursing

Degree: Master of Science

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**Abstract**

Ineffective interprofessional communication is an identified issue affecting patient safety in health care. A multitude of barriers can impact interactions between and among disciplines leading to relationship strain and adverse patient outcomes. Nursing and other health care professions have limited curricular focus on interdisciplinary communication and collaboration. Interventions to improve interprofessional teamwork and collaboration are important foci for students in the health care profession. A learning event with the goal of student development of effective interdisciplinary communication was delivered to a group of nursing students in the classroom setting. King's Theory of Goal Attainment (1981) and interacting systems framed the event. An evidence-based lecture underpinned importance of effective communication and the potential barriers. A case study and the SBAR tool assisted students to organize and plan for interactions with physicians. A period of reflection following the case study allowed for expression of perceptions related to the interactions within personal, interpersonal, and social systems required for effective health care teams. Students engaged learning within the affective domain through discussion about emotional responses related to communication strategies and received formative feedback from faculty. Dialog supported acknowledgments of heightened awareness regarding the importance of interdisciplinary communication and tactics to improve effectiveness of interactions. Discussion among participants of the learning exercise substantiated the need for increased emphasis and incorporation of interprofessional communication training in health care curricula and practice. Further research is necessary to determine additional interventions to enhance interprofessional communication for the ultimate goal of patient safety.

### Introduction

Recent research findings show that ineffective communication between nurses and physicians is a leading cause of medical errors and a factor affecting patient safety. Nurses and physicians differ on their perspectives of what constitutes optimal communication (Manlojlovich, Antonakos, & Ronis, 2009). Additional challenges to effective communication in health care settings include differences in hierarchy, education, training, and views of patient needs, and communication styles (Dingley, Daugherty, Derieg, & Persing, 2008). Educational intervention on communication and collaboration strategies is necessary for improving communication, teamwork, staff satisfaction, and patient safety (Beckett & Kipnis, 2009).

Statistics regarding communication and patient outcomes attracted national attention and have been influential in the process for identifying health care strategies to promote a safe patient culture. Up to 80 percent of medical errors are communication related (Tschannen et al., 2011). The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) reports up to 70 percent of sentinel events and 90 percent of root cause analyses include communication as a contributing factor for inpatient care settings (Haig et al., 2006). JCAHO has been striving to for improvements in patient safety since 2003 with the implementation of their National Patient Safety Goals for hospitals (Beckett & Kipnis, 2009). The American Nurses Credentialing Center (ANCC) offers a "Magnet" status designation for hospitals that meet specific criteria to improve patient outcomes (Lindeke & Siekert, 2005). The Institute of Medicine (IOM) and the American Nurses Association (ANA) are also focused on improving interdisciplinary communication, positive collaboration, and improved patient outcomes (McCaffrey et al., 2011)

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Professional communication skills have a limited focus in nursing and medical education programs (McCaffrey, Hayes, Cassell, Miller-Reyes, Donaldson, & Ferrell, (2011). Curricula for health care education need to have an increased emphasis on inter-professional communication. The Institute of Medicine (IOM) recommended in their 2010 report "Transforming Education" that nursing education required renovation to prepare students to collaborate effectively with other health care professionals in a variety of settings in the increasingly complex health care system. Inadequately prepared nursing students are challenged with speaking effectually with physicians and other members of the health care team. Curtis, Tzannes, & Rudge (2011) noted that nurses have a longstanding history of communication issues with physicians that can affect patient outcomes. Apprehension and intimation in conjunction with physician interactions can cause increased stress and occurrence of errors. Determining educational interventions to improve collaboration and communication is vital to the avoidance of patient harm.

**Purpose**

Effective communication among health care professionals is seen throughout literature as the cornerstone of interdisciplinary collaboration and safe patient care. Substantial evidence suggests that health care workers do not always work collaboratively, leading to errors and inefficiencies (Weller et al., 2011). Inefficient communication and collaboration can lead to patient harm, medical errors, increased length of hospital stay, and a higher mortality risk (Dingley et al., 2008). Communication and collaboration in the health care setting is a complex and interactional process that involves different professional groups. Increasing patient complexity requires ongoing development of effective teamwork. Collaboration, which involves

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open and direct communication, respect for different perspectives, and mutual problem solving responsibility, positively affects patients' outcomes (Stein-Parbury & Liaschenko, 2007).

The purpose of this independent study is to develop an evidence-based learning exercise for undergraduate nursing students to address the issue of ineffective inter-professional communication. Imogene King's Theory of Goal Attainment served as the study framework. The goal will be to utilize her concepts of perception, interaction, transaction, self, role, stress, time, space, growth, and development (Frey, Sieloff, & Norris, 2002) to empower learners to develop effective inter-professional communication skills. Literature findings regarding inter-professional interactions, collaboration, effective communication techniques, and the benefits of a structured communication tool informed development of the educational exercise. The primary outcome intended by this project is to enhance the empowerment of nursing students necessary for effective professional interaction with physicians and other health care team members thus promoting safe patient care.

#### **Significance**

Prior research cites poor communication among health care professionals as a major factor regarding patient safety, patient outcomes, and adverse events (Curtis, et al., 2011; Manojlovich & DeCicco, 2007; Tschannen, Keenan, Aebersold, Kocan, Lundy, & Averhart, 2011). Optimal collaboration between physicians and nurses reduces errors, increases patient satisfaction, decreases mortality and health care costs, and ultimately improves the overall quality of patient care. Effective communication among health care workers promotes teamwork, efficiency, job satisfaction, and a positive work atmosphere (McCaffrey et al., 2011; Vazirani, Hays, Shapiro, & Cowan, 2005; Weller, Barrow, & Gasquoine, 2011).

Current limitations in research include inadequate definitions of effective interprofessional communication and collaboration (Robinson, Gorman, Slimmer, & Yudkowsky, 2010; Tschannen et al., 2011) as well as a lack of controlled interventions to improve interactions (Vazirani et al., 2005). Positive communication and collaboration among health care providers is not typically taught in current educational programs (IOM, 2010). Professionals learn to communicate during their preparation for professional practice and nurses are no exception. Therefore, to influence the way that nurses learn to communicate, nursing educators need to place more emphasis on the integration of interprofessional communication and skill training into curricula (McCaffrey et al., 2011; Reising, Carr, Shea, & King, 2011).

As noted in the reviewed current literature, effective communication is of great importance to the field of nursing and in the health care environment. Goal attainment concepts focus on interpersonal communication and coincide with current nursing trends and evidence-based practice. Emphasis is placed on goal attainment-related interventions to improve communication and associated outcomes. The theory of goal attainment encompasses human interactions, and the nursing process has historically been an integral component. King explains the relationship as the nursing process is a system of interrelated actions that represent method and the Goal Attainment theory is a process of those human interactions (Frey et al., 2002).

King's theory applied as a framework for educational intervention can result in enhanced communication skills and empowerment for students who will be the future of health care. The concepts of Goal Attainment mirror the complexity of human interactions and provide an understanding of the various factors that affect relationships such as communication, perceptions, environments, and stress (McEwen & Wills, 2011). Determination of strategies for



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effective communication and collaborative relationships provides a solid foundation that can be further developed to ensure quality patient care as well healthy work environments (Lindeke & Sieckert, 2005).

**Theoretical Framework**

Imogene King's Theory of Goal Attainment was selected as the framework for this study due to its association with aspects of communication. King viewed human beings as open systems that are constantly interacting with their environment. This belief was characterized by three specific systems: the personal or individual system, the interpersonal or group system, and the social system or society. King described life satisfaction as equivalent to quality of life. This satisfaction is influenced by a person's ability to set and attain goals and perceive a sense of accomplishment. Communication, interaction, and transactions between individuals are additional variables that affect life satisfaction (Plummer & Molzahn, 2009).

Three interacting systems are a major theory element. The following information will provide a brief summary of each system to help fully illustrate the pertinence of this theory to this project.

*Personal systems* are represented by individuals and their perceptions, body image, space, learning, time, self, growth and development. The major concept of this system is perception, which is a subjective, selective transaction that influences all other behaviors. Perception is further defined as a person's representation of reality. Body image is a subjective, dynamic, learned definition of self. Space refers to "territory" in all directions and is generally universal, but can be subjective to the person based on their perceptions. Time is an inherent life process that is irreversible as it flows from past to future. It is universal, but also subjective to perceptions. Learning was not specifically defined by King. Self is a subjective composite of feelings and thoughts and one's awareness of their existence. The concept of self includes a systems of attitudes, values, ideas and commitments. Growth and development includes the

physical and behavioral changes of human beings. It involves an orderly process of maturity and a potential for achieving self-actualization (George, 1995).

*Interpersonal systems* are described as individuals coming together in the health care organization to help and be helped to maintain a state of health and functioning in roles. Interactions become more complex as the number of people involved increases. Concepts included in the interpersonal systems include transaction, communication, role, stress, and interaction. *Interaction*, or the process of perception and communication, is interpreted differently by individuals. *Communication* is when information is given from one person to another via interaction. *Transaction* is defined as the observable behaviors of human beings interacting with their environment (George, 1995).

*Social systems* are defined as an organized boundary system of practices, behaviors, and social roles established to sustain regulation of rules and devices. Concepts of the social systems include decision making, power, status, authority, organization, and control. The concepts of the other systems area also included in the social systems. The main concept is *organization*, or the structure that orders positions, activities, roles, positions, and resources used to meet goals. King's major conceptual theses are thus that each individual perceives the world as a total person in transacting with others and the environment. Transactions are representative of a life experience in which the perceiver and perceived are encountered, are active participants, and are changed by the experiences (George, 1995).

Additional concept definitions include *Individuals*, or rational, social, reacting beings that communicate their thoughts, beliefs, customs and actions through language. They possess the ability to perceive, set goals, make decisions; are controlling, purposeful, action and time

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oriented in behaviors. *Stress* is seen as a dynamic state in which humans interact with their environment to achieve valued goals (McEwen & Wills, 2011). *Growth and development* is another important concept that involves the continuous changes in individuals and processes that occur in their lives. Growth and development assists with transition from potential capacity for achievement to self-actualization. The goal attainment concepts are interrelated in all aspects of nursing practice (George, 1995).

King's theory contains multiple assumptions. Nurse-client interactions are influenced by the perceptions, goals, needs, and values of the individuals. Goals of health care workers and of the client may be incongruent. Clients have the right to have knowledge about their condition and to be involved in their health care decisions. Nursing is defined as the care of human beings; it is perceiving, thinking, judging, relating, and acting in response to the behavior of individuals in the health care system. Nursing also involves the environment in which two or more individuals develop a relationship to cope with situations and events. Nursing goals include assisting individuals or groups attain, maintain, or restore health (McEwen & Wills, 2011).

Although the goal attainment theory is geared toward nurse-client relationships, the theory is widely generalizable and not situation specific (George, 1995). Therefore, the focus of this project will be on the inter-professional relationship as framed by the theory concepts. Goal attainment depicts relationships as purposeful interacting systems. Perceptions and judgments occur, and when mutually agreed upon, can lead to goal directed transactions. When nurse and physician achieve successful transactions of appropriate information to be communicated, mutual goal setting and goal attainment will occur. Goal attainment facilitates effective nursing care, satisfaction, and growth and development. However, if role conflict occurs, it can result in

stressful exchanges where individuals consequently interact with their environment to maintain balance for performance, development, and growth (McEwen & Wills, 2011). Stress can have positive or negative effects, but too high of levels can impact one's ability to interact and achieve goals (George, 1995).

King also specified internal and external boundary-demanding criteria pertaining to the theory of goal attainment. *Internal boundaries* stem from the concepts of the goal attainment and speak to the theory itself. Internal boundaries, as applied to nurses and physicians, involve a reciprocal relationship in which both have special knowledge regarding the client, skills, perceptions, and concerns that contribute to mutual goal setting. The professionals are thus in a mutual setting and interact purposefully to achieve desired goals. *External boundaries* include criterion that address areas where the theory is applicable. These boundaries consist of a two-person interaction, limited to the nurse and another health care professional, taking place in the natural environment. The personal system of each individual ultimately interact together to identify problems and establish goals. This resultant interpersonal dyad is affected by the surrounding social systems as well as the personal systems (George, 1995).

King's Theory of Goal Attainment has been utilized and tested in research studies. Moreover, it has enhanced nursing education such by serving as a framework and it has been proven useful as an organizational guide for nursing practice. The complexity of the theory concepts mirrors the complexity of human transactions for goal attainment (McEwen & Wills, 2011). Application of the theory provided a greater understanding of the complexity of inter-professional interactions within the healthcare team i.e. nurse-physician communication. The

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theory framework also assisted in the development of educational interventions to empower nursing students to develop competence for effective inter-professional communication.

**Definitions**

**Case Study** – a learning strategy in which a situation or incident with characters and relationships is depicted and true or fictional events occur requiring resolution (DeYoung, 2009).

**Collaboration** – direct and open communication, respect for different perspectives, and mutual responsibility for problem solving (Stein-Parbury & Liaschenko, 2007). Individuals with varying background and expertise communicating effectively with one another in a non-hierarchical fashion; commitment to problem-solving, in search of solutions that cannot be determined with ones' own limited knowledge (Tschannen et al., 2011).

**Interdisciplinary/Interprofessional** – terms used interchangeably to describe individuals from different health professions who possess special knowledge, abilities, and skills and comprise a team in pursuit of a goal to provide patient-centered care in a collaborative manner (Buring et al., 2009; Thistlethwaite, 2012).

**Interprofessional collaboration (IPC)** – professionals using open communication, knowledge, skills, and behaviors that facilitate teamwork and positively impact health care outcomes (Weller et al., 2011).

**Interprofessional education (IPE)** – learners and educators from two or more health professions and their fundamental disciplines that jointly create and foster a collaborative learning environment. The goal is to develop knowledge, attitudes and skills that result in interprofessional team behaviors and competence (Buring et al., 2009).

**Interprofessional learning (IPL)** – learning that results from the interaction between students or members of two or more professions (Thistlethwaite, 2012).

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**Interprofessional practice (IPP)** - health care team members working together, each within their area of expertise, to integrate knowledge and accomplish common goals (Bajnok et al., 2012).

**Teamwork** – two or more members of the health care team with a collective sense of responsibility that cooperate and communicate to minimize risk of harm to the patient (Weller et al., 2011).

**Undergraduate nursing student**- defined for the purpose of this study as a nursing student in pursuit of an Associate or a Bachelor's of Science Degree in Nursing.



#### Process

Current evidence-based literature was reviewed to address the issue of ineffective interdisciplinary communication. Research specifically pertaining to education for nursing students in regards to communication with physicians or other members of the health care team was very limited. Despite this, the need for improved incorporation of interdisciplinary communication in curricula was noted in various studies. Interprofessional collaboration was a prominent topic, although the common recommendation called for additional research and studies geared towards enhancement of communication among health care workers.

Through synthesis of the reviewed literature, several themes were noted regarding interprofessional communication including the need for an additional focus in health care program curricula. The educational experience was established and based on current evidence to address the need for increased awareness of the importance of effective interprofessional communication. The conclusions of the literature review, framed by King's theory, provided the basis for an educational intervention geared towards nursing students. With utilization of additional training and a designated communication tool, learners can have increased knowledge, perception, and confidence when communicating with other health care staff. This information, which also applies to other health care disciplines, assists in providing a thorough understanding of effective communication. It can also facilitate interdisciplinary collaboration, patient safety, and optimal work environments.

A PowerPoint presentation was developed which detailed the background of the topic, individual roles and responsibilities, and provided examples to illustrate typical interactions in the health care setting. A case study further depicted how patient safety can be affected by

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discrepancies in communication. The SBAR tool was introduced to organize thoughts and expedite clear, thorough communication of patient concerns. Following the scenario, discussion was generated regarding potential complications with communication and collaboration in the health care environment. Faculty and students participated in the educational exercise. The two groups shared experiences from the clinical setting where inefficient communication had a real or potential impact on patient safety.

I obtained consultation from the Director of Nursing at the Northwest Technical College. She described the education for this subject as part of the last semester of the AD program in a course called "Transitions to Professional Nursing". Course objectives relate to interdisciplinary communication, conflict resolution, team building, power, and leadership. The course text includes some of the evidence-based resources used for this project's literature review, and it has multiple case studies for students to practice interactions. The students had training on the SBAR communication tool prior to starting clinical hours and were expected to utilize it when initiating calls to physicians. I also discussed the importance of interdisciplinary communication with the internal medicine doctor at the hospital who speaks to groups of Practical Nursing students at the start of their program regarding general communication with physicians and other health care team members.

#### Review of Literature

##### Search Process

A search was conducted regarding interprofessional communication utilizing the online resources of CINAHL, PubMed, Advanced Journal Search, and Academic Search Premier. Keywords for the search included: interdisciplinary, professional, interprofessional, nursing, health care, physicians, doctors, education, students, communication, collaboration, and SBAR. Multiple combinations of the search terms were used to extract the most appropriate scholarly publications. The inclusion criteria for this literature review included studies and reviews related to the search terms that also focused on communication and collaboration issues between health care disciplines. Articles were excluded that did not have an interdisciplinary focus, such as communication problems among just physicians or between health care providers and patients. Each resource was subsequently critiqued for subject number, sample characteristics, research design, study methods, credibility, and validity. Connections and disagreements in the literature were compared and gaps were identified. Themes were summarized and generalizations of results were applied.

This literature review consisted of 20 articles. Of these articles, 15 were based on research and the remaining 5 were conceptual articles that added depth to the evidence. This review will be organized to discuss the concepts of barriers to effective communication, interventions for improved communication, and interprofessional education. A summary and comparison of the main themes extracted from the literature will conclude the review.

##### Barriers to Effective Communication

An integrated literature review by Curtis et al. (2011) examined the factors contributing to ineffective communication between physicians, nurses, and other members of the health care team. Multiple databases including PubMed, CINAHL, SCIRUS, and Medline were accessed for this study with search terms related to nurse-physician communication where 54 research articles matched the inclusion criteria. Five predominant themes of communication barriers were extracted from the extensive literature review: (a) traditional hierarchal relationships, (b) increased workload, (c) fragmentation of care into specialty areas, (d) differing perceptions and language, and (e) prior experiences. The authors then appropriately focused on the revised inclusion criteria for the five themes that were noted to be historic as well as current influences on communication within health care.

Following the analysis of data and subsequent discussions, the conclusions provided evidence for approaches to address the barriers and ultimately to improve interdisciplinary communication at both personal and organizational levels using a communication guide. A shared mental model should also be adopted by educational institutions to incorporate interdisciplinary communication training into curricula (Curtis et al., 2011). The strength of this study on the barriers to communication was primarily related to the thoroughness by which the literature review was conducted using multiple credible databases. However, the study was based on a literature review that may not have included current practices that were not represented in the study. The authors based their recommendations on the data findings in addition to their clinical experiences. The authors' credentials were listed; however, the study was potentially weakened by the nondisclosure of their specific clinical experience.

Manojlovich and DeCicco (2007) explored factors affecting nurse-physician communication across 25 ICU settings in southeastern Michigan hospitals. A non-experimental, descriptive design was used for their prospective study that included the responses of 462 nurses of the 866 surveyed. The goal of the study was to identify nurses' perceptions of the factors affecting the associations between communication, the ICU setting, and patient safety. Nurses were given multiple surveys to assess the work environment and communication. Contributing factors to patient outcomes and errors were also addressed. SPSS software was used to analyze responses, data was coded for accuracy, and any noted errors were corrected. International Review Board (IRB) approval was obtained and survey responses were anonymous. Results showed that an increased awareness of effective communication was linked to a reduction in medication errors, but it did not significantly influence overall patient outcomes. There was a noted positive correlation between scales for practice environment and workplace empowerment with the communication scale responses. Of the variance in nurse-physician communication, 47% was attributed to factors in the work environment. Facilities should thus promote a healthy work environment, which in turn enhances interdisciplinary communication, through support and resources.

Strengths of this study included the variety of instruments and scales that showed high internal consistency, content, and construct validity. The large sample size also added strength to the findings. Self-rating scales, which can result in bias from over or underestimating outcomes was an identified weakness for this study, however, anonymity of responses could have reduced this effect. The cross-sectional design was not as strong of a design as one that used longitudinal tracking to determine consistency in communication patterns over a specific period of time.

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Cause-and-effect relationships could not be determined based on the study design. Further studies using longitudinal tracking and experimental design were recommended to corroborate how an optimal work environment might lead to enhanced interdisciplinary communication and patient safety.

Stein-Parbury and Liaschenko (2007) authored a qualitative, prospective study pertaining to the breakdown in nurse-physician communication in the Intensive Care Unit (ICU) setting in conjunction with various "knowledge model types". Data was collected through direct observation of staff interactions, which occurred over a 6-month period, until saturation of results was achieved after a period of 320 hours. Interviews were also conducted with 12 nurses for 30-120 minutes each. Those interviewed at length were considered "key informants". The findings concluded that a multitude of factors affect communication. The major factors identified included social, cultural, and gender influences. Philosophical beliefs and differences in perspectives were found to inevitably impact interactions and reactions of individuals. The scholars found that physicians primarily used "Case knowledge", which is biomedical, established scientific knowledge. Nurses used "Patient knowledge", or the understanding of a human's experience of a disease and response to treatment. Breakdown between nurses and physicians occurred due to the differences in these types of knowledge models and the misunderstandings of each group's perspectives. Personal attributes of leadership and professional power, as well as organizational structures and administrative support were also identified as potential impacts to communication.

Data comparisons from observations and interviews were triangulated for convergence throughout the study by interpretation, revision, and validation by the nurses, doctors, and key

informants. Additionally, the study was strengthened by the process of using key informants as a means for validating results. At the time of the final analysis, interpretations were compared to current literature. The total number of interactions was not disclosed, thus representing a study weakness. Although the specific focus was a lone 12-bed ICU, and the findings should not be generalized, the triangulation within the research design provided more strength to the findings. Further research will be necessary to determine if the findings represent existing common cultural practices in similar settings where a breakdown of collaboration can occur. A larger sample size was also recommended to support the validity of the thoroughly-analyzed results of this study.

Weller et al. (2011) compared views of nurses and physicians on communication and collaboration in the health care setting. The goal was to examine the issues affecting new graduates to inform interventions to improve interprofessional collaboration (IPC). The snowball technique was used to select 13 doctors and 12 nurses working in various New Zealand hospitals. All participants were in their second year of employment post-graduation. Qualitative data was obtained through interviews and coded with a theoretical framework relating to health care team function. The sample group reported mutual respect and noncompetitive, complimentary roles. Open communication and leadership were found to be vital for patient safety. Sharing of information and goals was seen to be fundamental to optimal decision making. The environment, organization structures, and differing perspectives were identified as potential barriers to communication and collaboration.

The experience and training of the interviewers provided strengths to this study. Specifically, all interviews were conducted using experienced interviewers that were trained with

a primary interviewer to ensure consistency. A research assistant was used to code interviews using NVivo 8 software and data were analyzed against the theoretical framework until consistency was achieved. The sample size was uniformly selected to include those representing the desired new graduate and experience level criteria. The limited sample size presented a study weakness, although saturation of results was achieved by interviewing participants until no new themes emerged. The authors concluded that organizational planning and support is essential to promoting effective IPC to build strong health care teams improve patient safety (Weller et al., 2011). Additional experimental research with larger samples would strengthen the findings by increasing the generalizability regarding the importance of IPC.

A literature review by Lindeke and Sieckert (2005) explored the nature and benefits of collaborative communication in order to identify barriers and suggest strategies to enhance nurse-physician communication. The authors used multiple search terms and identified 30 relevant citations that fit the inclusion criteria of interdisciplinary collaboration and communication as well as health care outcomes, professional teamwork, and workplace satisfaction. Various personal factors were uncovered that affected interdisciplinary communication and collaboration: (a) self-development behaviors, (b) emotional intelligence and maturity, (c) understanding perspectives of others, (d) compassion fatigue or burnout, and (d) educational background. Personality differences were also a potential cause of conflict as well as professional cultural and social norms.

The authors proposed that leadership and role modeling are critical components to improving collaborative communication. To address barriers, facilities should support educational strategies for nurse-physician collaboration and team-development. Individuals



should attempt to understand the perspectives of others. Conflict ought to be addressed respectfully and staff should be mindful to avoid negative behaviors (Lindeke & Sieckert, 2005). The review findings were strengthened by the search process and clarification and definitions of constructs; however, the actual database search methods were not specified. Main themes were extracted from the literature which gave strength to the focus implications for health care professionals.

A prospective study in 2010 by Robinson et al. explored the perceptions and physicians and nurses regarding effective and ineffective communication. A focus group methodology was used to divide the participants into three focus groups of six staff members. Using the criteria of a minimum of five years of hospital employment, a total of nine nurses and nine physicians from a university health center were selected. The groups reviewed a questionnaire and a focus group guide before their scheduled interdisciplinary meeting lead by a facilitator. Each of the three groups had a facilitator that clarified responses from the obtained qualitative data, as necessary. Verbatim audio recordings were taken, transcribed, and further analyzed by four investigators, who extracted the main themes. The themes noted as necessary for effective communication between nurses and physicians included collaborative problem solving and a need for straightforward, unambiguous communication. Maintaining respect with a calm and supportive demeanor during stress were also important staff qualities. Clearly understanding the professional roles each individual holds was found to also be a key to effective communication. Themes regarding ineffective communication involved demeaning behaviors and linguistic or cultural barriers. Dependence on electronic systems was also recognized as a potential communication barrier as opposed to face-to-face interactions and follow up.

The study was strengthened by the use of the focus group methodology that encouraged open sharing of perceptions and feelings by allowing for a nonthreatening environment. The study had also obtained IRB approval and enlisted a specific sample to represent the desired population. Unfortunately, the small sample size was not likely representative of most institutions, thus the results would not be generalizable beyond this setting. Each of the three group facilitators were trained with a strict protocol, however, it was possible that this could have introduced design variance. The authors recognized this factor, but they felt it might also add unique perspectives to the data. The questionnaire was sent ahead of time, which could be another potential weakness in that it could have resulted in socially desirable or scripted responses. Further research with more sizable groups would add strength to the findings that clear and collaborative communication that includes feedback contributes to patient safety.

The literature provided evidence that communication issues extend beyond the inpatient or hospital setting. Long-term care (LTC) facilities rely heavily on telephone communication with physicians regarding patient issues. A mixed-method, retrospective study by Tija, Mazor, Meterko, Spenard, and Gurwitz (2009) involved 375 licensed nurses from 26 LTC facilities and analyzed the perceptions of nurse-physician communication. Nurse participants providing at least 8 hours of direct patient care were solicited to offer insight pertaining to communication issues and barriers. A self-administered, anonymous questionnaire obtained quantitative data and telephone interviews provided qualitative data.

The study was strengthened through pilot testing, which was conducted on the questionnaire, and the content validity was assessed by an interdisciplinary panel. In addition, the study was approved for implementation by an IRB. Sensitivity analysis was conducted to stratify

questionnaire item responses to account for variances in low versus high facility response rates, and it was further analyzed using Chi-square testing to assess for differences in each item response by facility. Data collection methods strengthened the study through random sampling of acquired qualitative data. The data from 10 randomly selected participants was included in the analysis, in addition to data from a selective sample of another 11 participants that represented the characteristics of the overall study group in respect to gender, age, language, and experience. The interviews were analyzed by each of the six authors according to selected guidelines until major themes were mutually identified. The authors also utilized the Communication Human Information (C-HIP) model as a framework to provide an understanding of communication breakdown to consistently analyze interview responses. A panel reviewed all interviews using the C-HIP model until consensus was reached regarding identified themes.

Barriers to communication that were found in this study included nurses feeling “rushed” by the physician making it difficult to converse, and the inability to find a quiet place to make calls. Language barriers and rudeness or disrespect from physicians were additional issues identified. Nurses also reported feeling like they were inconveniencing physicians and moreover, that their concerns were not addressed in a timely manner. Trust was identified as an essential factor to effective interdisciplinary communication. Nurses overwhelmingly reported that effective interactions depended on additional factors such as preparation and clear communication when calling physicians. Although the LTC facilities were selected by convenience in that they were already participating in a warfarin drug therapy study, the target population was appropriate and data was randomized to an extent and methodically evaluated. Content validity was determined in the study procedures; however, reliability of the

questionnaire was not assessed. The sample size was sufficient to provided confidence in the findings.

#### **Interventions for Improved Communication**

Tschannen et al. (2011) examined the effects of a collaborative intervention aimed at improving nurse-physician communication. The prospective, pre and post-intervention design study included 129 nurses and 65 physicians in two Midwestern tertiary care center units. The intervention consisted of group meetings for four periods of two hours each over two months between two nurses and two physicians to discuss collaborate and develop a solution to communication issues in their respective units (neurosurgery or vascular surgery). The first of three phases (Work Group Phase 1) included gathering baseline data on each unit and identifying communication issues. The second Task Group Phase involved the selection of the physician and nurse groups that then met for a total of eight hours to discuss solutions to communication problems on their units. Work Group Phase 2 was the third phase, which entailed surveying both of the groups in the study to determine if interventions were effective to solve the communication issues. Data was collected at various points through videotaped sessions and survey tools previously tested for reliability. Trained data coders categorized interactions and Feiger and Schmitt's methodology was used to identify the types of interaction processes between groups. Data was rigorously analyzed with SPSS software and appropriate statistical tests compared pre and post-intervention.

Findings that emerged from the study included noted improvement in communication and collaboration from the first to the second phase post-intervention. The authors recommended that educational systems and employers alike should embrace interdisciplinary concepts and promote

group collaboration. The sample size and pre-test post-test design added strength to this study. However, the study was delimited to two units, therefore reducing generalizability of the conclusions. The environmental variation was seen as a factor that affected collaboration and communication. The groups met on their respective units, but in a quiet setting which was unlike the usual work environment that frequently includes interruptions, handoffs, and patient turnover. Moreover, the study was done in one specific geographical location. Further research with a larger, more representative population in a real-work setting would add to the strength and generalizability of results.

Vazirani et al. (2005) also wanted to determine the impact of a multidisciplinary intervention to improve communication and collaboration in the hospital setting. The prospective, experimental design included a sample of 111 hospital staff, 45 attending physicians, and 123 nurses. Two inpatient hospital medical units were studied over a period of two years. Participants were randomly assigned to either the control or the intervention units and were surveyed before, during, and after the intervention period. The intervention unit added a nurse practitioner (NP), a hospitalist medical director, and daily rounds. The control unit kept their usual staff and routine of weekly rounds. Staff surveys were administered with Likert rating scales to assess perceptions regarding the degree of communication and collaboration. Physicians were surveyed after their rotations while nurses were surveyed biannually. Response rates were calculated and compared for physicians (69%) and nurses (91%).

Survey results indicated greater communication and collaboration between and among physicians as well as with the NPs in the intervention unit. Nurses in both units reported similar levels of communication and collaboration; however, nurses on the intervention unit reported

significant trend toward greater collaboration with NPs than with physicians. Both nurses and physicians had more contact with the NPs and thus reported increased communication and collaboration within that group. Vazirani et al. (2005) proposed that nurses and physicians might have had similar results if they had an equal amount of time together.

The findings of this study were strengthened by the use of 2-tailed *t*-tests showing high internal consistency reliability (median of 0.84) of the multi-item survey scales. The addition of extra available staff on the intervention unit could have contributed to the perceptions of enhanced communication and collaboration, thus weakening the study findings. Collaboration was not defined as a term to the participants, and there were notable differences in how nurses and physicians reported this construct on surveys. Another confounding variable was that staff reported the NP role was confusing. The authors surmise that a multidisciplinary intervention can result in improved collaboration and communication in the health care setting; however, further investigation into establishment of interventions needed for enhancing physician-nurse interactions is necessary.

A prospective study by Dingley et al. (2008) examined the effects of a "toolkit" intervention on interdisciplinary communication. The pre-test, post-test design was used to survey 495 nurses in four units of a 477-bed hospital in Colorado. The toolkit intervention consisted of team huddles, SBAR guides, and multidisciplinary rounds using daily goal sheets. The authors collected baseline data and distributed the pre-test survey. Education was given using an evidence-based approach; follow-up education, feedback, and support continued throughout the process. A 24-month study ensued where 495 interdisciplinary communication

events were observed and recorded. Focus group interviews and post-test surveys were conducted at the end of the study resulting in a total of 564 staff responses.

Survey results were reviewed, coded, and then analyzed using SPSS software. A Chi-square analysis was also done of pre and post-test scores. The authors found that the constructed toolkit facilitated effective communication and more thorough assessments. There was increased efficiency in resolution of patient issues and positive collaboration among staff post-intervention. The intervention was strengthened by the use of standardized curriculum methods and materials for staff education that could be applied to multiple disciplines. The study was also strengthened by the large sample size and high number of obtained responses. Although over 650 health care providers attended education sessions, and it was reported that physician involvement was limited, specific numbers were not given. The study was likewise weakened in that despite naming the two types of survey used, it did not discuss reliability or validity of these tests. The selection process for subjects was also not described. Further research in other health care settings was recommended to add supplementary support and validity to the study findings.

Olson (2004) lead a prospective study regarding the use of communication training as part of a hospital initiative to improve patient care and the health care environment for all involved. A consultant trained a leadership group of 15 nurses that conducted 44 staff interviews in a pilot 23-bed critical care unit in Kansas City, Missouri. The Appreciative Inquiry (AI) methodology was used as a framework to provide education to 44 staff nurses to assist them to have increased confidence when talking with physicians. Quantitative data through surveys and qualitative data through feedback sessions, interviews, and additional meetings was obtained regarding nurses' experiences of communication with physicians. An outside consulting firm

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conducted the analysis of the collective study data. Interpretation showed the study interventions resulted in more open and improved communication between nurses and physicians. Nurses found that expressing their concerns regarding interactions with physicians was beneficial to improved partnerships. Leadership, mentorship, and resources were imperative to support the process of interdisciplinary communication.

The intervention process gave strength to the findings of the study by having consistent training for improving communication by utilizing uniform education sessions and a formal guide. All the leaders were prepared by nurse trainers with an identical format and used an agreed upon methodology AI framework. The study was weakened because there was no description of study instruments or specific details of data analysis. It was not revealed as to how the study participants were selected, and the sample number was limited. The rationale for the selection of the consulting firm and their means of data analysis were not stated. The pilot unit experienced positive results regarding enhanced interdisciplinary communication with the intervention consisting of the interview-education approach and communication guide. Because of a lack of description of the study methodology and design, recreating this study would be difficult. However, if the methodology were clarified, a larger sample size and experimental design would add validation to the conclusions and transferability of subsequent recommendations across health care settings.

Beckett and Kipnis (2009) authored a prospective, mixed methods study to evaluate the effectiveness of the selected intervention on collaboration and communication between 30 physicians and 215 nurses in a pediatric/perinatal department of a 271-bed hospital in Arizona. The authors chose SBAR combined with Collaborative Communication Education (CCE) as the



intervention (SBAR-CCE) to their study. A pre and post-intervention survey obtained quantitative data while staff observations and interviews provided qualitative data. Hour-long classes on SBAR communication were provided to nurses using a variety of teaching methods. Physicians were presented with information on SBAR in committee meetings via handouts and discussion. Although physicians were also invited to attend the SBAR-CCE training, none of them attended.

The authors concluded that using communication tools alone did not notably increase patient outcomes; however, incorporating education and information about communication and collaboration had a positive effect on patient safety, work environments, and interdisciplinary relationships. Additional key results of the study included that SBAR-CCE was effective for facilitating positive communication and effective communication. There was increased use of SBAR-focused collaborative communication and improved nurse-physician relationships. Statistically significant improvements were also noted in regards to patient safety, teamwork, and collaboration. Staff felt enhanced empowerment and satisfaction after the SBAR-CCE intervention (Beckett & Kipnis, 2009).

The study was strengthened by the use of two frameworks to formulate survey questions and to provide consistency for critical analysis of data. Corbin's grounded theory was also used to analyze qualitative data and extract themes or connections from interviews and observations. Statistical analysis was performed pre and post-interventions using SPSS software; *t*-tests evaluated differences in responses over time between the two groups. The Mann-Whitney U test computed the statistical significances of variations among groups (Beckett & Kipnis, 2009).

Additional strengths to the study included a highly reliable survey tool and the use of one trainer utilizing the same approach for consistency in all of the 16 classes.

Several weaknesses were noted in this study. Investigators recorded observations on units for a period of three months; however, the actual number of interactions was not specified. The study was further weakened by the limited time frame of three months. The inconsistent return of pre and post-intervention surveys was another factor. Of the 215 nurses, 141 completed the pre and 71 finished the post-intervention survey. All of the physicians refused to do either survey. The study included a convenience sample as opposed to the desired random sampling for true experimental design. The authors recommend further research regarding communication that has increased physician involvement and also includes other health care disciplines (Beckett & Kipnis, 2009).

Haig et al. (2006) also tested the effects of SBAR on communication in the health care setting. The goal of the prospective study was to utilize SBAR to improve the culture of safety at St. Joseph's medical center in Illinois where the Joint Commission noted that 90% of the root cause analyses included communication as a key factor. The study involved selection of a team representing multiple hospital disciplines that met biweekly for a year. Tests of change were conducted by the team on units using the tools created by the team. Feedback was solicited and tool revisions were done until a practical SBAR tool was created. Staff orientation, education, and training on SBAR occurred via various methods. The SBAR method was incorporated first on a pilot unit and then house wide using the Plan, Do, Study, Act (PDSA) performance improvement methodology. Multiple approaches were used to implement the intervention

including real-life scenarios, case studies, and handouts. Ten randomly selected staff members from various hospital disciplines were surveyed each month for five months.

The authors found that SBAR supported open communication, question asking, and allowed for the presentation of suggestions. The use of SBAR was noted across units 96% of the time for the study period of one year and helped to decrease incidents of missed information among health care workers. Medication reconciliation improved from 72% to 88% for admits and 53% to 98% for discharges. The study results were strengthened by the use of the high validity Global Trigger Tool, which analyzed how adverse patient events at the facility decreased from 89.9 to 39.96 per 1000 patient days over the course of a year during the study. The use of randomization for the selection of survey participants also added strength to the study design. The inclusion of multiple disciplines for the team selection and study implementation process allows for more likelihood of the generalizability of results to various health care settings. The study was weakened, however, by an undisclosed number of staff from the various medical center units involved in the study process. The number of members on the Interdisciplinary Spread Team was also not specified. Furthermore, the data was not delineated for comparison regarding each separate unit. Utilization of a larger random survey sample in future studies could add support to the findings that SBAR enhanced communication and patient safety.

Seago (2008) systematically reviewed 131 studies and seven quality improvement projects involving professional communication strategies that had been tested empirically and related to patient safety outcomes in order to propose a communication tool to assist nurses. Four medical-related databases were searched for the inclusion criteria terms of physician, nurse, communication, coordination, and collaboration. Additional themes included in the search

process were autonomy, teamwork, adverse events, and patient safety. From the reviewed literature, the author concluded that the body of evidence regarding professional communication was notably limited. Although a focus on nurse-physician communication likely resulted in a positive effect, there was insufficient evidence to support a specific communication strategy or tool to improve such interactions. The extensive and systematic approach of the literature review gave strength to the findings. However, the findings were without solid conclusiveness, thus limiting the generalizability of the results. The author suggested that future research is needed to determine if communication practices can demonstrate an effect on patient care.

### **Interprofessional Education**

Buring et al. (2009) performed a systematic review of 21 research articles pertaining to interprofessional education (IPE). In addition to a literature review, the authors examined six studies that evaluated the effectiveness of IPE on patient outcomes compared to traditional educational approaches and 13 IPE training programs. The intended goal was to explore the literature surrounding IPE and examine connections between professional health care and pharmaceutical settings. Through the analysis of the literature data findings, the authors found that IPE had positive effects on the attitudes of health care professionals and improved overall communication. These authors concluded that IPE promoted teamwork through information sharing and working towards a common goal of enhanced patient care. It was further noted that IPE resulted in positive interdisciplinary attitudes, however, there was limited effect on problems solving or group communication skills. The study conclusions were strengthened by the thorough review of various aspects of IPE including literature, studies, and training programs. The validity of the evidence was weakened by a nondisclosure of the actual search process, such

as the inclusion or exclusion criteria, or the search methods and terms. It was recommended that additional controlled trials be performed to assess objective outcome criteria regarding IPE.

McCaffrey et al. (2011) explored interdisciplinary education in their quasi-experimental study using a pre and post-test design. The authors wanted to determine the effect of an educational program on the attitudes of nurses and medical residents towards positive communication and collaboration. The prospective study included a convenience sample of 68 nurses and 47 medical residents at a southern Florida hospital. A new medical residency program had been initiated in 2008 and none of the nurses had worked with medical residents before. For the experiment, nurses attended educational sessions before the residency program began. The residents received self-learning packets during the first week of their orientation. Both groups completed two scales measuring attitudes towards communication, collaboration, critical thinking, and patient outcomes. The surveys were given at the start of the program and again after six months. Pre and post-test scores were analyzed with SPSS software and *t*-tests. Statistical significance was noted on the pre and post-test results of the Communication Scale for medical residents and nurses indicating enriched interactive skills. Findings for both groups noted improved attitudes regarding effective communication and increased collaboration. Nurses and medical residents reported feeling more comfort and open communication during interactions. Patient satisfaction scores were the highest in the study unit compared to other hospital units.

The surveys and their scales added strength to the study findings in that they were reported to have been widely used, studied, and shown to have maintained high reliability and validity. Several weaknesses were noted in this study including the small sample group for both

nurses and medical residents. Since there was no control group, it could not be determined for certain that the interventions were the main cause of improved communication and collaboration. However, the authors purposefully did not have comparison or control groups because they wanted all of the nurses to have the chosen education session to promote patient safety and positive relationships with new residents before the start of the new program (McCaffrey et al., 2011). The nurses and the medical residents received different types of training, although the authors attempted to adjust for this factor by comparing results within each separate group. Future research studies with larger sample sizes utilizing an experimental design are needed to support the benefits of education regarding interdisciplinary communication.

Reising et al. (2011) compared affective and communication domain outcomes of traditional education versus simulation strategies. A prospective, descriptive design was used with a convenience sample group of 41 senior nursing students and 19 second-year medical students. After IRB approval was obtained, groups comprised of two medical and three to four nursing students were randomly assigned to one of two approaches: traditional group discussion via roundtable, or a simulation exercise with a manikin. Each team was given the same mock code scenario via a facilitator. Surveys were given after completion regarding roles, aspects of communication, and student viewpoints. All participants reported the overall experience was helpful in the context of learning interprofessional communication skills. The simulation group felt their scenario was more stressful, but it was also a more realistic intervention for timing of events and definition of roles. Both groups noted it was important to practice communication in a safe environment and that teamwork was vital to problem-solving success.

Strengths of the study included the randomization of the groups and the use of a common-ground scenario familiar to both nursing and medical students. The authors attempted to allow for true interactions and avoid confounding influence of facilitators by having them refrain from debriefing. The study was weakened by the lack of specific tools for the intervention process. Data was provided on all student perceptions; however, no objective data was collected from the facilitators' observations. Each facilitator was to give additional information in the unfolding scenarios, but it was unclear if this was consistent among them and there was no inter-rater reliability testing. The sample size was limited and over a one-time occurrence. Additional studies using simulation interventions with larger sample sizes in varied health care settings would add further legitimacy to findings that this approach can improve interdisciplinary communication.

#### **Literature Summary**

As shown throughout this review of literature, there are many predominant recurring themes. The primary identified themes in this review related to the importance of interdisciplinary communication included: (a) patient safety, (b) staff satisfaction, (c) reduced errors, (d) teamwork, and (e) positive patient outcomes. Barriers and facilitators regarding communication and collaboration were discussed and generally agreed upon throughout research. Trust and respect were the most commonly mentioned traits that contributed to effective communication and collaboration amongst health care workers (Lindeke & Sieckert, 2005; Olson, 2004; Robinson et al., 2010; Stein-Parbury & Liaschenko, 2007; Tija et al., 2009; Tschannen et al., 2011; Weller et al., 2011). Openness, seen as being approachable and honest, was another essential finding contributing to effective communication (Manojlovich & DeCicco,

2007; Tschannen et al., 2011; Weller et al., 2011). Additional noteworthy attributes included being assertive and prepared when approaching issues. Timeliness and accuracy with information were factors noted to be central to effective interactions. As individuals, being mature and mindful of emotions were also important considerations (Curtis et al., 2011; Olson, 2004; Lindeke & Sieckert, 2005; Manojlovich & DiCicco, 2007; Robinson et al., 2010; Tija et al., 2009; Tschannen et al., 2011).

Many publications emphasized a need for effective interprofessional communication planning and training in the workplace and in curricula across health care professions. Leadership and support were seen as vital components to the successful implementation of communication interventions in a variety of settings. The use of a communication tool, most commonly SBAR, was noted to be a beneficial approach to enhancing communication and patient outcomes.

There were some gaps that were uncovered in the literature review. Seago (2008) inferred that the body of evidence on professional communication was notably limited and that there was insufficient evidence to support a specific strategy or tool to facilitate interprofessional communication. The other sources referring to the use of communication tools were supportive of such tactics. Manojlovich and DeCicco (2007) examined nurse-physician communication in the ICU setting and patient outcomes. In spite of finding positive correlation of a healthy work environment with interdisciplinary communication, of the improved communication did not have a significant influence on overall patient outcomes. Similarly, another study reported that despite positive results with intervention to increase collaboration and promote effective communication, there were still signs of engrained cultural norms with interprofessional interactions (Tschannen



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et al., 2011). The majority of the resources concluded with statements about the need for further investigation and continued research on the subject of interprofessional communication.

Notwithstanding the gaps recognized in this literature review, powerful evidence was identified and informed the foundation of this project to provide an educational experience for undergraduate nursing students. The identified themes pertaining to interprofessional communication were discussed and related to the goal attainment framework. A student-centered learning approach was utilized with the ultimate goal of empowering nursing students for effective interprofessional communication.

#### **Discussion**

The project was developed to address the problem of ineffective interdisciplinary communication, which can lead to errors and affect patient safety or outcomes. An in depth review of the literature informed the development of this learning event for undergraduate nursing students. King's Theory of Goal Attainment (1981) provided the framework for the educational experience with the goal of having students feel empowered to effectively communicate with other members of the health care team.

#### **Learning Event Creation**

The pedagogical approach for the learning experience included lecture, case study, and discussion components. King's theory was employed to define how the interacting personal, interpersonal, and social systems all influence the process of communication. Lecture was incorporated to build a foundation of knowledge, which included the concepts and associated variables of communication. The case study facilitated practice within and between the students' interacting systems for critical thinking and problem solving to reach the common goal for effective communication and positive patient outcomes. Upon conclusion of the case study, open discussion permitted students to verbalize and resolve any stressors or conflict related to the interactions. This period of self and group reflection assisted students to examine perceptions surrounding roles, boundaries, and feelings towards enhanced communication empowerment. Critical reflection in a safe environment permits students to express thoughts and respectfully debate with one another to increase confidence and achieve experiential learning (Young & Paterson, 2007). In the following paragraphs, these methods will be described in greater detail.

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A PowerPoint lecture was devised to deliver background information and instruction on interdisciplinary communication. PowerPoint is a useful tool for organization and illustration of topics in a readable and creative manner while offering an outline for notes and reference (McKeachie & Svinicki, 2006). This tool was particularly important for this audience because their imminent graduation from the nursing program and anticipated transition into the health care work force. Background information included a description of the problem of ineffective communication in the health care setting and how it can impact patient safety. The PowerPoint was also utilized to detail examples of ineffective communication and associated barriers. The lecture was developed to be interactive, so that there was exchange between the educator and the students. For example, the group discussed interventions to improve interdisciplinary communication. It was important that the dialog included the SBAR tool, which was designated for the case study focus.

A case study approach was selected for knowledge application in the learning experience. Case studies serve to address an issue or problem by using real-life scenarios. With this method, students are able to see how situations can evolve and be managed from a nursing standpoint (DeYoung, 2009). Case studies can stimulate critical thinking and improve recall and retention of information. Use of case studies, along with a non-threatening classroom environment, encourages active participation and problem-solving interactions with peers (Billings & Halstead, 2009). Such active learning activities allow for time to practice to communication skills, enhance teamwork and collaboration. Faculty presence to show attentive, interpersonal, and nonjudgmental qualities can further create an environment of meaningful and engaged relationships in the learning process (Konrad & Browning, 2012).

#### **Learning Event Outcome**

The outcome of this learning experience was assessed simultaneously during the event. This section will describe the methods used to determine the outcomes attained through this learning event. Handouts of the SBAR tool were given, explained, and examples were discussed of how to utilize the tool when calling or approaching physicians. The case study was provided for students to role-play with partners. The scenario revolved around a surgical patient that was newly confused and short of breath. The SBAR handout was used as a reference for students as they worked through planning and decision making. The class then reviewed as a group how they organized their approach to communicate the patient concerns to a physician. Additional strategies were proposed and deliberated as therapeutic means to effectively communicate and collaborate. Students verbalized that the SBAR tool was beneficial to prioritize, organize, and present patient concerns to physicians.

Upon conclusion of the case study discussion, a period of reflection engaged the affective domain and allowed for students to express feelings and personal observations regarding communication. Students and faculty shared examples or stories, which facilitated further discussion on how to handle real life situations. Sharing these situations focused on building interprofessional communication skills with coordinated and respectful interactions (Konrad & Browning, 2012; Stein-Parbury & Liaschenko, 2007). Students often have limited personal interactions with physicians (Alberto & Herth, 2009; Thistlethwaite, 2012). The discussion in this group concurred with the limited contact, but when required, the interactions created apprehension or nervousness. Participants expressed feeling “awkward”, somewhat unprepared or blanking out when initiating a call to a physician. Discussions also identified the issues of

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being subjected to or a witness of inappropriate physician behaviors and concerns regarding communication with their primary or other staff nurses. The importance of effective communication with all members of the health care team was reiterated as a result of the rich dialog after the case studies.

Faculty referenced literature, personal experiences, and other resources that could be of assistance in addressing ineffective interdisciplinary communication. The students that participated in the learning experience concluded that practicing interdisciplinary communication while referencing the SBAR tool helped them to feel more confident for future interactions in the clinical setting. Facilitation of IPE active learning strategies fosters students' development of interprofessional skills with a focus on collaboration (Thistlethwaite, 2012). The open discussions allowed freedom to express their concerns and frustrations regarding communication issues that confront nursing students. Sharing experiences amongst others, especially those shared by faculty, helped students to realize that communication can be challenging in the clinical setting and that barriers can occur. However, the dialog confirmed that the educational experience resulted in increased awareness of effective communication tactics, which will ultimately serve to empower nursing students for future interactions in health care settings.

The discussion amongst the participants and faculty related to ineffective communications was similar to findings noted in literature, such as the many potential barriers that were previously mentioned in reviewed studies. The case study utilized was one such IPE method that allowed for active participation and critical thinking to find the most ideal approach to solve the described dilemma. The dialog following the work with the case study provided formative evidence that the educational event was successful in engaging the affective domain to

create awareness of the need for developing effective communication skills for interprofessional teamwork.

**Theoretical Integration**

Effective communication among health care professionals is seen throughout literature as the cornerstone of interdisciplinary collaboration and safe patient care. Communication skills are becoming more important in the health care world due to the increasing complexities and needs of patients. Ineffective communication is a leading cause of patient and health care system errors (Bajnok, Puddester, MacDonald, & Archibald, 2012; Beckett & Kipnis, 2009; Curtis et al., 2011; Varpio, Hall, Lingard, & Schryer, 2008). While communication and teamwork enrichment strategies can promote safe collaboration (Booth & McMullen, 2012), substantial evidence suggests that health care workers do not always work collaboratively, leading to errors and inefficiencies (Alberto & Herth, 2009; Buring et al., 2009; Dingley et al., 2008; Lindeke & Sieckert, 2005; Weller et al., 2011). Collaboration that involves open and direct communication, respect for different perspectives, and mutual problem solving responsibility is also a vital component to achieving positive patient outcomes (Stein-Parbury & Liaschenko, 2007). Intentional effort to improve communication and collaboration is essential to address this problem.

Opportunities to improve communication and collaboration, such as this learning experience, should be practical and apply to the students' prior level of knowledge and expertise. With this approach, students can engage to practice interaction and teamwork while receiving feedback to reinforce development of effective strategies (Bajnok et al., 2012). Learning activities designed to support collegial collaboration and interactions in practice settings can

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result in enhanced empowerment (Billings & Halstead, 2009), which was the goal of the interdisciplinary communication learning experience.

As previously discussed, concepts from King's Theory of Goal Attainment (1981) provided the framework for the learning exercise and served to facilitate effective interdisciplinary communication and collaboration. Literature connects this theory with interdisciplinary communication analysis and structure. Examination of the multiple systems and contexts influencing communication can provide understanding of the intricacy of interactions and serve to cultivate educational interventions (Varpio et al., 2008).

Interacting systems were evident throughout the case study and group discussions. Within the personal system, each learner had subjective perception in response to the selected case study. Interaction within the interpersonal systems was evident through the exchanges with others in the attempts to problem solve to address the issue presented in the particular scenario. Ideas were communicated and transactions were observed between individuals and within the group. Learners functioned within the social systems realm by relating to their equal status roles. During the process, they referenced available resources and organized a plan to reach the common goal of decision making. Faculty was an essential part of the interacting systems by encouraging participation during the case study discussion and by generating ideas of how to more effectively communicate. Reflection was also facilitated regarding ineffective interactions and perceptions concerning teamwork and resources.

The interacting systems of King's theory require interconnected skills that must be developed over time in order to achieve competence to function within the systems (Shanta & Connolly, in press). The learning exercise allowed for students to practice skills on all levels in a

safe environment by being mindful of their own perceptions while interacting as a group to find the best means of communication and collaboration for a stressful patient scenario. The learners accessed the communication tool resource and operated within their socially-defined boundaries to reach the desired goal of a positive patient outcome. A period of reflection and faculty feedback provided for a better understanding of self and others with an interdisciplinary patient focus in mind (Bajnok et al., 2012). As a result of this experience, students were enabled with greater confidence and awareness to broach the complexities of interprofessional communication and collaboration in the patient care environment.

#### **Implications for Practice**

Literature gave support to the premise of teamwork and the use of resources in practice to facilitate effective communication. Interprofessional practice (IPP) is based on teamwork, collaboration, and communication (Bajnok et al., 2012). Research findings regarding common issues affecting interdisciplinary communication supported the use of structured communication interventions and associated tools to improve interactions (Tija et al., 2009). Communication guides can serve to provide structure and assist with preparation and poised assertiveness when discussing issues with other members of the health care team. Such interventions can also be generalized to different areas across the health care profession (Curtis, et al., 2011). While communication tools, such as SBAR, have been shown effective, the tools should not be used alone. Instead, the tools are most effective when utilized in conjunction with educational interventions that provide data about communication, collaboration, and teamwork strategies and styles (Beckett & Kipnis, 2009).



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Team development is an evolving trend coming to the forefront for organizations. Collaboration and communication are seen as vital components of this process (Buring et al., 2009). The effort to cultivate effective teams should include content related to respectful negotiation, team building tasks, managing conflict, containing negative behaviors, and improving workplace design to facilitate collaboration (Lindeke & Sieckert, 2005). Teamwork can facilitate decision making and problem solving in the health care setting. The sharing of information and goals in the work environment is essential to optimal decision making (Weller et al., 2011). Communication and team collaboration can result in effective problem solving and a decrease in errors (Robinson et al., 2010). Facilities should develop training in the teamwork process, incorporate staff education that teaches the frameworks of other professional disciplines, and endorse engagement of teams through active programs such as simulation (Weller et al., 2011).

Leadership and support are important factors relating to the success of effective interprofessional communication in health care venues. Organizations should integrate information, impart support, and emphasize leadership to expedite effective communication (Manojlovich & DeCicco, 2007). Leadership, role modeling, and self-development strategies are critical components for effective communication and collaboration (Lindeke & Sieckert, 2005). Hospital administrators, nurse leaders, and educators need to have an awareness of how positive communication and collaboration can improve patient care, create an environment of teamwork, promote continuing education, and provide support for staff (McCaffrey et al., 2011). Olson (2004) recommended that administrative and senior nursing staff work together to offer support and leadership for team and relationship building in work settings. Additionally, administrative

and clinical support on all management levels should be secured when planning such interventions in the health care setting (Dingley et al., 2008).

Literature points to a multitude of additional approaches to improve interprofessional communication and collaboration. Strategies need to be identified to change existing cultural norms and other barriers to collaboration and to promote a team-centered approach in health care settings (Tschannen et al., 2011). Surveys, interviews, and discussions involving staff and trained leaders can be useful in health care settings to promote more open communication between personnel (Olson, 2004). Professionals should be encouraged to seek an understanding of each other's perspectives and focus on the goals of collaboration and patient safety (Lindeke & Sieckert, 2005). Multidisciplinary interventions, such as interdisciplinary rounds, allow for increased interaction and familiarization leading to improved communication (Reising et al., 2011; Robinson et al., 2010; Vazirani, 2005).

### **Implications for Education**

Interprofessional education is a current focus in the diverse world of health care. In regards to health care education, program curricula should integrate interprofessional training concepts such as socialization, communication, and collaboration (Buring et al., 2009; Curtis et al., 2011; Lindeke & Sieckert, 2005; McCaffrey et al., 2011; Tschannen et al., 2011). Education should not focus on profession-centric thinking so that multiple health care workers can understand the various roles and contributions of other team members (Robinson et al., 2010). The World Health Organization (WHO) has focused on IPE since the 1960s in various reports and has more recently created a network to increase awareness and expand the efforts globally. The goal of IPE is to facilitate collaboration to result in interprofessional learning (IPL), which

encompasses not only bringing students of various disciplines together, but that the necessary interactions also take place to foster teamwork skills (Thistlethwaite, 2012).

A report by the IOM in 2003, "Health Professions Education: A Bridge to Quality", resulted in core competencies that should be included in all health care educational programs. These competencies include care teams that collaborate and communicate to ensure optimal and reliable care. Health professionals should be educated to provide patient-centered care as interprofessional team members who are prepared to set professional boundaries and optimize strengths in an effort to emphasize the use of evidence-based care, quality improvement tactics, and informatics. Interprofessional education can foster proficiencies in the learner including leadership, consensus building, and teamwork.

Literature findings address how health care programs can proceed with the integration of an interdisciplinary focus. Implementation of IPE into curricula can include simulation, community projects, and course assignments (Buring et al., 2009). Simulation, in particular, is beneficial for enhancing teamwork and improving communication among medical and nursing students participating in high-fidelity scenarios with a patient simulator. Simulation training depicting real-life crisis scenarios facilitates professional learning, collaboration, and provides for a better understanding of roles (Liaw, Siau, Chua, & Klainin-Yobas, 2012). The effects of high-fidelity simulation training with medical and BSN students on overall collaborative communication and teamwork heightened students' awareness of maintaining safety with complex patients and increased understanding of when to notify physicians. As noted by faculty, simulation reinforced the importance of IPE experiences in curriculum to further promote patient safety and effective communication (Booth & McMullen-Fix, 2012). Providing situations for

students to be able to interact with each other and practice in a safe environment was shown to be a valuable training tactic. Simulation exercises were beneficial in that they added a sense of realism and timing to patient scenarios (Reising et al., 2011).

Effective interpersonal and team interactions can be vital to patient safety (McCaffrey et al., 2011; Seago, 2008; Tija et al., 2009). From this point of reference it is essential that opportunities for student learning on how to interact with patients, families, and colleagues should be a central objective to healthcare education (Deutschlander, Suter, & Lait, 2012; Matthews, Parker, & Drake, 2012). Faculty can support and encourage this premise by exposing students to a variety of relationship complexities to expand their perspectives regarding others. Educational content should support various learning styles and be carefully designed with creative activities to address critical-thinking, teamwork, and IPC. Additional foci include exercises to promote cultural competence, relationship-building, and an emphasis on community to build real-world knowledge in students (Konrad & Browning, 2012). This structure aligns with the concepts of King's theory pertaining to individual perceptions and the interacting systems as they relate to the understanding of teamwork and the multiple dynamics affecting communications.

Faculty is an important component in the process to achieve effective interdisciplinary communication for patient safety. Alberto and Hearth (2009) reviewed interprofessional collaboration within the faculty roles of teaching, service, and research. Although the benefits of IPC were repeatedly noted, it was determined that significant work still needed to be done to more evidently comprehend the positive effects and challenges of IPC. More laborious studies were recommended to apprise faculty of student learning outcomes to enable them in becoming

more effective interprofessional health care providers. Research should also focus on how faculty can become more self-engaged in IPC. An additional notion was presented that research done as an IPC group can foster positive attributes such as diversity and intellectual depth. Studies to produce empirical evidence comparing the challenges and benefits of collaboration are warranted. Future research should be designed to include prospective, quantitative and qualitative IPC studies that are conducted longitudinally.

Engaging students of different health care backgrounds is another approach that can be utilized for IPE. Interdisciplinary training activities such as workshops, online discussions, shadowing with other providers, and mentoring allow for interprofessional interaction that enhances collaboration. These strategies can be incorporated into student clinical time and result in minimal restructuring of program curricula (Deutschlander et al., 2012). Despite these findings, interdisciplinary courses can present organizational challenges. The process of devising the framework and assembling an IPE course that includes various disciplines can require extensive faculty efforts. However, it provides opportunity for students to develop skills and decision-making abilities while becoming more confident in their roles. With faculty support, students can learn the values of collaboration, effective communication, and teamwork to provide optimal patient care (Matthews et al., 2012).

In addition to the academic focus, continuing education regarding IPE should also be assimilated and maintained throughout health care settings. Interdisciplinary training was deemed to be a crucial element to optimum communication and collaboration in health care environments. Hospitals need to devise and implement processes for training physicians and nurses, among other health care professionals, regarding effective communication skills and

techniques. Suggested methods to achieve this include team training and simulations with a focus on interprofessional communication (Tschanen et al., 2011). To improve interdisciplinary communication, training strategies should be selected, implemented, supported, and then evaluated for effectiveness. It is important not to incorporate multiple approaches at one time and to provide for sufficient resources to increase chances of intervention success (Seago, 2008).

Staff education in health care facilities should be an ongoing focus in health care facilities. Aligning communication and collaboration training for various disciplines is a preferred tactic, and policies should be in effect to address and regulate verbal communication (Curtis et al., 2011). Interprofessional Education training should be developed that includes approaches to information transfer and reassurance to speak up to challenge dangerous actions (Weller et al., 2011). Use of a model, such as the sense making model, can foster understanding between parties and decrease communication failures. Protocols can also be used to address the situation, tasks, intent, and concerns. It is recommended to conclude with “calibrating” or discussing if meanings are understood and if the person can do what is required of them (Manojlovich et al., 2009). Adoption of such protocols can result in improved communication and better outcomes for patients. Teamwork can also be enhanced by protocols that support closed-loop communication to ensure that the information was sent, received, and interpreted correctly (Robinson et al., 2010).

### **Implications for Research**

Multiple studies found during the literature review concluded with the recommendation for continued research regarding interdisciplinary communication. The importance

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interdisciplinary communication cannot be overstated. Aspects of interdisciplinary communication that urgently need further research will be discussed in this subsection.

Patient outcomes are central to the concern of ineffective interdisciplinary communication. Although there was some correlation with interdisciplinary communication, additional research is needed to clarify that premise and to identify other causes of adverse patient outcomes (Manojlovich et al., 2009; Seago, 2008; Vazirani et al., 2005). The tools utilized for improved communications have shown positive results, but stronger evidence is necessary (Beckett & Kipnis, 2009; Seago, 2008). Dingley et al. (2008), who studied the use of their devised “tool kit” in various hospital settings proposed to extend similar research methods to other venues in the health care field. As seen in the learning exercise, the students positively regarded SBAR as a valuable resource for guiding their thoughts and interactions; however, further research involving students from other health care areas would be advised. Additional studies are also needed to identify the potential variables influencing communication and medical errors. Continued research is necessary to investigate associations in order to prepare health care students and clinicians to work safely as interprofessional teams to prevent or reduce errors from occurring (Varpio et al., 2008). Strategies to change existing cultural norms and other barriers to communication and collaboration are necessary to promote the team-centered approach and enhance relations among health care professions (Tschannen et al., 2011).

**Conclusion**

The review of literature informed this learning event for nursing students with the goal to examine and reinforce the importance of effective interdisciplinary communication for patient safety in the health care environment. King's Theory of Goal Attainment (1981) as a framework provided for a better understanding of the complex interacting systems involved in communication, as well as the numerous barriers and other variables that impact its effectiveness. Theoretic concepts, as they related to the nursing process and human interactions, served to increase awareness of perceptions within and between the personal, interpersonal, and social systems. Interprofessional health care students benefit from gaining greater insight about the complex interactions necessary within the health care team (Alberto & Herth, 2009; Bajnok et al., 2012; Konrad & Browning, 2012). This important insight will prepare each member of the team to react to stress, conflict, and other environmental factors in a manner that promotes effective communication that maintains continuity of patient care and ultimately protects the safety of patients (Beckett & Kipnis, 2009; Dingley et al., 2008; Stein-Parbury & Liaschenko, 2007; Varpio et al., 2008).

Evidence-based literature offered education strategies to help develop competence for effective interdisciplinary communication. An interesting strategy suggested utilizing simulation activities to facilitate a higher level of realism, and add value to the learning experiences (Booth & McMullen-Fix, 2012; Liaw et al., 2012). Inclusion of students from other health care professions together in real-life situations is necessary to encourage and support an interdisciplinary communication with the focus of patient care (Reising et al., 2011). Experimentation with alternating the scenario roles between student disciplines would allow for



different perspectives of the interactions and to practice communication among the different disciplines. Although this learning event only included nursing students, the approach of including other disciplines would have enhanced the learning event, as would a more structured formative and summative evaluation process to determine the effectiveness of the activity and the extent of learning.

The focus of teamwork is fundamental to finding solutions and making decisions for positive patient outcomes across health care settings. Techniques for interprofessional education should be incorporated into curricula of all health care disciplines to enable students to understand individual roles within a team-based delivery of patient care. Active learning exercises that permit discussions of feelings can promote affective domain reflection and assist learners to value the contribution to patient care provided by other disciplines. Academic emphasis on effective interprofessional communication can result in collaboration among and between health care team members across disciplines. Further research is recommended to develop interventions to empower health care learners to achieve effective interdisciplinary communication skills and work collaboratively towards the goal of patient safety.

This evidence-based learning event was only a beginning. The lessons learned from this project will serve to inform future projects that seek to enlighten learners on the importance of communication and collaboration in the health care setting. Incorporation of an interdisciplinary focus is a personal goal for future endeavors in both academic and work environments. Serving as a role model for effective interprofessional communication can increase awareness for students and colleagues alike and help to continue the effort to promote teamwork for patient safety and positive working relationships. As an educator, I will also strive to uphold

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competencies related to interprofessional communication through continuing education and research in order to empower students to develop effective interactive skills.

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## Appendix E Literature Review Tables

### Appendices

Appendix A.....PowerPoint Lecture Slides

Appendix B.....SBAR Communication Tool

Appendix C.....Communication Case Study

Appendix D.....Project Poster (small version)

Appendix E.....Literature Review Tables



## Appendix E Literature Review Tables

### Appendix A

#### PowerPoint Lecture Slides

# Effective Interprofessional Communication

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## How does communication affect patients?

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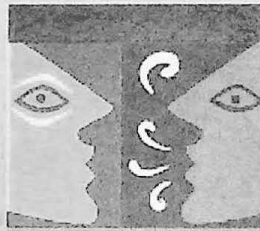
- ❑ Ineffective communication is a leading cause of medical errors and a major factor affecting patient safety (Mankojlovich, Antonakos, & Ronis, 2009).
- ❑ Effective interdisciplinary communication and collaboration increases patient and staff satisfaction, improves patient outcomes, enhances quality of care, and reduces health care costs

(McCaffrey, Hayes, Cassell, Miller-Ryies, Donaldson, & Ferrell, 2011; Vazirani, Hays, Shapiro, & Cowan, 2005; Weller, Barrow, & Gasquoine, 2011).

## Elements of the Communication Process

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- **Communication is:**
  - The exchange of information or opinions
  - An interactive process that is a means to an end
  - Influenced by the context in which it occurs



## Imogene King's Goal Attainment

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- **King's Theory of Goal Attainment (1981)** concepts provide understanding of factors relating to communication:

Stress, environment, transactions, self, role, growth, development, time, and interaction.
- ***Personal, Interpersonal & Social Systems*** interact and perceptions and judgments are formed. Transactions occur to achieve goal attainment and a balanced environment.

## Workplace Communication

- Supervisors
- Co-workers
- Medical Practitioners
- Patients, families, visitors
- Preceptors, students, educators
- Ancillary Departments: Therapy, Wound Care, Dietary, Housekeeping, Clerical, Information Technology, Quality Care



## Communication Barriers

- ⊙ **Language-** Limited English Proficiency (LEP)
- ⊙ **Gender-** men and women may process information differently
- ⊙ **Culture:** different cultures may have different beliefs, practices, and assumptions
- ⊙ **Generational Differences**
- ⊙ **Traditional Hierarchical Relationships**
- ⊙ **Increased Workload**
- ⊙ **Fragmentation of Specialty Care Areas**
- ⊙ **Differing Perceptions**
- ⊙ **Prior Experiences/Knowledge Base**

## Communication Barriers (cont.)

- ❑ False reassurance
- ❑ Being defensive
- ❑ Stereotyping
- ❑ Interruptions
- ❑ Inattention
- ❑ Stress
- ❑ Unclear expectations
- ❑ Incongruent responses
- ❑ Burnout
- ❑ Fatigue
- ❑ Threats
- ❑ Criticism
- ❑ Shaming
- ❑ Advice
- ❑ Power struggle

## Interventions for Effective Communication & Collaboration

### Interdisciplinary Education Focus

- Simulation, Case Studies, Training

- ❑ **Communication Tools (SBAR)**
- ❑ **Management Support**
- ❑ **Teamwork Promotion**
- ❑ **Resources**



## **SBAR Communication Tool**

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- ▣ **Situation** – Identify yourself, patient, code status, main problem or concerns
- ▣ **Background** – Give admission diagnosis, vitals, pertinent history & treatment to date
- ▣ **Assessment** – behaviors, appearance, assessment values and changes/trends
- ▣ **Recommendation/Request** – state what you think is needed, ask for considerations (transfer, MD visit, consults, labs, tests)

## **Tips for Effective Communication**

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- ▣ Develop trust and respect with members of the health care team
- ▣ Communicate openly
- ▣ Be timely, assertive, and accurate with information
- ▣ Using a communication tool to organize thoughts be prepared
- ▣ Be mindful of emotions

## Talking to the Doctor or other Health Care Professionals

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- ❑ Keep patient safety goal the central focus
- ❑ Present information in organized, factual manner
- ❑ Recall SBAR
- ❑ Remain calm & objective even when receiver is not
- ❑ State what you want/expect from the practitioner
- ❑ Document all communications & attempts

## Case Study Discussion

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- ❑ You are working the night shift caring for a new surgical patient who has decreased urinary output (UOP) and increased pain. You have no standing orders to address UOP (boluses) and you have ineffective PRN pain medication orders. The surgeon on call is known for being “crabby” when called, especially during the middle of the night. How do you proceed to advocate for your patient? Discuss strategies/options.

**Appendix E Literature Review Tables**

**Appendix B**

**SBAR Communication Tool**

# SBAR report to physician about a critical situation

S	<p><b>Situation</b>            I am calling about &lt;patient name and location&gt;.            The patient's code status is &lt;code status&gt;            The problem I am calling about is _____.  <input type="checkbox"/> I am afraid the patient is going to arrest.</p> <p>I have just assessed the patient personally:</p> <p>Vital signs are: Blood pressure ____/____, Pulse _____, Respiration_____ and temperature _____</p> <p>I am concerned about the:</p> <input type="checkbox"/> Blood pressure because it is <input type="checkbox"/> over 200 or <input type="checkbox"/> less than 100 <input type="checkbox"/> or 30 mmHg below usual <input type="checkbox"/> Pulse because it is <input type="checkbox"/> over 140 or <input type="checkbox"/> less than 50 <input type="checkbox"/> Respiration because it is <input type="checkbox"/> less than 5 or <input type="checkbox"/> over 40. <input type="checkbox"/> Temperature because it is <input type="checkbox"/> less than 96 or <input type="checkbox"/> over 104.
B	<p><b>Background</b>            The patient's mental status is:</p> <input type="checkbox"/> Alert and oriented to person place and time. <input type="checkbox"/> Confused and <input type="checkbox"/> cooperative or <input type="checkbox"/> non-cooperative <input type="checkbox"/> Agitated or combative <input type="checkbox"/> Lethargic but conversant and able to swallow <input type="checkbox"/> Stuporous and not talking clearly and possibly not able to swallow <input type="checkbox"/> Comatose. Eyes closed. Not responding to stimulation. <p>The skin is:</p> <input type="checkbox"/> Warm and dry <input type="checkbox"/> Pale <input type="checkbox"/> Mottled <input type="checkbox"/> Diaphoretic <input type="checkbox"/> Extremities are cold <input type="checkbox"/> Extremities are warm <p>The patient <input type="checkbox"/> is not or <input type="checkbox"/> is on oxygen.</p> <input type="checkbox"/> The patient has been on _____ (l/min) or (%) oxygen for _____ minutes (hours) <input type="checkbox"/> The oximeter is reading _____ % <input type="checkbox"/> The oximeter does not detect a good pulse and is giving erratic readings.
A	<p><b>Assessment</b></p> <input type="checkbox"/> This is what I think the problem is: <say what you think is the problem> <input type="checkbox"/> The problem seems to be <input type="checkbox"/> cardiac <input type="checkbox"/> infection <input type="checkbox"/> neurologic <input type="checkbox"/> respiratory <input type="checkbox"/> _____ <input type="checkbox"/> I am not sure what the problem is but the patient is deteriorating. <input type="checkbox"/> The patient seems to be unstable and may get worse, we need to do something.
R	<p><b>Recommendation</b>  <input type="checkbox"/> I suggest or <input type="checkbox"/> request that you &lt;say what you would like to see done&gt;.</p> <input type="checkbox"/> transfer the patient to critical care <input type="checkbox"/> come to see the patient at this time. <input type="checkbox"/> Talk to the patient or family about code status. <input type="checkbox"/> Ask the on-call family practice resident to see the patient now. <input type="checkbox"/> Ask for a consultant to see the patient now. <p>Are any tests needed:</p> <input type="checkbox"/> Do you need any tests like <input type="checkbox"/> CXR, <input type="checkbox"/> ABG, <input type="checkbox"/> EKG, <input type="checkbox"/> CBC, or <input type="checkbox"/> BMP? <input type="checkbox"/> Others? <p>If a change in treatment is ordered then ask:</p> <input type="checkbox"/> How often do you want vital signs? <input type="checkbox"/> How long to you expect this problem will last? <input type="checkbox"/> If the patient does not get better when would you want us to call again?





## Appendix E Literature Review Tables

### Appendix C

#### Communication Case Study for Health Care Providers

**Purpose of Session:** To review the importance of effective communication among health care providers in promoting patient safety and career satisfaction.

**Learning Objectives:** At the completion of this exercise, you should:

- Understand the contribution of effective communication to safe patient care
- Be able to concisely summarize a concern about a patient
- Actively listen to information communicated by other health care providers
- Assertively yet professionally communicate concerns you have about a patient that are not being adequately addressed

**Steps to effective health care communication:** (reference SBAR communication tool)

- Clarify problem and gather data
- Concisely describe the problem
- Actively listen to response
- Assert concerns if needed

#### Case Presentation:

You are assigned to care for a 68 year-old female patient for the evening shift. The patient is two days post-op following a hip fracture surgery. No problems were noted during nursing report other than complaints of pain. She has been receiving pain medication PRN. When you perform your initial assessment on this patient, you find her to be confused.

What additional information do you need to gather prior to contacting the physician?

When you call the physician on duty, how would you state your concerns and questions?

#### Role Play:

Give a brief summary (no more than 60 seconds) to the person sitting next to you regarding the above scenario as if they were the physician contacted. Have that person give you feedback on:

- What was effective about your communication?
- What could have been clearer?

The physician asks that you obtain the following tests: CXR, ABG, EKG, and routine blood work (chemistry studies and a complete blood count).

Is there any additional information you need to know at this time?

## Appendix E Literature Review Tables

The CXR suggests pneumonia, and the physician orders an IV antibiotic. Two hours later, as you start the antibiotic, you note that the patient is more short of breath. You request that the physician re-evaluate the patient.

The patient's O<sub>2</sub> saturations are now 88% on a 50% face mask and her respiratory rate is 30/minute. You feel she needs almost 1:1 nursing, and you are worried about how you will take care of your three other patients. You ask the physician if the patient should be moved to ICU, but the physician states that they first want to see how the patient responds to the antibiotic.

### **Role Play:**

Practice assertive communication to the person sitting next to you:

- State your concern
- State the information that supports your concerns
- Suggest a course of action
- Recap why you feel this action is the best option

### **Question:**

If your effort at assertive communication does not have the desired effect, what other options are available to you?

- Restate your concern
- Engage another healthcare worker (i.e. Respiratory Therapy)
- Engage your supervisor
- Engage another physician on the team

### **Discussion:**

As a group, review scenario and role-playing interactions. How did you feel about the communication strategies and associated outcomes?

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**Appendix D**

**Project Poster**

# Utilizing Goal Attainment Concepts to Empower Nursing Students

Andrea Nelson

Department of Nursing University of North Dakota



## Background

- **Ineffective interprofessional communication** is an identified issue affecting patient safety in health care (Beckett & Kipness, 2009; Varpio, Hall, Lingard, & Schryer, (2008).
- **Communication barriers** can lead to relationship strain, errors and adverse patient outcomes (Dingley, Daugherty, Derieg, & Persing, 2008; Stein-Parbury & Liaschenko, 2007)
- **Health care curricula** has limited interdisciplinary communication focus.
- **Interventions to improve interprofessional communication and teamwork** are vital to health care education and practice (Konrad & Browning, 2012; Reising, Carr, Shea, & King, 2011).



## Goals

- Increase student understanding of interprofessional communication
- Enhance skill development for effective communication
- Promote interdisciplinary teamwork through active learning event
- Facilitate discussion and reflection after learning event

## Methods

- Literature review conducted regarding interprofessional communication.
- **Learning event** created for nursing students in classroom setting.
- **Imogene King's Theory of Goal Attainment (1981)** framed project.
- **Evidence-based lecture** underpinned importance of effective communication and potential barriers.
- **Case study** and **SBAR** communication tool assisted students to plan interactions and problem solve.
- **Reflection period** for expression of perceptions related to interactions within personal, interpersonal, and social systems required for effective health care teams.



## Results

- Theoretic concepts provided understanding of complex interacting systems regarding communication and associated barriers.
- Awareness was increased of perceptions within and between the personal, interpersonal, and social systems.
- Teamwork is fundamental to problem solving for patient care solutions.
- Interprofessional health care students benefit from active learning to effectively communicate to maintain continuity of care and patient safety.



## Results (cont.)

- Students engaged learning within the affective domain through discussion about emotional responses.
- Formative feedback provided insight.
- Dialog supported acknowledgments of heightened awareness regarding the importance of interdisciplinary communication and effective tactics.
- Discussion verified the need for increased emphasis of interprofessional communication training in health care curricula and practice.

## Implications

- Education strategies vital to develop competence for effective interdisciplinary communication.
- Inclusion of students from other health care professions in real-life situations, such simulation activities, supports teamwork and patient-focused interdisciplinary communication.
- Further research recommended to create interventions to empower health care learners to achieve effective interdisciplinary communication skills and work collaboratively towards the goal of patient safety.

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## Appendix E Literature Review Tables

Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Beckett, C. &amp; Kipnis, G. (2009). Collaborative communication: Integrating SBAR to improve quality/patient safety outcomes. <i>Journal for Healthcare Quality</i>, 31(5), 19-28.</p> <p><b>Level II</b></p>	<p>N = 215 nurses and 30 physicians</p> <p>This was a convenience sample of pediatric/perinatal services department of 271 bed community hospital in Arizona.</p> <p>5 units within the department included: Obstetrics, Labor/Delivery, Special Care Nursery, Pediatrics, and Pediatric Intensive Care.</p> <p>Of 215 nurses: 141 completed pre-intervention survey and 71 did post-intervention survey. None of the 30 physicians would complete pre or post-intervention surveys.</p>	<p>Evaluate effectiveness of the SBAR collaborative communication intervention for best practice.</p> <p>Analyze effectiveness of using SBAR approach in conjunction with evidenced-based practice (EBP) processes to frame study.</p> <p>2 main outcome goals of study:</p> <p><u>Goal #1:</u> participants will transfer knowledge, skills, and evidence into practice</p> <p><u>Goal #2:</u> communication changes will result in improved teamwork and collaboration, patient safety/outcomes, and overall satisfaction of staff, nurses/physicians, and patients</p>	<p>Quasi-experimental design. SBAR Collaborative Communication Education (SBAR-CCE) intervention implemented in department.</p> <p>Frameworks used: Advancing Research and Clinical Practice through Close Collaboration (ARCC) and Management Change Theory.</p> <p>1-hour classes for nurses included role-playing, didactic content, and DVD showing SBAR communication. Leadership team served as mentors and models. Survey was done before and 3 months after class.</p> <p>Physicians received information in committee meetings and were asked to do pre/post survey.</p> <p>Surveys/groups all evaluated and results were analyzed. Investigators recorded comments, observations, and activities on units.</p>	<p>Overall theme for SBAR-CCE effectiveness was notably strong for "positive communication".</p> <p>Increased use of SBAR collaborative communication was observed. SBAR-CCE improved patient safety outcomes by enhancing nurse-physician relationships and communication.</p> <p><u>Goal #1</u> was achieved by staff using collaborative communication and SBAR strategies during communication.</p> <p><u>Goal #2</u> met by showing that the SBAR tool used in conjunction with the collaborative communication model showed statistically significant improvements in communication, teamwork, patient safety, collaboration, empowerment, and satisfaction.</p>	<p><u>Strengths:</u> IRB-approved study. Primary investigator performed all SBAR-CCE education sessions to ensure consistency; classes conducted in same manner for fidelity. Strong reliability noted for survey tool, consistency in utilizing SBAR, and the delivery of the intervention increased fidelity and reliability of data resulting from study.</p> <p>Corbin's grounded theory used to analyze interviews. Mann-Whitney &amp; nonparametric statistics and t tests used for quantitative analysis showing high significance. SPSS version 14 analyzed groups for pre/post survey.</p> <p><u>Weaknesses:</u> No # of observations. Limited time frame of 3 months. Physicians refused surveys. Inconsistent return of pre/post surveys from nurses. Non-random sample.</p>	<p>Successful outcome of combining SBAR-CCE with collaborative communication model in selected units warrants ongoing support and reinforcement as well as dissemination to other areas in healthcare organizations.</p> <p>Investigation of other variables and application of study approach to address quality indicators such as medication errors, falls, and sentinel events.</p> <p>Increase involvement of physicians and other health care disciplines in future research to further enhance communication and patient safety.</p> <p>Communication and collaboration changes take time and it involves a re-learning process.</p> <p>Empowering all staff is a proactive approach that can promote teamwork and patient safety.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Buring, S.M., Bhushan, A., Broeseker, A., Conway, S., Duncan-Hewitt, W., Hansen, L., &amp; Westberg, S. (2009). Interprofessional education: Definitions, student competencies, and guidelines for implementation. <i>American Journal of Pharmaceutical Education</i>, 73(4), article 59.</p> <p><b>Level II</b></p>	<p>Literature review involving 21 research articles, numerous professional organizations and publications.</p> <p>6 studies evaluating the effectiveness of IPE on patient outcomes compared to traditional education.</p> <p>Review of 13 IPE training programs.</p>	<p>Review literature surrounding interprofessional communication (IPE) and explore connections between the health care professional and pharmaceutical worlds.</p> <p>Determine the need for IPE and provide supporting evidence; present definitions and barriers; propose student competencies and objectives; and outline components and aspects vital to implementation.</p>	<p>Review of literature and training programs to analyze the effectiveness of IPE throughout disciplines related to health care.</p>	<p>Review of literature found positive results on attitudes of other health care professionals with the use of IPE training; there was limited behavior change with regard to problem solving, group interaction, and communication skills.</p> <p>Core competencies ideal for IPE were to: cooperate, collaborate, communicate, and integrate care teams to ensure optimal and reliable care. Goals were to improve team performance, leadership, organization, function, and conflict resolution.</p> <p>Communication is the key to effective teamwork and functioning.</p> <p>Authors developed IPE definition and found substantial evidence to support IPE in education</p>	<p><u>Strengths:</u></p> <p>Thorough literature review of multiple resources addressing various aspects of health care, education, and patient outcomes.</p>	<p>More controlled trials were suggested with objective outcome criteria.</p> <p>Suggested means for implementation of IPE into education includes: simulation, community projects, and course assignments.</p> <p>Utilize IPE to promote teamwork through information sharing, setting professional boundaries, optimizing strengths, and working towards a common goal to provide optimal patient care.</p> <p>Focus on identifying and addressing team problems and work toward competence and resolution of conflict.</p> <p>IPE should be a set goal of health care education curricula.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Curtis, K., Tzannes, A., &amp; Rudge, T. (2011). How to talk to doctors – a guide for effective communication. <i>International Nursing Review</i>, 58, 13-20.</p> <p><b>Level I</b></p>	<p>Literature review of 54 research articles.</p>	<p>Examined factors contributing to ineffective communication between physicians and nurses.</p>	<p>Integrative literature search in databases such as Medline, CINAHL, SCIRUS, and PubMed focusing on terms related to doctor-nurse communication.</p> <p>Literature review performed regarding research that identified specific barriers and problems contributing to ineffective communication issues between doctors and nurses.</p>	<p>Five main themes emerged focusing on the past and present contexts regarding ineffective communication:</p> <ul style="list-style-type: none"> <li>-traditional hierarchal relationships</li> <li>-increased workload</li> <li>-mobile workforce</li> <li>-differing perceptions and language</li> <li>-prior experience</li> </ul>	<p><u>Strengths:</u> Extensive research using multiple databases.</p> <p>5 predominant themes determined.</p> <p>Offered intervention consisting of a guide that addresses barriers to ineffective communication and details solutions for improvements, and a tool (such as ISBAR, (which represents "introduction, situation, background, assessment, and recommendation") to assist in facilitation of effective communication.</p> <p>Generalization appropriate to nurses and nursing students.</p> <p><u>Weaknesses:</u> None noted.</p>	<p>Recommend a shared mental model regarding communication in health be adopted by educational programs and included in curricula; align training for doctors and nurses.</p> <p>Suggestion of a guide, such as ISBAR for more effective verbal communication between nurses and physicians.</p> <p>Organizations should have policies addressing and regulating verbal communication.</p> <p>Nurses should prepare for interactions with physicians, recognize personal emotions, structure approach to communication (ISBAR, etc.), and use graded assertiveness to approach physician and tactfully prioritize for patient safety.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Dingley, C., Daugherty, K., Derieg, M.K., &amp; Persing, R. (2008). Improving patient safety through provider communication strategy enhancements. In Henrikson, K., Battles, J.B., Keyes, M.A., &amp; Grady, M.L. (Eds.), <i>Advances in Patient Safety: New Directions and Alternative Approaches</i> (Vol. 3: <i>Performance and Tools</i>). Rockville (MD). Agency for Healthcare Research and Quality (US).</p> <p><b>Level II</b></p>	<p>N = 495 Nurses</p> <p>477-bed medical center in Colorado.</p> <p>2 Phases each with 2 settings:</p> <p><u>Phase 1:</u> ICU and Acute Care Unit (ACU)</p> <p><u>Phase 2:</u> Behavioral Health Units – Adult Psychiatric ICU and Acute Crisis Service (results pending for this phase and not discussed in findings)</p>	<p>Develop, implement, and evaluate a comprehensive provider/team communication strategy, resulting in a "tool kit".</p> <p>Compare data before and after implementation to determine if intervention improved communication and patient safety.</p> <p>Goals of tool kit: enhance communication and increase patient safety; would be generalizable to other health care settings.</p>	<p>Baseline data collection and implementation of team communication interventions. Further data collection and subsequent analysis over 1 year period. Pre and post-tests.</p> <p>Tool kit initiated including: SBAR guide, team huddles, daily briefings, multidisciplinary rounds, daily goals sheets for providers. Staff education included initial and then follow-up education session. Evidence-based approach. Real life examples and feedback surveys given. Ongoing support and visual reminders present. Data reviewed and coded post hoc and then entered and analyzed with SPSS 15.0 software. Chi-square analysis of pre and post-test intervention scores.</p>	<p>Use of tool kit post-intervention shown to significantly decreased time taken to communicate and resolve patient issues (<math>p &lt; 0.01</math> in MICU, <math>p &lt; 0.27</math> in ACU).</p> <p>Increase noted in nurse satisfaction and overall positive perception of communication events.</p> <p>Strategies to increase communication can be successfully implemented in acute care settings and result in more efficient and effective communication.</p> <p>Ineffective communication among health care members contributes to patient harm and adverse events.</p>	<p><u>Strengths:</u> Used standardized curriculum, teaching materials and methods that could be used by multiple disciplines in a variety of forums.</p> <p>Included responses of 564 staff for feedback of training which were extremely positive. Large sample size. Wide variety of educational approaches including follow-up education; evidence-based and real-life concepts. Pre and post-test design to note effects of implementation.</p> <p><u>Weaknesses:</u> Details of pre and post-tests not discussed. No details of reliability and validity of tools used in kit.</p> <p>Unclear as to selection of subjects from various units.</p>	<p>Utilization of a tool kit offers health care organizations measures to implement teamwork and communication strategies and can be used to improve communication and increase patient safety. Tool kit can be easily adaptable and modifiable to a variety of health care settings. Suggestions to secure administrative and clinical support on all management levels when planning such intervention in the health care setting. Management and leadership need to demonstrate that teamwork and effective communication are valued and important factors contributing to patient safety. Staff needs to be provided with the means to attend education and be able to facilitate the concepts into practice. Recommend further research in other health care settings.</p>



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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Frey, M.A., Sieloff, C.L., &amp; Norris, D.M. (2002). King's conceptual system and theory of goal attainment: Past, present, and future. <i>Nursing Science Quarterly</i>, 15(2), 107-112.</p> <p><b>Level II</b></p>	<p>Review of 52 publications including research articles, dissertations, and manuscripts.</p>	<p>Review of the extent of the application of Imogene King's Theory of Goal Attainment universally.</p>	<p>Authors expansively researched King's theory underpinnings and application of her conceptual system concepts using a variety of resources.</p>	<p>King's conceptual theory and/or Goal Attainment theory are useful across the life span and found in 36 nursing specialties in 10 different cultures in 20 various work settings. 573 articles relating to King's systems published from 1976-2000.</p> <p>King's conceptual system demonstrated high internal and external evaluation and external analysis; however, research supporting the validity of the theory of goal attainment is limited. King's work is applicable to multiple areas such as advocacy, decision making, discharge planning, case management, and managed care. King's contribution to nursing is time-honored and recognized universally. Her conceptual system is principally sound and transcends time.</p>	<p><u>Strengths:</u></p> <p>Thorough literature review of multiple resources.</p>	<p>King's theory/concepts apply well to the current trends in nursing, such as foci on evidence-based practice and interventions as well as knowledge development pertaining to the conceptual system and related theories.</p> <p>Additional research is recommended to validate King's goal attainment theory credibility in nursing.</p> <p>Continued efforts to develop and test middle-range theories derived from the conceptual system will allow for further goal attainment validation.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Haig, K.M., Sutton, S., &amp; Whittington, J. (2006). SBAR: A shared mental model for improving communication between clinicians. <i>Joint Commission Journal on Quality of Patient Safety</i>, 32(3), 167-175.</p> <p><b>Level II</b></p>	<p>N = 50 staff members from Illinois medical center randomly selected for monthly survey from multiple areas including ICU, Pediatric ICU (PICU), respiratory cardiac rehabilitation, cardiac catheterization lab, physicians, interventional radiology, medical, surgical, float/registry, pediatrics, transitional care, and supervisory staff.</p>	<p>Analyze patient safety factors before and after implementation of structural communication model (SBAR: Situation, Background, Assessment, and Recommendation) to improve communication through a standardized approach.</p>	<p>Interdisciplinary Spread Team representing multiple nursing units, pharmacy, rehabilitation, imaging, educational staff, and media relations met for 1 hour bi-weekly for 1 year. Education, training and general orientation done on SBAR throughout units. Examples and stories shared. Peer observations, meetings, monthly games/quizzes, practice exercises incorporated. SBAR pocket cards and "cheat sheets" given out and by phones. Test conducted in units and feedback gathered for further tool customization. Performance, Do, Study, Act (PDSA) performance improvement methodology utilized. 10 random staff called each month for 5 months and asked to describe SBAR process.</p>	<p>96% use of SBAR achieved across units.</p> <p>Use of both oral and written SBAR formats increased communication and safety.</p> <p>Decreased incidents of missed information among health care workers.</p> <p>Medication reconciliation improved from 72-88% for admits and 53-98% on discharges.</p> <p>Global Trigger Tool used to analyze rates of adverse events. Rates decreased from 89.9 per 1000 patient days to 39.96 in 1 year.</p> <p>Adverse drug events decreased from baseline of 29.97 per 1000 patient days to 17.64 in 1 year.</p>	<p><u>Strengths:</u> Random selection utilized. SBAR tool and study results applicable to multiple health care settings.</p> <p>Used valid tool to analyze study results.</p> <p>Used different approaches for implementation including real-life stories for staff to relate to.</p> <p>Multiple health care areas included on Interdisciplinary Spread Team and for random survey; representation points towards transferability to various settings.</p> <p><u>Weaknesses:</u> No specific numbers for size of medical center, respective units, or Interdisciplinary Spread Team. No inclusion of data or results from separate areas or types of staff interactions.</p>	<p>Use of communication tool such as SBAR can improve communication and safety by providing clear, accurate feedback of information among caregivers. Start with small group and select key members for buy-in for implementation.</p> <p>Health care settings should strive to decrease hierarchy between nurses and physicians which leads to increased cooperation, communication, and satisfaction for both groups. Story-telling promotes benefits of successful communication and potential hazards of ineffective communication. Staff encouraged to "Recommend" ("R" in SBAR) on basis of their observations, which assists physician with awareness of situations through eyes of the caregiver. Nurses feel more empowered and influential in decisions resulting in increased job satisfaction.</p>

Appendix E Literature Review Tables

Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Lindeke, L.L., &amp; Sieckert, A.M. (2005). Nurse-physician workplace collaboration. <i>The Online Journal of Issues in Nursing</i>, 10(1), manuscript 4.</p> <p><b>Level II</b></p>	<p>30 relevant citations.</p>	<p>Review nature and benefits of collaborative communication in order to suggest strategies that will enhance nurse-physician communication.</p> <p>Strategy areas of focus for communication: self-development, team-development, communication-development</p>	<p>Literature review on topics pertaining to nurse-physician workplace collaboration.</p> <p>Search related to following terms: collaboration, communication, conflict, health care outcomes, interdisciplinary, professional socialization, teamwork, and workplace satisfaction.</p>	<p>Multiple individual factors can influence degree of collaboration among professionals in health care settings such as the following self-development behaviors: emotional intelligence and maturity, understanding perspectives of others, and avoiding compassion fatigue or burnout.</p> <p>Personality differences can result in conflict; channeling behaviors can promote a spirit of cooperation. Self-confidence influences collaborative behavior.</p> <p>Professional cultural and social norms can pose challenges to effective collaboration; education background can affect perceptions.</p> <p>Leadership and role modeling are critical components for effective communication and collaboration.</p>	<p><u>Strengths:</u> Main themes extracted from research for focus areas. Suggestions to improve communication and collaboration based on research findings.</p> <p>Multiple search terms for topic; clarified definitions for focus terms/constructs.</p> <p>Findings and suggestions applicable to nurses and nursing students.</p> <p><u>Weaknesses:</u> Actual database search methods not specified.</p>	<p>Employ strategies to improve communication and collaboration for self-development.</p> <p>Careful communication necessary to examine underlying behavior issues; channel aggression to strive for cooperation.</p> <p>Encourage understanding of other perspectives in health care setting; focus on goals of collaboration and patient safety.</p> <p>Include focus of physician-nurse socialization, communication, and collaboration in educational programs. Recognize triggers to compassion fatigue or burnout and resource self-renewal strategies. Focus on team development tasks: team building, respectful negotiation, conflict management, leadership, containment of negative behaviors, and workplace design to facilitate collaboration.</p>

## Appendix E Literature Review Tables

Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Manojlovich, M. &amp; DeCicco, B. (2007). Healthy work environments, nurse-physician communication and patients' outcomes. <i>American Journal of Critical Care</i>, 16(6), 536-543.</p> <p><b>Level II</b></p>	<p>N = 462 nurses in 25 intensive care unit (ICU) settings in 8 hospitals in southeastern Michigan.</p> <p>All nurses in the 25 ICUs were sent surveys (866); 462 was the number of nurses that responded.</p>	<p>Explored relationships between nurses' perceptions of their practice environment, nurse-physician communication, and selected patients' outcomes.</p>	<p>Non-experimental, descriptive design.</p> <p>Nurses surveyed using The Conditions for Work Effectiveness Questionnaire – II and the Practice Environment Scale of the Nursing Work Index to measure the work environment (both use Likert-type scales). Nurses also self-rated frequency of medication errors, catheter-related sepsis, and ventilator associated-pneumonia (VAP).</p> <p>The ICU Nurse-Physician Questionnaire used to measure nurse-physician communication. Survey questions based on magnet hospital foci and workplace empowerment.</p> <p>Data analyzed using the SPSS statistical software program. Coding accuracy done/errors corrected.</p>	<p>As awareness of Magnet characteristics and communication with physicians increased, a reduction occurred in medication errors.</p> <p>Significant positive correlation between scales for practice environment and workplace empowerment with the communication scale.</p> <p>Rates of catheter-related sepsis, VAP and medication errors were significantly related to the communication scale. 47% of the variance in nurse-physician communication could be attributed to factors in the work environment. Supports how factors in practice environment can affect patient outcomes. Medication errors can be decreased when physicians and nurses communicate better. Healthy work environments are important for ideal communication.</p>	<p><u>Strengths:</u> Instruments order varied to decrease the chance of consistency artifact. Scales showed high internal consistency, content and construct validity. Statistical data/coding analysis.</p> <p><u>Weaknesses:</u> Self-rating scales can result in potential bias to over/underestimate outcomes.</p> <p>Cross-sectional design did not do longitudinal tracking for nurse-physician communication to see if relationships showed consistency over time. Establishment of cause-and-effect relationships was limited by the non-experimental cross-sectional design. Socially undesirable characteristics could have been underreported due to the social desirability response effect bias. However, anonymity and confidentiality reduced this effect.</p>	<p>Communication can be improved between nurses and physicians by providing support, resources, information, and opportunities in the health care setting.</p> <p>Magnet hospital constructs can aide in improving nurse-physician communication through the following interventions: -involve nurses in hospital undertakings -employ a professional nursing model for delivering patient care -adequate staffing</p> <p>Integrated information and support should be done on behalf of the organization to be effective for healthcare teams; leadership should also be a focus of support. Suggestions to alter work environments to improve nurse-physician communication (this study finding was noted to concur with the AACN Standards for Establishing and Sustaining Healthy Work Environment).</p>

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<p>Manojlovich, M., Antonakos, C.L., &amp; Ronis, D.L. (2009). Intensive care units, communication between nurses and physicians, and patients' outcomes. <i>American Journal of Critical Care</i>, 18(1), 21-30.</p> <p><b>Level II</b></p>	<p>N = 462 nurses in 25 intensive care unit (ICU) settings in 8 hospitals in southeastern Michigan.</p> <p>All nurses (866) in the 25 ICUs were sent surveys over a 5-month period; 462 nurses responded.</p>	<p>Determine relationships between patients' outcomes and (1) nurses' perceptions of communication elements between physicians and nurses and (2) characteristics of the practice environment.</p>	<p>Cross-sectional survey design using The Conditions for Work Effectiveness Questionnaire – II and the Practice Environment Scale of the Nursing Work Index to measure the work environment (both use Likert-type scales). Nurses also self-rated frequency of medication errors, catheter-related sepsis, and ventilator associated-pneumonia (VAP). The ICU Nurse-Physician Questionnaire measured communication.</p> <p>3 workplace empowerment scales used to measure Kanter's concepts of informal power. Total of 1090 charts sampled; average of 45 from each ICU. Role Effectiveness Model used for framework</p> <p>Analysis conducted at the unit level</p>	<p>Survey results showed that total communication scale not significantly related to any certain outcome.</p> <p>Timeliness factor positively correlated with the reduction in pressure ulcers.</p> <p>Greater variance in the nurses' perception of understanding regarding communication with physicians correlated with greater variance in VAP rates on units.</p> <p>With a larger study population, communication may have been more influential to outcomes.</p>	<p><u>Strengths:</u> IRB approval for protection of human subjects. Nurses surveyed anonymously; charts selected at random. Construct validity reliability noted for involved scales. Operational definitions from the National Quality forum used for all outcomes. Research team constructed control variables on outcome data. Scores computed via Acute Physiology and Chronic Health Evaluation II. Data analyzed with t tests, for distribution, and associations/Pearson correlations.</p> <p><u>Weaknesses:</u> Limited sample size, low response rate, convenience sample limits generalizability, cross-section limits cause-and-effect, low internal consistency of timeliness subscale may have adversely affected results. Framework model not right fit.</p>	<p>Using a model, such as "sense making" can foster understanding between parties and avoid communication failures. A 5-step protocol has been found to assist with process:</p> <p><u>Situation</u> "here's what I think is facing us"</p> <p><u>Task</u> "here's what I think we should do"</p> <p><u>Intent</u> "here's why"</p> <p><u>Concern</u> "here's what we should keep our eyes on"</p> <p><u>Calibrate</u> "talk to me, tell me if you do not understand, cannot do it, or see something I do not" Adoption of such a protocol can result in improved communication and better outcomes for patients. Further research is needed into other causes for adverse patient outcomes.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>McCaffrey, R., Hayes, R.M., Cassell, A., Miller-Reyes, S., Donaldson, A., &amp; Ferrell, C. (2011). The effect of an educational programme on attitudes of nurses and medical residents towards the benefit of positive communication and collaboration. <i>Journal of Advanced Nursing</i>, 68(2), 293-301.</p> <p><b>Level II</b></p>	<p>N = 68 nurses, 47 medical residents</p> <p>Convenience sample from South Florida hospital setting where new medical residency programme was initiated in 2008.</p> <p>None of the 68 nurses had worked with medical residents before.</p>	<p>Determine the effect of an educational program on the attitudes of nurses and medical residents towards positive communication and collaboration.</p> <p>In addition to the above, follow up on the effect would also be done with weekly meetings for a 6-month period to improve group communication and collaboration, and to also discuss successes and challenges.</p>	<p>Quasi-experimental pretest, post-test design used; study done over 1 year.</p> <p>Physicians received self-learning packet during 1<sup>st</sup> week of orientation; nurses attended educational sessions before residency programme began.</p> <p>Jefferson Scale of Attitudes towards Physician-Nurse Collaboration and Communication and the Collaboration and Critical Thinking for Quality Patient Outcomes Survey tools with Likert scales were used to measure the attitudes of the nurses and physicians in the areas of positive communication and collaboration. Both groups completed the tools at the start of programme and again after 6 month period.</p>	<p>Important significance of the <i>t</i>-test analysis in the pretest and post-test scores on both scales for residents indicating an improvement in overall attitudes towards collaboration and communication with nurses and for improvement in the understanding of the use of effective communication skills. Similar results were found from nurse data.</p> <p>Findings support that nurses and medical residents benefited from learning effective communication skills and the need for collaboration among professionals.</p> <p>Patient satisfaction scores higher in the study unit than any other hospital unit.</p> <p>Nurses and medical residents both reported more comfort and open communication with each other.</p>	<p><u>Strengths:</u> Significant background and definitions pertaining to the study included.</p> <p>Selected scales were widely used and studied; shown to have high reliability and validity. SPSS software and <i>t</i>-test analysis.</p> <p><u>Weaknesses:</u> Lack of control group, thus it cannot be stated for certain that the interventions were the entire cause of improvement in effective communication and collaboration.</p> <p>Small sample size for respective groups. Variation in the presentation of educational materials being the nurses had classes and the physicians had self-learning packets. Attempt to compensate for this factor by analyzing nurses and physicians against own group results.</p>	<p>Education and discussion about positive communication skills and collaborative practice should be provided for both nursing and medical students in their coursework.</p> <p>Nursing educators, nursing leaders, hospital administrators, and medical staff members need to have awareness of how positive communication and collaboration can increase job satisfaction, improve patient care and satisfaction, and create an environment of teamwork.</p> <p>Nursing leaders and healthcare administrators should support and promote ongoing continuing education in health care settings.</p>

**Appendix E Literature Review Tables**

Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Olson, L. (2004). Improving nurse-physician communication. <i>AI Practitioner</i>, 30-34.</p> <p><b>Level II</b></p>	<p>N = 44 nurses</p> <p>Participants from a "pilot" critical care unit (CCU) at Saint Joseph Health Care Center (hospital) in Kansas City, Missouri.</p>	<p>Improve nurse-physician communication as part of a hospital initiative to improve service and provide a healing environment for patients, families, co-workers, physicians, and intra-department staff.</p> <p>Objectives:                      -more collaborative interactions between physicians and nurses                      -rekindle and recognize the common passion and partnership between nurses and physicians for great patient care                      -increased mutual trust and respect                      -increased relationship building</p>	<p>Leadership group consisted of 15 staff that received training on "Appreciative Inquiry".</p> <p>Methodology used to assist nurses to have increased confidence when talking with physicians.</p> <p>Survey questionnaire for quantitative data developed that asked nurses about their experiences communicating with physicians and what was perceived as cooperation. Nurses also verbally shared stories about when they feared talking with physicians or times they may have been upset by an interaction.</p> <p>Interviews, feedback sessions, and additional meetings for ongoing discussion were conducted.</p>	<p>Communication with physicians noted to be more successful when the nurse has prepared the pertinent information about the patient for the physician.</p> <p>Nurses want physicians to provide in-service education.</p> <p>Nurses and physicians both report desire to round on patients together.</p> <p>Important to welcome physicians to unit and work on building relationships. Physicians respect and value nursing experience and competence. They like to be greeted, want nurses to know whole patient picture and approach problems with a no fault/no blame attitude. Patient satisfaction increased. Nurses felt more respected. Physicians and ancillary departments noted improvements.</p>	<p><u>Strengths:</u></p> <p>Nurses all received consistent training for improving communication through sessions and a formal guide.</p> <p>Leaders were all prepared before training nurses with identical format.</p> <p>Applicable to use for nursing students to enhance communication skills.</p> <p><u>Weaknesses:</u></p> <p>No specific instruments or means of analyzing data was detailed.</p>	<p>Surveys, interviews, and discussions with staff and trained leaders useful in health care settings to open up and improve communication between physicians and nurses.</p> <p>Educational resources important for staff, such as a guide for effective communication.</p> <p>Senior nurses and administration to offer support and leadership for team and relationship building in work settings.</p> <p>Nurses need to set limits with physicians with reframing, boundaries, and re-directing conversation.</p> <p>Expressing fears and concerns regarding communication with physicians can benefit nurses by allowing for them to face issues and ignite desire to improve partnerships and interactions.</p>

## Appendix E Literature Review Tables

Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Plummer, M. &amp; Molzahn, A.E. (2009). Quality of life in contemporary nursing theory. <i>Nursing Science Quarterly</i>, 22(2), 134-140.</p> <p><b>Level II</b></p>	<p>41 relevant articles.</p> <p>Review of 26 additional articles regarding the conceptualization of <i>quality of life</i> by various theorists including Peplau, Leininger, Rogers, King, and Parse.</p>	<p>Illuminate the contextual, subjective, and fluid nature pertaining to the concept of <i>quality of life</i>.</p> <p>Identify theorist's assumptions, conceptual gaps or boundaries, and attributes of the concept of <i>quality of life</i>.</p>	<p>A concept analysis was conducted using critical appraisal of literature in historical context.</p> <p>CINAHL search with the terms of <i>quality of life</i>, <i>concept analysis</i>, and <i>nursing theory</i>.</p> <p>Each theorist's view of <i>quality of life</i> was analyzed based on 5 questions:            *How is the concept used by the theorist?            *How significant is the concept in the nursing theory?            *Is the conceptualization of <i>quality of life</i> consistent with the author's assumptions and theory?            *What are the attributes of the concept?            *What are the conceptual gaps?            Answers were compared and a matrix table was constructed as an analytical tool; results were then synthesized.</p>	<p>Multiple definitions were noted for the concept of <i>quality of life</i>.</p> <p>All of the theorists considered the concepts of <i>quality of life</i> and <i>health</i> to be closely related.</p> <p>All theorists described <i>quality of life</i> to be subjective and contextual.</p> <p>Personal relationships have an influence on one's quality of life.</p> <p>There is a lack of clarity concerning the differences and relationships between the concepts of <i>health</i> and <i>quality of life</i> in nursing theory as well as social science.</p> <p><i>Quality of life</i> may be a more inclusive and useful metaparadigm concept than <i>health</i>.</p>	<p><u>Strengths:</u></p> <p>Thorough literature review on relevant articles and theorists.</p> <p>Search engine valid; appropriate keywords for related articles.</p> <p><u>Weaknesses:</u></p> <p>Single search engine could have limited results.</p> <p>Half of articles found in search were not very current (dated 1990-1999).</p>	<p>More nursing research is suggested to investigate the influence of the connections of the <i>quality of life</i> concept to further develop a nursing knowledge base.</p> <p>Additional research would help facilitate an understanding of the perspective of <i>quality of life</i> for various people.</p> <p>Application of the metaparadigm concept of <i>quality of life</i> could refocus nursing practice to a more broad range of life experiences of individuals and groups.</p> <p>Further theory development could augment knowledge expansion across paradigms. Consider replacing concept of <i>health</i> with <i>quality of life</i>.</p>



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<p>Reising, D.L., Carr, D.E., Shea, R.A., &amp; King, J.M. (2011). Comparison of communication outcomes in traditional versus simulation strategies in nursing and medical students. <i>Nursing Education Perspectives</i>, 32(5).</p> <p><b>Level II</b></p>	<p>N = 41 senior year bachelor of science (BSN) nursing students, 19 second-year medical students</p> <p>Participants obtained via convenience sampling.</p> <p>Total of 60 participants divided into 2 groups.</p>	<p>Purpose to compare the outcomes in affective and communication domains using a traditional (roundtable) model versus simulation (Jeffries simulation model) in nursing and medical students.</p>	<p>Prospective, descriptive design study used to collect both qualitative and quantitative data on nursing and medical students. Groups received either the traditional/round table or the simulation intervention. 2 medical students were paired with 3 or 4 nursing students in each group. Both groups were given the problem-solving issue of a "mock code", or ACLS scenario. The traditional group discussed interventions in a roundtable; the simulation group stood around a manikin as the scenario unfolded. A facilitator and scribe were present at each group. Surveys were completed at the end regarding roles, stress, changing viewpoints, and respectful communication.</p>	<p>Overwhelming support from medical and nursing students in both intervention groups that the overall experience was helpful in the context of learning interprofessional communication skills (100%) and that they had a better sense of their role on the clinical team (98.3%). Differences between the traditional and simulation groups: The simulation group reported more stress during the scenario, but that it was a more realistic experience. They were also able to more clearly define multiple roles within the scenario. Medical students took on more of a lead role in both groups. Importance of teamwork noted to be vital to groups success within scenarios. Students reported need to practice communication.</p>	<p><b>Strengths:</b> ACLS scenario "common ground" familiarity for groups. Generalizable to nursing students. <b>Weaknesses:</b> Minimal to no debriefing for groups after scenarios; authors tried to avoid confounding impact of facilitator interaction.</p> <p>One-time encounter of this study as well as small sample size were also limitations.</p> <p>No specific tools were able to be used for this particular study to uncover true elements of interprofessional communication. Provided data was all student perceptions; no objective data was collected from observers. How was each facilitator conducting group scenarios? Could this have impact on facilitating collaboration or communication?</p>	<p>Medical and nursing students alike desire interprofessional communication during their education so they better understand roles and communication once they are licensed.</p> <p>Providing a situation for students to be able to interact with each other and practice in a safe environment was valued and should be incorporated training. A variety of approaches can be used for the above recommendations. Simulation has advantages of adding the component of a sense of timing and realism to patient scenarios. Scheduling interaction and matching skill sets between the nursing and medical student curricula is ideal, but potentially challenging to organize. Results to be used to create a communication rubric for trained observers to use when evaluating team members in learning environments.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Robinson, F.P., Gorman, G., Slimmer, L.W., &amp; Yudkowsky, R. (2010). Perceptions of effective and ineffective nurse-physician communication in hospitals. <i>Nursing Forum</i>, 45(3), 206-216.</p> <p><b>Level II</b></p>	<p>N = 18 participants: 9 nurses 9 physicians</p> <p>Participants all from large, urban university health science center.</p> <p>Mass email sent to recruit nurses and physicians that worked in a hospital setting for at least 5 years. 18 that met criteria were divided into 3 groups of 6 each.</p>	<p>Purpose to explore the perceptions of physicians and nurses regarding effective and ineffective communication.</p>	<p>Focus group methodology used.</p> <p>Participants emailed a questionnaire and a focus group guide before meetings. Each group then met for 60-minutes; separate facilitator led each group based on a strict protocol.</p> <p>Open-ended questions were addressed as sent in the initial questionnaire. The facilitator clarified responses and requested additional information as needed.</p> <p>Verbatim audio recordings were taken, transcribed, and then further analyzed by 4 investigators. Themes were extracted, reviewed, clarified, and refined.</p>	<p>Effective communication was identified in 5 themes:</p> <ul style="list-style-type: none"> <li>-Straight forward, unambiguous communication</li> <li>-Collaborative problem solving</li> <li>-Calm and supportive demeanor under stress</li> <li>-Maintenance of mutual respect</li> <li>-Authentic understanding of the unique professional role</li> </ul> <p>Ineffective communication was identified in 3 themes:</p> <ul style="list-style-type: none"> <li>-Making someone less than (derision)</li> <li>-Dependence on electronic systems</li> <li>-Linguistic and cultural barriers</li> </ul> <p>Collaborative problem solving and clear, precise communication that includes feedback contributes to safety. Establishment of a relationship is a precursor to effective communication.</p>	<p><u>Strengths:</u> Focus group methodology approach encouraged open sharing of perceptions by allowing for a nonthreatening environment, feedback, and verbalization of opinions and feelings.</p> <p><u>Weaknesses:</u> Using a different facilitator for each focus group could introduce design variance. The authors recognized this and also felt it could enrich data by allowing for unique data or perspectives.</p> <p>Questionnaire was sent ahead of time for group meetings which potentially could have caused scripted or socially desirable responses.</p> <p>Small sample size not likely representative of most institutions. Results not meant to be generalized beyond this sample size and setting.</p>	<p>Recommendations to enhance teamwork by supporting a closed-loop communication protocol that ensures the information was sent and received as well as interpreted correctly.</p> <p>Facilities should implement frequent and comprehensive interdisciplinary rounds to allow for nurses and physicians to familiarize with one another.</p> <p>Health education should enforce high-quality interprofessional aspects pre and post-licensure.</p> <p>Education should not focus on profession-centric thinking so that multiple health care workers can understand the various roles and contributions of other team members.</p>

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<p>Seago, J.A. (2008). Professional communication. In Hughes, R.G. (Eds.), <i>Patient Safety and Quality: An Evidenced-Based Handbook for Nurses</i>. Rockville, MD. Agency for Healthcare Research and Quality (US).</p> <p><b>Level I</b></p>	<p>4 systematic literature reviews including 131 relevant studies</p> <p>3 nonrandomized controlled trials (NRCTs)</p> <p>-No randomized control trials (RCTs) found relating to nurse-physician communication interventions relating to patient outcomes)</p> <p>7 quality improvement projects</p>	<p>Review evidence of professional communication strategies that have been tested empirically and relate to patient safety and outcomes.</p> <p>Propose communication tool to assist nurses to improve and maintain patient safety and outcomes.</p>	<p>Search strategy included electronic databases: PubMed, CINAHL, the Cochrane Collection, AHRQ reports.</p> <p>English language articles selected that related to keywords of <i>physician, nurse, relationships, communication, coordination, collaboration, autonomy, teamwork, MD, RN, patient, outcome, safety, and adverse event.</i></p>	<p>Body of evidence on professional communication is notably limited.</p> <p>Insufficient empirical evidence to support a specific communication strategy or tool to improve nurse-physician communication.</p> <p>Inadequate evidence to support using some techniques to enhance communication patterns and that a focus on nurse-physician communication may have a positive effect.</p>	<p><u>Strengths:</u> Extensive literature review done by single researcher on relevant articles and studies.</p> <p>Search engines valid and keywords included variety of pertinent terms.</p> <p><u>Weaknesses:</u> Quality improvement projects were without control or comparison groups.</p> <p>Findings without solid conclusiveness, therefore, limited generalizability to nursing.</p>	<p>Suggestions to improve nurse-physician communication:</p> <ul style="list-style-type: none"> <li>-evaluate strategies for physician-nurse communication using measurable outcomes fitting to organization</li> <li>-select strategies, focus training, provide support and resources on improving physician-nurse communication</li> <li>-allow for sufficient resources and time to implement strategies</li> <li>-do not implement multiple strategies at the same time</li> <li>-rigorously critique strategies using patient outcomes and staff satisfaction</li> <li>-if ample time/effort spent, eliminate intervention if proven unsuccessful</li> </ul> <p>Further research is needed regarding if communication practices can demonstrate an effect on patient outcomes.</p>

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<p>Shanta, L.L. &amp; Connolly, M. (in press). Using King's interacting systems theory to link emotional intelligence and nursing practice. <i>Journal of Professional Nursing</i>.</p> <p><b>Level II</b></p>	<p>Literature review of multiple publications including 21 research articles.</p>	<p>Explore relationship between King's Interacting Systems Theory (IST), Emotional Intelligence (EI), and nursing; propose a theoretical framework for the incorporation of EI as a foundation for effective nursing practice.</p>	<p>Extensive literature review and background of King's IST and Emotional Intelligence in regard to connections and applications to nursing practice.</p>	<p>King's IST offers a framework for the nursing profession and nurses to be able to comprehend the complexities of providing care for patients and peers as well as themselves while negotiating within the environment of health care. EI provides the skills necessary to assist in the process of traversing the systems, but nurses need to learn different skills sets within the levels and develop competence through complex interactions. IST emphasizes the importance of nurses having EI abilities in their practice, but it does not completely delineate a means to understand and include emotions within the complex interactions that are involved in the nursing process. Current research is supportive of connection between higher levels of EI and positive patient outcomes.</p>	<p><u>Strengths:</u></p> <p>Thorough literature review of multiple resources to address King's IST, EI, and the nursing process; substantial evidence noted in support of the link of IST and EI with nursing practice.</p>	<p>A theoretic connection of nursing and EI has been uncovered, however, continued research is warranted to answer questions of:</p> <ul style="list-style-type: none"> <li>-How do nurses develop higher levels of EI?</li> <li>-Does advanced nursing education lead to higher levels of EI?</li> <li>-What types of behaviors and attributes do nurses have with high EI?</li> <li>-Will patient outcomes be influenced by the level of EI in nurses?</li> <li>-When nurses have high EI, does it improve collegiality and leadership within the health care team?</li> <li>-Can nurses that possess high EI lead to authority, power, influence, and status needed to alter the health care system?</li> </ul>

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<p>Stein-Parbury, J. &amp; Liaschenko, J. (2007). Understanding collaboration between nurses and physicians as knowledge of work. <i>American Journal of Critical Care</i>, 16(5), 470-476.</p> <p><b>Level II</b></p>	<p>N = 12 nurses</p> <p>Employees of Medical-Surgical ICU in metropolitan tertiary teaching hospital in Australia.</p>	<p>Use knowledge model to analyze how ICU culture affects care of patients who become confused. Examine nurse-physician communication and collaboration breakdown in relation to issue of confused patients. Thesis: breakdown in communication and collaboration occurs when neither nurse nor physician know what to do for patient's clinical problem/confusion</p> <p><b>Model of Knowledge:</b>  <u>Case Knowledge</u> biomedical, established knowledge of anatomy, physiology, disease processes, and therapeutics  <u>Patient Knowledge</u> understanding person's experience of disease and treatment response  <u>Person Knowledge</u> recognition of person as self with personal biography</p>	<p>Model of Knowledge used as framework which included Case, Patient, and Person Knowledge types.</p> <p>2 phases of data collection including participant observation of ICU personnel over 6-month period (included interactions with nurses, physicians, and other clinical staff during all shifts for 320 hours until data saturation reached); interview with 12 nurses for 30-120 minutes each.</p> <p>Analysis of field notes and interviews:</p> <p>Data analysis done through interpretation and triangulation of data sets. Clarifications and revisions made. Data validation done for all sources and triangulated for convergence. Final analysis interpretations compared with literature findings.</p>	<p>Breakdown between nurses and physicians occurred due to the different types of knowledge used by each group. Nurses utilized more Patient Knowledge and physicians functioned more within realm of Case Knowledge.</p> <p>Written ethnographic account of cultural norms and practices showing breakdown and lack of collaboration in the selected ICU setting. Findings offered to nurses and physicians who were both surprised by and disagreed with the results.</p> <p>Nurses' work poorly understood and less relevant in general to physicians, who were more focused on the disease itself and associated treatment. Nurses' labor was devalued and they felt ignored when seeking help if physicians were unable to make a diagnosis.</p>	<p><u>Strengths:</u></p> <p>Detailed process for analysis and validation of findings.</p> <p>Results transferable to other ICU settings where confusion is a common issue.</p> <p>Models of knowledge provide insight regarding the tendencies of various health care worker sectors.</p> <p><u>Weaknesses:</u></p> <p>What was seen may have been specific to the particular ICU, time, or staff.</p> <p>Larger sample size more ideal to verify trends and findings.</p>	<p>Qualitative inquiry can provide understanding regarding phenomena.</p> <p>Using knowledge model to analyze data revealed intricate understanding in this study regarding communication and collaboration that may be applicable to other clinical settings in addition to the ICU.</p> <p>Health care workers should consider nurses and physicians operate under different types of knowledge. This premise should not be dismissed otherwise breakdown of collaboration and communication can occur.</p>

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<p>Tija, J., Mazor, K.M., Field, T., Meterko, V., Spenard, A. &amp; Gurwitz, J.H. (2009). Nurse-physician communication in the long-term care setting: Perceived barriers and impact and patient safety. <i>Journal of Patient Safety</i>, 5(3), 145-152.</p> <p><b>Level II</b></p>	<p>N = 375 licensed nurses</p> <p>Subjects from 26 long-term care (LTC) facilities in Connecticut.</p> <p>Nurses invited to participate if they worked more than 8 hours of direct patient care per month as reported by the facilities' director of nursing.</p> <p>All LTC facilities were recruited originally to participate in a study regarding the effectiveness of a standardized communication intervention to improve the quality and safe management of warfarin therapy in the LTC setting.</p>	<p>Describe nurses' perceptions of nurse-physician communication in the LTC setting.</p>	<p>Mixed-method study, self-administered questionnaire and qualitative, semi-structured telephone interviews with licensed nurses.</p> <p>Questionnaire adapted from the Schmidt nursing home quality of nurse-physician communication scale used in Sweden. 18 items were each rated with 5-point Likert scale.</p> <p>Follow-up phone interview done with nurses agreeing to participate (10 random chosen of that group). 11 nurses also selectively included to represent range of ages, sex, tenure, and language.</p> <p>Panel transcribed, reviewed, extracted and compared interview themes until data concurrence.</p>	<p>Feeling rushed by the physician was most frequently reported by nurses (28%) as the characteristic that makes it difficult to talk with physicians. Finding a quiet place to call was another reported barrier to communication (25%).</p> <p>13-17% of nurses experienced rudeness or disrespect from physicians during encounters. Language barrier was the least common communication problem (10%). Few nurses felt uncomfortable when calling physicians (3%), 24% felt they were inconveniencing the physician with calls. Physician trust and call response time were noted as factors. Nurse preparedness was a common theme in interviews (15/21) as a major factor contributing to communication challenges, but not a common factor in the quantitative findings.</p>	<p><u>Strengths:</u> Pilot testing done for questionnaire and content validity assessed by interdisciplinary panel. Items all approved. Study reviewed and approved by IRB. Questionnaires were anonymous and sensitivity analysis conducted to stratify item responses by facility response rate. Chi-square test to assess for statistically significant differences in item response by facility response rate; quantitative analysis done via STATA SE. Thorough analysis of interviews following Krueger guidelines. Communication-Human Information Processing (C-HIP) model used as framework to understand breakdown of communication.</p> <p><u>Weaknesses:</u> Facilities chosen for warfarin study; reliability not done on questionnaire.</p>	<p>Findings support the development of structured communication interventions to improve the quality of nurse-physician communication. Application of C-HIP model can reveal possible reasons for communication failures.</p> <p>Use of communication tools such as SBAR are helpful for improving communication, patient safety, and decreasing adverse drug events.</p> <p>Themes noted from qualitative interviews included nurses suggesting that physicians maintain professionalism and respect with communication, call back promptly, and work collaboratively.</p> <p>Physicians overwhelmingly recommend that nurses are prepared, communicate clearly, explain reason for call/contact, and state what is needed.</p>

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<p>Tschannen, D., Keenan, G., Aebersold, M., Kocan, M.J., Lundy, F., &amp; Averhart, V. (2011). Implications of nurse-physician relations: Report of a successful intervention. <i>Nursing Economics</i>, 29(3), 127-134.</p> <p><b>Level II</b></p>	<p><u>Time 1:</u> N = 71 nurses, 34 physicians</p> <p>(Unit A: 34 nurses and 12 physicians, Unit B: 37 nurses, 22 physicians)</p> <p><u>Time 2:</u> N = 58 nurses, 31 physicians</p> <p>(Unit A: 32 nurses and 15 physicians, Unit B: 26 nurses, 16 physicians)</p> <p>Units were both in a Midwestern tertiary care center.</p> <p>Nurses selected worked a minimum of half time on their units; physicians consisted of attending physicians and house officers of a single specialty.</p>	<p>Purpose to describe effect of collaborative intervention aimed at improving nurse-physician communication on two study units.</p> <p>Hypothesized improvements in dynamics and collaboration would occur between nurses and physicians via the implementation of an expedited task group communication intervention.</p> <p>Improvements in collaboration would also be expected to extend to post-implementation period.</p>	<p>Prospective, pre and post-intervention design to identify effectiveness of a collaboration intervention on communication patterns within 2 study units.</p> <p>Intervention of meetings consisting of 2 nurses and 2 physicians each for 8 hour blocks to collaborate and develop a solution to communication issues on their respective units (Unit A = neurosurgery, Unit B = vascular surgery).</p> <p>3 phases of study: -Work Group Phase 1 -Task Group Phase -Work Group Phase 2</p> <p>Videotaping groups captured variation of communication patterns, progression. Tool used for physicians and nurses was the "Organizational and Management of the ICU" survey with Likert-type scale.</p>	<p>Groups successfully collaborated to support hypothesis as evidenced by identifying problems and problem solving.</p> <p>Improvement in communication was noted from Time 1 to Time 2, thus supporting that improved collaboration continued post-intervention implementation.</p> <p>Collaboration and communication was improved among both nurses and physicians.</p> <p>Variation in the environment affected collaboration and communication; interruptions, handoffs, and turnover undermined process. Although environment for groups facilitated collaboration and enhanced communication, there were still signs engrained cultural norms with nurse-physician interactions.</p>	<p><u>Strengths:</u> Instrument reliability tested previously through analysis of interdisciplinary teams of nurses, doctors, and nutritionists.</p> <p>Pearson correlation coefficients were computed. SPSS software used for data analysis. ANOVA tests performed. T-tests were calculated and analyzed from pre to post intervention (all tests were <math>p &lt; 0.05</math>). Trained data coder transcribed and categorized interactions. Feiger and Schmitt's methodology used to identify the types of interaction processes between groups.</p> <p><u>Weaknesses:</u> Subjects all from same area; such characteristics could affect perceptions. Small subject number limited finding significance among tested variables.</p>	<p>Educational system should embrace the concepts of inter-professional education and guarantee it is included in curriculum for all nursing and medical students.</p> <p>Hospitals need to devise and implement processes for training physicians and nurses regarding effective communication skills and techniques. Suggested methods include team training and simulations that focus on inter-professional communication.</p> <p>Nurses and physicians working together in task groups promoted collaboration; this can be used as a framework for management to utilize for improved communication between nurses and physicians. Need for identification of strategies to change existing cultural norms that are barriers to collaboration. Expedite a team-centered approach to support collaboration relations among health care professionals.</p>

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Article	Sample	Comparison Studied	Study Procedures	Key Results	Strengths & Weaknesses	Implications
<p>Vazirani, S., Hays, R.D., Shapiro, M.F., &amp; Cowan, M. (2005). Effect of a multidisciplinary intervention on communication and collaboration among physicians and nurses. <i>American Journal of Critical Care</i>, 14(1), 71-77.</p> <p><b>Level II</b></p>	<p>N = 111 house staff, 45 attending physicians, 123 nurses.</p> <p>2 inpatient hospital medical units studied over 2-year period. Staff randomized to control or intervention unit. Staff remained in their group/unit for the entire study period.</p>	<p>Determine impact of multidisciplinary intervention on communication and collaboration between and among doctors and nurses in the hospital setting.</p>	<p>Intervention unit had additions of a nurse practitioner (NP), hospitalist medical director, and the institution of daily rounds. Control unit kept usual staffing and weekly rounds.</p> <p>Physicians and nurses completed surveys assessing the degree of communication and collaboration in the 2 units. Physicians were surveyed at the end of their rotation on each unit; nurses surveyed biannually.</p> <p>Surveys consisted of 4 questionnaire items for collaboration, 5 for communication, and 3 for perceptions. Likert rating scale used and scoring compared by 2-tailed <i>t</i> and paired <i>t</i> tests.</p>	<p>Intervention group physicians reported greater communication and collaboration with nurse practitioners and other physicians.</p> <p>Nurses in both groups reported similar levels of communication and collaboration.</p> <p>Physicians and nurses alike both reported that their communication and collaboration was better with the NPs than between physicians and nurses.</p> <p>Facilitating open communication can improve job satisfaction, improve nurses' ability to contribute to patients' care and fully utilize their skills.</p> <p>Physicians and nurses share a common goal of maximizing the health of patients and providing comfort.</p>	<p><u>Strengths:</u> Factors of having additional staff availability on the intervention unit could have likely attributed to perceptions of enhanced communication and collaboration.</p> <p>High internal consistency reliability for multi-item scales (median of 0.84).</p> <p><u>Weaknesses:</u> "Collaboration" not defined; striking differences in physician and nurse reports of this factor.</p> <p>NP role found to be confusing for staff. Both physicians and nurses had more contact with NPs, thus reporting improved collaboration and communication with this particular group. -Would results vary if physicians and nurses had equal time together?</p>	<p>Important for nurse and physicians to improve communication and collaboration in order to achieve safe and positive patient outcomes.</p> <p>A multidisciplinary intervention can result in improved collaboration and communication in the health care setting.</p> <p>Further investigation into establishment of interventions needed for enhancing physician-nurse collaboration and communication.</p>



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<p>Weller, J.W., Barrow, M., &amp; Gasquoine, S. (2011). Interprofessional collaboration among junior doctors and nurses in the hospital setting. <i>Medical Education</i>, 45, 478-487.</p> <p><b>Level II</b></p>	<p>N = 13 doctors and 12 nurses (selected by snowball technique) that all worked in New Zealand hospitals</p>	<p>Compare views of doctors versus nurses on communication and collaboration in the health care setting.</p>	<p>Outcome to understand nature of interactions, activities, and issues affecting new graduates to inform interventions to improve interprofessional collaboration (IPC).</p> <p>Face-to-face and telephone interviews to explore experiences of doctors and nurses working together (conducted until saturation and no new concepts emerged).</p> <p>Qualitative analysis; analytical data coding, using NVivo 8, against theoretical framework for health care team function.</p>	<p>Doctors and nurses expressed mutual respect.</p> <p>Organization structures limited establishment of professional relationships.</p> <p>Sharing of information and goals seen to be fundamental to optimal decision making (work environment and differing perspectives could affect achievement).</p> <p>Nurses and doctors see roles as complimentary and non-competitive.</p> <p>Maintenance of open communication is important for patient safety; leadership vital to facilitation.</p> <p>Doctors felt nurses were assertive; nurses valued doctors being approachable.</p>	<p><u>Strengths:</u> Experienced interviewers (3) with consistent questioning.</p> <p>Subject selection uniformity; all working in 2<sup>nd</sup> year after graduation.</p> <p>Investigator and research assistant read and coded all of the interviews; compared coding data until consistency was achieved. Two additional investigators evaluated and concurred on the final coding.</p> <p><u>Weaknesses:</u> Limited sample size, although saturation was met during interview process.</p>	<p>Educational interventions advised for new graduates regarding IPC.</p> <p>Components include: -develop formal strategies for inducting new members to the healthcare team -develop educational interventions to teach about the frameworks of other healthcare professionals -develop training in the teamwork process; engage teams through active programs such as simulation - recognize role of leadership; clarify roles -establish formal process for sharing concerns, decision making and priorities -develop IPC skills training including approaches to information transfer and encouragement to speak up to challenge dangerous actions</p>

Room: CRSC 103  
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Cabinet

Utilizing Goal Attainment



CSC11564