

ASSESSING COMMUNICATION EFFECTIVENESS IN INTERPROFESSIONAL
HEALTHCARE TEAMS

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Submitted to the faculty of the University Graduate School
in partial fulfillment of the requirements
for the degree
Master of Arts
in the Department of Communication Studies,
Indiana University

July 2019

Accepted by the Graduate Faculty of Indiana University, in partial fulfillment of the requirements for the degree of Master of Arts.

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DEDICATION

I dedicated this project to my parents and siblings, Scott, IU Interprofessional Practice & Education colleagues, Dr. Maria Brann, and thesis committee members. You all have pushed me in different ways to become a better scholar in the field of communication. This thesis is just the beginning.

ACKNOWLEDGEMENT

First and foremost, I have to thank my parents for their love and support throughout my life. Thank you both for giving me the strength and resources to allow me to chase my dreams. You are my cheerleaders, especially in times when I do not quite fully believe in myself.

To Scott, thank you for your understanding and encouragement through this period of my life as well as my many, many moments of crisis and “some” mental breakdowns.

I would like to sincerely thank my thesis advisor, Maria Brann, for her guidance and support throughout this thesis. Your encouragement has allowed me to find my next step in my academic career.

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Interprofessional education and practice is a collaborative approach in equipping health professional students with the skills to become effective team members to improve patient outcomes. This research study used a grounded theory approach to identify the communication characteristics and behaviors that influenced a team's communication effectiveness. Two-hundred and twenty-two students participated in an interprofessional simulation at a Midwestern university. Ninety-two standardized patients assessed the students' communication skills and their ability to collaborate as a team using a CARE Patient Feedback form, which served as data for the study. The study found four characteristics of effective interprofessional team experiences: *aware of the patient's situation, participate in the interaction equally, create a safe space, and nurture and strengthen a relationship*. Students demonstrated an increase in communication effectiveness between encounter one and two; teams worked collaboratively rather than individually; students demonstrated five of the eight IPEC communication competencies; and negative and positive behaviors had a significant impact on patient outcomes. This study informs educators the need for repeated exposure of interprofessional practice experiences, such as simulation activities. These opportunities allow students to practice, learn, and refine their communication skills before entering their clinical practice.

Maria Brann, PhD, MPH, Chair

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LIST OF ABBREVIATIONS

Abbreviation	Word	Meaning
IPE	Interprofessional education	Occurs when two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes (WHO, 2016)
IPEC	Interprofessional Education Collaborative	Incorporated as a 501(c)(3) collaborative; membership group that promotes and encourages to advance substantive interprofessional learning experiences to help prepare future health professionals (IPEC, 2016)
PCC	Patient-centered care	Encourages active collaboration and shared decision-making between patients, families, and providers to design and manage a customized and comprehensive care plan (Epstein & Street, 2011)
SBAR	Situation, background, assessment, and recommendation	A technique for communicating concise and focused information that requires attention and action concerning a patient's condition (Kostoff et al., 2016)
CUS	Concerned, uncomfortable, and safety	Serves as an effective verbal alarm, empowering healthcare providers to "stop the line;" alert team members and cue them to clearly understand not just the issue but also its magnitude or severity (ARHQ, 2019)
WHO	World Health Organization	Its primary role is to direct and coordinate international health within the United Nations system (World Health Organization, n.d.)
HPAC	Health Professions Accreditors Collaborative	A collaborative to enhance accreditors' ability to ensure graduates of health profession education programs are prepared for interprofessional collaborative practice (Health Professions Accreditors Collaborative, n.d.)

ARHQ	Agency for Healthcare Research and Quality	Its goal is to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable and to work within the U.S. Department of Health and Human Services and with other partners to make sure that the evidence is understood and used (Agency for Healthcare Research and Quality, 2017)
IOM	Institute of Medicine	Is affiliated with the National Academies of Science and serves as a nonprofit organization devoted to providing leadership on healthcare; serves as an excellent source for leaders and managers to gain access to current research and publications devoted to health care (Institute of Medicine, n.d.)

Chapter One: Introduction

Humans, by nature, function to be interdependent. With the exponential growth of information via the Internet and more complex, dynamic work structures, there is a need for diverse groups to collaborate to solve challenges and overcome barriers. An industry required to use teamwork as a tool is healthcare. In the United States, healthcare is “exorbitantly expensive, fragmented, unreliable, reactive, and does little to improve population health or attenuate shocking and ubiquitous disparities in health status and life expectancy” (Earnest & Brandt, 2014, p. 498). Healthcare is a fragmented industry that is comprised of various professions, such as doctors, nurses, and psychiatrists, which must work together in teams, communicate regularly, and share resources and tools (Manser, 2009). Teamwork and collaboration are foundational and indispensable for the next generation of healthcare professionals because the concept of health “incorporates a complex and holistic system where biological, psychological, physical, socioeconomic, cultural, and environmental factors function as interconnected and interacting determinants of one another” (Weiss, Tilin, & Morgan, 2018, p. 22). The paradigm for health has shifted from addressing the acute care interventions and reducing deaths to a model that oversees goals of patients’ overall health. The quality of, and access to, care is at the forefront of the way healthcare is currently delivered.

To improve the experience of care, Berwick, Nolan, and Whittington (2008) developed the concept, the “Triple Aim,” and added it to the healthcare lexicon. The Triple Aim is an approach to improve the individual experience of care, improve the health of populations, and reduce the per capita costs of care for populations (Bodenheimer & Sinsky, 2014). These goals are not independent; instead, they require a

systematic integration of collaborative practice and education. The Triple Aim framework expanded to the Quadruple Aim in 2014 to include improving the experience of providing care (Sikka, Morath, & Leape, 2015). The Triple Aim focused on the patient and community's needs and wants; however, the concept disregarded the healthcare's workforce. To successfully achieve all goals of the Quadruple Aim, providers must be engaged in their everyday healthcare experiences. This is not synonymous with happiness; rather the notion is that all healthcare professionals have a sense of accomplishment and meaning in their contributions to the patient and as a team - a sense of importance (Sikka et al., 2015). Dissatisfied physicians and clinic staff threaten the patient-centeredness of care and the Quadruple Aim (Bodenheimer & Sinsky, 2014). To address each goal of the Quadruple Aim, there needs to be a shift in the healthcare culture from a "silo" system, in which clinicians operate independently of one another, to a team-based care model (Khalili, Hall, & DeLuca, 2014). Research shows interprofessional teams make fewer mistakes than individuals, which can improve patient care and increase safety (Baker, Day, & Salas, 2006).

Because an interprofessional healthcare team is comprised of diverse professions, potentially at different levels of expertise, members must have strong communication skills to effectively work with one another as well as with their patients. To become a dynamic team, there must be formal and informal opportunities "to learn about and interact with members of other professions to increase awareness of and respect for others' roles, change stereotypical views, and thereby enhance team functioning" (Sargeant, Loney, & Murphy, 2008, p. 229). To prepare future healthcare professionals to function in a team-based care model, simulation is used as an educational strategy to

provide opportunities for students to develop, practice, and refine interprofessional skills, such as communication, collaboration, and teamwork (Baker, Pulling, McGraw, Dagnone, Hopkins-Rossell, & Medves, 2008).

Communication is essential when reporting to a patient, family member, provider, and/or clinic staff. The importance of communication is that it provides safe, quality care for all parties involved. A 2016 John Hopkins study claims more than 250,000 people in the United States die every year from medical errors, making it the third-leading cause of death after heart disease and cancer (Makary & Daniel, 2016). Furthermore, The Joint Commission (2012), an independent, not-for-profit organization responsible for accrediting hospitals nationwide, estimated that miscommunication between health professionals during transfers of care contributes to 80% of serious medical errors. Thus, the emerging healthcare model, interprofessional teams, can help subside the significant amount of deaths per year, solely through communication. More than a decade ago in 2001, the Institute of Medicine (IOM) Committee made a recommendation in its landmark report, *Crossing the Quality Chasm: A New Healthcare System for the 21st Century*, suggesting that healthcare professionals need to work in interprofessional teams to best communicate and address complex and challenging needs of patients. Since then, the IOM has published and established guiding principles and values for team-based healthcare (Mitchell et. al, 2012). Universities with health professional programs recognize the need to educate their students so they can function effectively in this type of environment outside the classroom and/or clinical settings; hence, programs are implementing interprofessional education (IPE) into their curriculum to better prepare and inform students on how to interact and communicate as a dynamic, healthcare team.

Communication influences collaboration and effectiveness of interprofessional teams. If a team's communication is poor, then that increases the safety risks for its patients (Leonard, Graham, & Boacum, 2004; Walker, 2008); thus, it is critical to understand and practice communication for successful collaboration. Both undergraduate and graduate students are taught communication skills but are often not informed of the theoretical rationale or how to apply them in a healthcare setting (Conn, Lake, McColl, Bilszta, & Woodward-Kron, 2012; Yedidia et al., 2003). Using a structured simulation, a well-researched teaching strategy, requires students to engage in active learning and practice their communication skills in a realistic healthcare setting. Further, standardized patients, who are "carefully trained to portray an actual patient" in simulation experiences, provide valuable feedback about specific skills observed in the encounter (Barrows, 1993, p. 444).

In this descriptive study, the goal is to assess how effective groups of health professional students are in an interprofessional simulation after being exposed to interprofessional education at least three times prior to this experience. Furthermore, it seeks to describe the positive and negative communication strategies that affect patients' care through the standardized patients' feedback. The standardized patients' evaluations of the interprofessional teams support the need for this healthcare model in improving patient outcomes. Because communication is the skill that binds the patient and providers together, it is critical to evaluate if students are competent as an interprofessional team to adequately assess the patient's overall healthcare needs and wants. This study's intention is to determine if health professional students are willing to adapt to new,

interprofessional communication strategies as they engage in more simulation experiences.

Chapter Two: Literature Review

Due to patients' complex health needs, they typically require more than one discipline to address their health issues; hence, healthcare professionals are organizing themselves in interprofessional teams to best address challenging needs (Bridges, Davidson, Soule Odegard, Maki, & Tomkowiak, 2011). Communicating across disciplines and as a team is not as simple as it seems. Historically, healthcare education was taught in "silos." Students in their respective disciplines learned its own vernacular and training without considering how other healthcare professionals would and could influence their conversations and patient care. Additionally, the focus has been on students learning to communicate with the person seeking care rather than with the colleagues they will work with in the future (Lindqvist, 2015). Most importantly, a silo mentality could lead to poor patient care and/or miscommunication among providers (Khalili et al., 2014). Nowadays, the trend is toward educating health professional students together through experiential learning activities, such as simulation, to learn and practice how to have functional conversations with one another, and how all disciplines on the team impact patients' care.

Below I discuss the body of literature and research that is published regarding interprofessional teams, IPE competencies, and effective communication strategies in healthcare. The literature review is composed of subtopics to facilitate the discussion in how this study enhances, elaborates, and supports the existing research in the health communication field.

Interprofessional Healthcare Teams

The terms “multidisciplinary care” and “interdisciplinary care” have been replaced with a contemporary term called, “interprofessional practice and education” (Nester, 2016). The development of this model was a response to the need of changing the healthcare delivery system. Many patients, doctors, nurses, and healthcare leaders were, and still are, concerned that the level of care delivered currently is not the care Americans should receive (Blendon, Benson, Steel-Fisher, & Weldon, 2011; Blendon, Brodie, Benson, Altman, & Buhr, 2006). Advances in medicine and technology have improved patients’ health and functioning; however, the healthcare delivery system struggles in its ability to provide high quality care to all, because its current structure does not lend itself in using the best of its resources.

In 2010, the World Health Organization (WHO) recognized interprofessional collaboration in education and practice as an innovative approach that would play an important role in mitigating the global healthcare and workforce crisis. To prepare future healthcare professionals to work in that type of environment, students must learn with two or more professions about, from, and with each other to enable effective collaboration and improve health outcomes (WHO, 2010). Universities across the globe are implementing experiential learning opportunities regarding interprofessional education and practice in program-specific curricula to help inform and shape the future healthcare workforce. The goal is not only to change the healthcare model but also the culture. Providers must become more introspective and focus on what the communities, patients, and country need (a systematic approach); the Quadruple Aim requires healthcare organizations to redefine their culture.

Interprofessional teams “aim to bring together members from different professions to collaborate to deliver integrated services and make informed decisions” (Mitchell, Parker, & Giles, 2011, p. 1322). Individual team members assume profession-specific roles, but as a team, they identify and analyze problems, define goals, and assume joint responsibility for actions and interventions to accomplish goals (Counsell, Kennedy, Szwabo, Wadsworth, & Wohlgemuth, 1999). A significant challenge a team must overcome is being familiar with the expertise and function of each profession’s role as it pertains to the patient, family, and one another. To understand how each profession affects the team, there must be open and transparent communication between all members.

Health professional schools frequently focus on the science of their discipline, stressing the importance of disease, drugs, and procedural skills. Communication, a humanities skill, is often underappreciated. Medical schools and other health professional programs include topics that relate specifically to the patient-provider encounter, such as basic interviewing skills, consultations, and handling difficult situations (Aspegren, 1999). However, these skills are typically delivered as an isolated subject early in students’ careers. This results in novice students being exposed to an advanced subject before having an opportunity to apply these skills in a clinical setting (Conn et al., 2012). Additionally, communication is not explicitly or formally addressed during clinical rotations. The students must transfer knowledge and skills taught in the classroom to the clinical setting. This “transfer” is documented as the “degree to which trainees effectively apply the knowledge, skills, and attitudes gained in a training context to the job” (Baldwin & Ford, 1988, p. 82). Without specific trainings, attention, and reinforcement

regarding communication and its importance in a medical context, students' skills will deteriorate as the curriculum progresses; thus, they are insufficiently prepared for clinical practice, especially when conversing with those providers of various disciplines (van Weel-Baumgarten, Bolhuis, Rosenbaum, & Silverman, 2013).

Teaching basic communication skills to medical students, in particular, can lead to more effective interactions with other healthcare team members, better time management, increased empathy, decreased physician burnout, and better emotional health (Green, Parrott, & Crook, 2012). For students who do not receive any training in communication, their skills decrease as they progress through school (Green et al., 2012). There must be a longitudinal and balanced curriculum focusing on how to apply the communication skills learned in the classroom to a clinical environment, then, refining those skills for future practice.

Due to the complexity of care nowadays and the need for collaboration in healthcare, a majority of health professional accreditation bodies require interprofessional education to be included in the programs' curriculum. Six accrediting bodies published *Core Competencies for Interprofessional Collaborative Practice* in 2009, which provided accreditors of health professional education programs common standards for interprofessional education. The report was updated in 2016, and there are 25 accrediting bodies who uphold the same standards.

Though communication skills are taught in each program, students are typically not educated about how to converse with various health professions in the same setting. In an interprofessional environment, healthcare providers could and would begin with unfamiliar lexicon, which can cause tensions among problem-solving strategies, values,

and ethics in team huddles (Hall, 2005). A team huddle is a regular pre-clinic team briefing meeting to review the schedule, discuss the needs of each patient, troubleshoot problems, make plans regarding upcoming visits and/or referrals, and communicate care during and between visits (Shunk, Dulay, Chou, Janson, & O'Brien, 2014).

When there is not clarity in the messaging with team members or one does not understand a discipline correctly, this can lead to “role blurring.” Naturally, interprofessional team members will have areas of overlapping competencies and knowledge; thus, this can create confusion as to where one’s practice boundaries begin and end (Mariano, 1999). Falk (1977) noted that role blurring could result in some team members feeling underutilized or members feeling that they need and are responsible for the patient’s care. If roles are not clearly defined and understood as a team, then the engagement of the team deteriorates, which is a threat to the Quadruple Aim.

Failures in communication within interprofessional healthcare teams are established causes of medical error and negative health outcomes, including death (Brock et al., 2013). When a team has communication failures, it has significant economic effects that may reduce quality and safety or access to care. An emphasis is placed on communication during these controlled, interprofessional learning events to help students develop foundational knowledge and skills before entering in a clinical setting. With known interprofessional foundational principles and goals, this study seeks to answer the following research question:

RQ1: What are effective interprofessional communication characteristics from the standardized patient’s perspective?

To prevent misconceptions and tensions in team communication, universities develop and host interprofessional experiential sessions and/or events to allow health professional students to interact and learn from other disciplines, whom they will be collaborating with in the future. These experiences allow students to practice and navigate complex conversations across disciplines before engaging in a “real-life” patient-provider scenario. Ideally, the IPE training occurs early in health professional students’ careers, so they can learn, develop, and refine their communication, coordination, cooperation, autonomy, and mutual trust, which ultimately shifts the culture of healthcare (Bridges et al., 2011).

The importance of interprofessional teamwork is becoming increasingly recognized due to the amount of positive health outcomes it creates for all individuals, such as patients, providers, and healthcare staff. WHO (2010) linked interprofessional practice with better outcomes in family health, infectious disease, humanitarian efforts, responses to epidemics, and non-communicable diseases. Additionally, studies have shown improvements in access to care and coordination of services, appropriate use of specialty care, chronic disease outcomes, and safety (Lemieux-Charles & McGuire, 2006; WHO, 2010).

IPE research has been an area of inquiry for many decades by scholars in education, psychology, sociology, pharmacy, nursing, and medicine. With a diverse group of disciplines, there has been a strong research foci on program-specific outcomes as well as explicitly mapping out changes in attitudes, processes, and skills that influence the goals of the Quadruple Aim. There has been a considerable amount of evidence that interprofessional teams can “reduce the risk of service delivery duplication and

fragmentation and reduce health care costs...reduce admission and readmission to critical care wards” (Mitchell et al., 2011, p. 1322). With the American healthcare system in a fragmented and uncoordinated system, interprofessional collaborative practice and team-based care have been identified as integral components of healthcare reform and the shift in culture.

IPE continues to gain traction in the healthcare field among educators and providers. Health professional students participate in interprofessional events with different disciplines to allow them to practice difficult and challenging conversations with one another. With repeated exposure in a simulated environment, this study seeks to explain the answer to the following research question:

RQ2: How effective is the team’s communication from the first encounter to the second encounter?

Core Competencies for Interprofessional Collaborative Practice

To promote and support the interprofessional, team-based model, interprofessional education has been identified as an important tool to foster acquisition of knowledge, skills, attitudes, and competencies (Gill & Ling, 1995). In 2009, six national education associations of schools of health professions (i.e., American Association of Colleges of Nursing, American Association of Colleges of Pharmacy, American Association of Colleges of Osteopathic Medicine, American Dental Education Association, Association of Schools of Public Health, and Association of American Medical Colleges) formed a collaborative, the Interprofessional Education Collaborative (IPEC), to promote and encourage efforts that would advance interprofessional learning experiences. There was a need for this collaborative because educators in healthcare

struggled to identify methods of interprofessional education that lead to better practice (Dow, Diaz-Granados, Mazmanian, & Retchin, 2014). The goal was to create a framework to help prepare future providers for team-based care. What emerged in 2011 is a set of core competencies recommended by IPEC and an expert panel.

Competencies are defined as “an integrated set of knowledge, skills, attitudes, and judgments that enable one to effectively perform the activities of a given occupation or function to the standards expected in employment” (Curran et al., 2009, p. 297).

Similarly, the operational definition of interprofessional competencies in healthcare is “integrated enactment of knowledge, skills, values, and attitudes that define working together across the professions, with other healthcare workers, and with patients, along with families and communities, as appropriate to improve health outcomes in specific care contexts” (IPEC, 2016, p. 8). For health professional programs, competency-based curricula has become widely accepted to assess future providers (Curran et al., 2009). Before publishing the core competencies, they were reviewed by health professional organizations in the United States (US) and Canada as well as other international groups and agencies. After the announcement of the report, *Core Competencies for Interprofessional Collaborative Practice*, in 2011, the competencies were widely distributed and have been used across health professional programs.

There was strong support in the health professionals’ education community regarding the competencies and implementing IPE at universities across the globe. The number of organizations and institutional members grew, which, in turn, created more interprofessional learning experiences for students. Due to the popularity, in late 2014, the six IPEC-sponsoring associations formed the Health Professions Accreditors

Collaborative (HPAC) to establish relationships that enable stakeholders to readily communicate and engage in activities to support interprofessional education, with a shared goal in mind. In 2019, the six-member group grew to 25. Throughout the years, each association has been independently creating accreditation policies, processes, and/or standards for interprofessional education.

In 2016, IPEC released an update to its *Core Competencies for Interprofessional Collaborative Practice*. The update had a three-fold purpose (IPEC, 2016):

1. Reaffirm the value and impact of the core and sub-competencies;
2. Organize the competencies within a singular domain of Interprofessional Collaboration, instead of four domains, and create shared taxonomy among health professions to streamline educational activities related to assessment and evaluation efforts; and
3. Broaden the competencies to better achieve the Quadruple Aim.

Even though there was an update, the primary goal (i.e., improving team-based patient care to enhance population health outcomes) remained the same. The competency domains in the interprofessional collaborative practice framework includes interprofessional teamwork and team-based practice, interprofessional communication practices, roles and responsibilities for collaborative practices, and values/ethics for interprofessional practice. The competency domains are patient- and family-centered as well as community- and population-oriented (see Figure 1).

Interprofessional Collaboration Competency Domain

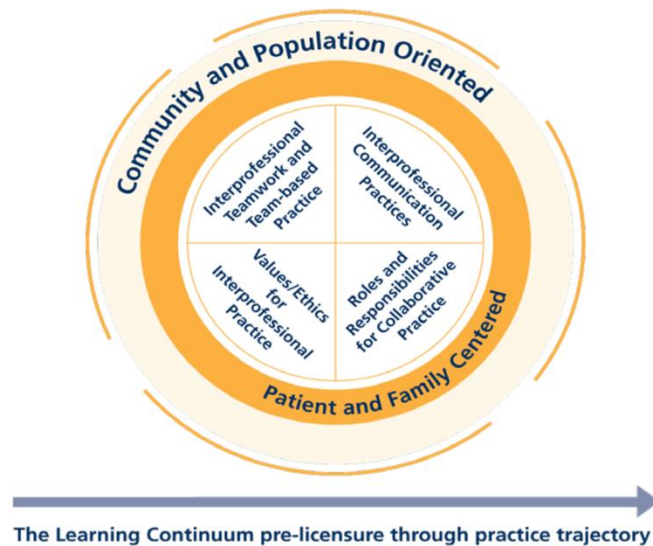


Figure 1. Interprofessional Collaboration Competency Domain. This figure illustrates the four interprofessional competency domains, updated in 2016, set by the Interprofessional Education Collaborative (IPEC, 2016).

The four competency domains are as follows (IPEC, 2016):

1. Values/Ethics for Interprofessional Practice: Work with individuals of other professions to maintain a climate of mutual respect and shared values.
2. Roles/Responsibilities: Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.
3. Interprofessional Communication: Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach for the promotion and maintenance of health and the prevention and treatment of disease.
4. Teams and Teamwork: Apply relationship-building values and principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

Under each core competency, there are sub-competencies. The sub-competency statements further define the skills each graduate should be able to perform in practice. For this specific study, the focus is only on interprofessional communication (Competency Domain 3). Thus, the sub-competencies of interprofessional communication are as follows (IPEC, 2016):

- Sub-competency (SC) 1: Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.
- SC2: Communicate information with patients, families, community members, and health team members in a form that is understandable, avoiding discipline-specific terminology when possible.
- SC3: Express one's knowledge and opinions to team members involved in patient care and population health improvement with confidence, clarity, and respect, working to ensure a common understanding of information, treatment, care decisions, and population health programs and policies.
- SC4: Listen actively and encourage ideas and opinions of other team members.
- SC5: Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.
- SC6: Use respectful language appropriate for a given difficult situation, crucial conversation, or conflict.
- SC7: Recognize how one's uniqueness (i.e., experience level, expertise, culture, power, and hierarchy within the health team) contributes to effective communication, conflict resolution, and positive interprofessional working.
- SC8: Communicate the importance of teamwork in patient-centered care and population health programs and policies.

To support students' mastery of interprofessional competencies, learning activities are created and integrated into an existing curriculum, which is typically longitudinal in nature. Frequently, these interprofessional activities span across a health professional students' entire program, and he or she experiences these activities through in-person learning (e.g., case studies, simulations, service learning) and/or collaborative

online learning (e.g., video conference discussions, interprofessional gaming, chat room discussions).

To provide evidence for this framework, Packard et al. (2012) conducted a study of 18 students in their final year of study in their respective health professional programs (i.e., medicine, occupational therapy, pharmacy, and physical therapy). The researchers found the competency framework to be an effective tool to teach skills necessary to collaborate. Five themes were identified in a qualitative, reflection-based analysis. The theme of team interaction skills were congruent with the interprofessional communication core competency (Packard et al., 2012). Even though the sample size was small, the results showed that the core competencies are visible in students' reflection, thus, demonstrating their ability to construct knowledge, hold appropriate attitudes, and build communication skills (Packard et al., 2012).

The competency framework serves numerous purposes across the health professional curricula. For educators, it provides a guide for program curriculum; for practitioners, it is a guide in measuring one's behavior in a collaborative environment; for regulators, it creates standards of practice; for accreditors, it implements standards for assessing a program's engagement with interprofessional learning practice (Bainbridge, Nasmith, Orchard, & Wood, 2010). Each program implements its own curriculum, with the competency framework in mind, to provide the proper skills and knowledge for reducing the number of errors, improve the quality of care, and control healthcare costs (WHO, 2010). Further, the National Center for Interprofessional Practice and Education (The National Center), which was established in 2012, leads, coordinates, and supports the study of advancement as it pertains to collaborative-based, health professional

education and patient care as an effective model with universities and organizations across the US. The National Center provides educators, clinicians, and students the tools and resources they need to shift the healthcare culture.

Students must demonstrate through practice that they are competent in implementing communication tools and techniques in an interprofessional, clinical environment. Thus, this study seeks to address the following research question:

RQ3: Do the students' behaviors reflect the IPEC communication competencies, demonstrating learned and effective skills?

Communicating Care to Patients

Communication is the essential component in creating effective healthcare for patients. Talking to patients is at the core of each healthcare professional's practice. One's reputation, trust, and ability to treat patients relies on communication. Although providers have their own style in how they communicate with patients, the two common models of health communication are biomedical and biopsychosocial. Each model has its own strengths and weaknesses; however, research studies have found the biopsychosocial model is more effective and preferred by patients (Margalit, Glick, Benbassat, & Cohen, 2004).

There has been a paradigm shift in how providers in the US treat and diagnose medical illnesses from a biomedical to a biopsychosocial approach. The biomedical model is based essentially on the belief that abnormalities in the body result in symptoms, and the role of physicians is to "identify illnesses and to provide the remedy" (Kaplan, 1997, p. 75). By embracing this reductionistic mentality, the patient's perspective goes unrecognized and unacknowledged. There is limited communication between patients

and healthcare professionals because it is believed that diagnostic tests are all that is needed to accurately diagnose biological problems. In other words, it is the “find it-fix it” and/or “doctor-centered” model (Swenson, Zettler, & Lo, 2006). The model leaves no room within its framework for the social, psychological, and behavioral elements of illness (Engel, 1977). Without establishing those dimensions, the patient-provider relationship suffered, and consequently, illnesses or other health issues went unnoticed.

In the mid-20th century and as health conditions continued to be more complex in nature, academics and practitioners in the health disciplines as well as sociology and psychology, advocated for a new medical model that linked science and humanism and used the term “bio-psychosocial-cultural” (Engel, 1977). This integrative approach was concerned with *what was the matter with the patient* and *what mattered to the patient*. Ultimately, the goal is to empower the person to fulfill his or her potential, as it relates to his or her overall health. The model focuses on the patient’s underlying attitudes and skilled behaviors (Cushing, 2015).

Within a primary care setting, researchers found physicians who practiced a biomedical approach received the lowest score by patients on accumulated knowledge and ratings (Flocke, Miller, & Crabtree, 2002). The study’s patients perceived the physicians to know less about their healthcare preferences and values, them as persons, and family and medical histories (Flocke et al., 2002). This type of communication restricts patients in being active in their medical decision-making, which is how the current healthcare system is structured. However, providers still use a biomedical approach in their everyday practice. Swenson et al.’s (2006) study found a substantial minority of patients preferred a biomedical style. Hence, a patient-centered approach is

not the answer to all health-related communication issues, but patients' values and expectations should guide providers on which communication approach to use.

The biopsychosocial model embodies patient-centered communication (PCC), in which providers "understand the patient as a unique human being" (Fix et al., 2017, p. 301). PCC did not become a focus in healthcare systems until the 20th century. Engel (1977) advocated for a biopsychosocial model because it would provide healthcare professionals a basis of understanding the determinants of a disease, which would allow them to arrive at rational treatments and patterns of healthcare. Furthermore, one must take into account the patient's social context and familial history to effectively treat the illness and restore and maintain his or her physical and mental health (Engel, 1977). In 2001, the IOM called for medical care to become more patient-centered, in that providers must be more responsive to patients' needs and perspectives, with their values guiding the decision-making.

The definition of PCC was expanded upon by Swenson et al. (2006) by stating that the biopsychosocial model is "identifying and responding to patients' ideas and emotions regarding their illness" and "reaching common ground about the illness, its treatment, and the roles that the physician and patient will assume" (p. 200). As healthcare professionals learned more about the complexities of specific health conditions, particularly in chronic disease, patients' brief responses were no longer sufficient. Healthcare providers must have the basic professional knowledge and skills, such as communication, to span across the social, psychological, and biological issues to help guide his or her actions and decisions about a patient (Engel, 1977).

The goal of PCC is that “patients are known as persons in context of their own social worlds, listened to, informed, respected, and involved in their care – and their wishes are honored (but not mindlessly enacted) during their health care journey” (Epstein & Street, 2011, p. 100). Because there are multiple variables to consider, Mead and Bower (2002) described PCC as a preliminary framework that encompasses five distinct dimensions of “patient-centered” care:

1. The biopsychosocial perspective – a perspective on illness that includes consideration of social and psychological (as well as biomedical) factors;
2. The “patient-as-person” – understanding the personal meaning of the illness for each individual patient;
3. Sharing power and responsibility – sensitive towards the patient’s preferences for information and shared decision-making;
4. The therapeutic alliance – developing common therapeutic goals and enhancing the personal bond between doctor and patient; and
5. The ‘doctor-as-person’ – awareness of the influence of the personal qualities and subjectivity of the doctor on the practice of medicine.

The specific dimensions illustrate the power, importance, and effectiveness of a patient-provider relationship.

PCC can be implemented and practiced as a team, not only by individual healthcare providers. Sevin, Moore, Shepherd, Jacobs, and Hupke (2009) noted a high-performing clinical team embodies and provides patient-centered, collaborative care; however, the researchers noted that this type of care requires intent, hard work, willingness to change, and measurement to assess improvement. A team that places responsibility on everyone to communicate and understand each other’s roles and the patient’s information reinforces a culture of caring (Sevin et al., 2009). Effective, clear, and concise communication enables high-performing teams to percolate and succeed.

Teams who practice PCC can add value through improved efficiency, satisfaction, patient experience of care, and outcomes (Sevin et al., 2009). The proximal outcomes – the patient feeling known, respected, involved, engaged, and knowledgeable – strongly contribute to improved adherence and self-care (Epstein & Street, 2011). Communication facilitates the ability for the patient and team member to find and establish a common ground. With a majority desiring a patient-centered approach when receiving care, this care style has taken center stage in the discussions of healthcare quality. Effective communication influences the quality of personal, professional, and organizational relationships that affect all parties involved (Epstein & Street, 2011).

Teams must embody specific communicative strategies and/or tools to ensure the patient feels comfortable and has a say in the decision-making process. Thus, this study seeks to explain:

RQ4: What are the positive and negative communication behaviors the team uses with the standardized patient?

Effective Communication Tools for Interprofessional Healthcare Teams

In clinical encounters, healthcare decision-making is more than a cognitive process; it is also a communicative process defined by the relationships and interactions developed between providers and patients. With an increased older population and complex medical issues on the rise, healthcare requires a series of conversations over time, with multiple providers, to facilitate a shared decision-making process with patients. Research shows that providers “build partnerships with patients, family members, and other clinicians on the treating team, present recommendations, check for understanding and agreement to ensure that patients’ informational, emotional, and

decisional needs are met, and foster a relationship characterized by trust and commitment” (Politi & Street, 2011, p. 583). With the number of responsibilities for each patient, it is evident one profession is unable manage all of his or her health concerns; therefore, healthcare reform advocates for interprofessional teams in clinics.

The adequacy of communication is the foundation on which future healthcare actions rest. Communication patterns are highly variable and influenced by multiple factors, such as gender, education, cultural background, established hierarchies, and social structures (Leonard et al., 2004; Sutcliffe, Lewton, & Rosenthal, 2004). Not only do providers and clinic staff have to navigate the factors listed above but also the everyday noise and chaos of a healthcare environment (e.g., schedule changes, emergencies, upset patients). All of these factors affect the communication process, and conversations can become more complex and create misunderstanding(s). After The Joint Commission listed poor communication as a key factor in sentinel events, there has been an increased emphasis on training future healthcare professionals to work effectively in teams (Brock et al., 2013).

Collaborative communication tools have been developed to facilitate and organize patients’ healthcare information among providers. Providing more standardized approaches and tools may provide potential solutions in improving the quality of clinical communication and to prevent medical errors. Research shows patients perceive communication to be easier with a cohesive team rather than with numerous professionals who do not know what others are doing to manage his or her health issues (O’Daniel & Rosenstein, 2008). Furthermore, teams make fewer mistakes than individuals do, especially when each team member knows his or her responsibilities as well as those of

other team members (Baker et al., 2006; Volpe, Cannon-Bowers, Salas, & Spector, 1996).

TeamSTEPPS (Strategies and Tools to Enhance Performance and Patient Safety) is an evidence-based curriculum, incorporating 20 years of scientific research, to optimize team performance across the healthcare delivery system (Agency for Healthcare Research and Quality [AHRQ], 2019). Simply conducting training or installing a team structure does not ensure the team will operate effectively (King et al., 2008).

TeamSTEPPS is an effective educational intervention that helps integrate teamwork into practice to improve quality, safety, and efficiency of healthcare (King et al., 2008).

The Department of Defense (DoD) and AHRQ developed this tool to incorporate teamwork into practice. AHRQ disseminated TeamSTEPPS nationwide in 2006; and to create long-term sustainment, it has collaborated with several federal agencies, academic centers, and health networks to implement the curriculum into practice (King et al., 2008).

TeamSTEPPS has five key principles, which are based on team structure and four teach-able learning skills: communication, leadership, situation monitoring, and mutual support (AHRQ, 2019). The four teachable skills are required for successful, effective teamwork in patient care. The skills influence performance, attitudes, and knowledge (AHRQ, 2019). TeamSTEPPS is widely used to train existing healthcare professionals rather than students; thus, educators are integrating the intervention tool frequently in their curricula because it has been shown to enhance teamwork and improve patient outcomes (Robertson, Kaplan, Atallah, Higgins, Lewitt, & Ander, 2010). TeamSTEPPS

can be used in IPE learning activities, such as completing a mock scenario/case, completing a debrief session, or participating in a simulation (Robertson et al., 2010).

For this specific study, the focus is solely on the teachable skill of communication. This intervention tool calls for communication to be complete, clear, brief, and timely (AHRQ, 2019). There are multiple, efficacious communication tools an interprofessional team can use while working as a team and addressing a patient. A TeamSTEPPS strategy commonly used among teams is called situation-background-assessment-recommendation (SBAR). This instrument fulfills the need to encourage interprofessional collaboration and limit probability of error (Leonard et al., 2004).

SBAR was originally developed by the United States military communication on nuclear submarines but has proven to be successful in healthcare settings, particularly relating to improving patient safety. The tool was initially introduced in 2002 by rapid response teams at Kaiser Permanente in Colorado to investigate patient safety. The communication technique facilitated prompt and appropriate communication, thus, gaining popularity in healthcare settings (Achrekar, Murthy, Kanan, Shetty, Nair, & Khattry, 2016). Due to the complexity of patient care situations, SBAR has become a best practice for the rapid transmission of information in hospitals and hand-offs (Leonard et al., 2004). A hand-off is the “real-time process of passing patient-specific information from one caregiver/provider to another or from a team of caregivers/providers to another for the purpose of ensuring the continuity and safety of the patient’s care” (The Joint Commission, 2017, p. 2). A high-quality hand-off is complex due to external factors (e.g., patient expectations, language barriers, cultural or ethnic considerations, patient

education); so, SBAR provides structure for the conversations between providers and patients.

SBAR is a technique for communicating concise and focused information that requires attention and action concerning a patient's condition. This communication tool allows each team member to communicate assertively about the patient and reduce the need for repetition. A benefit of using SBAR in healthcare settings is that it creates structure for conversations, provides clarity, prevents the unreliable process of "hinting and hoping" that someone else on the team understands, and develops desired critical thinking skills (ACT Academy, 2018). Healthcare professionals can provide patients with a version of SBAR enabling them to share information about their own situation, background, assessment, and recommendations, or to ask the care team about their care.

A number of studies have identified outcomes such as employee satisfaction and interdisciplinary communication as it pertains to SBAR in both urgent and non-urgent care situations (Landau & Wellman, 2014; Wathen et al., 2013). Team's quality and perception of communication as well as interdisciplinary teamwork improved with the introduction of SBAR (Beckett & Kipnis, 2009; Edwards & Woodward, 2008; Velji et al., 2008). A study conducted by Kostoff, Burkhardt, Winter, and Shrader (2016) found that pharmacy students reported that using the SBAR communication tool enhanced their ability to organize information and make recommendations when speaking to other healthcare professionals. In another study, participants endorsed SBAR as an easy-to-use communication tool that can be applied in their workplace regardless of clinical setting (Lee, Dong, Hao, Poh, & Lim, 2016). This communication tool serves as an efficient and effective way to transfer information between healthcare providers and staff.

In addition to SBAR, other structured communication tools under TeamSTEPPS that have been shown to be effective include CUS words, call outs, check-backs, and teach-backs. Below is a definition of each tool (AHRQ, 2019):

1. CUS words is an agreed-upon communication tool that any team member can use to stop the action at any time where there is any concern or miscommunication or risk to patient safety. The words are Concern, Uncomfortable, and Safety; and the information is shared in statements such as, *I am Concerned*, *I am Uncomfortable*, and *This is a Safety issue or I don't feel like this is Safe!*;
2. Call outs are used to communicate important information to all team members simultaneously; it helps team members anticipate next steps;
3. Check-backs are used to verify that all team members as well as patients and their family members share the same understanding; and
4. Teach-back is used to confirm patient understanding by having the patients explain in their own words what they were told.

The TeamSTEPPS curriculum provides educators with instruments to encourage and engage their students to have effective conversations with other professions in clinical settings – students are learning by doing rather than simply observing. Foronda, MacWilliams, and McArthur (2016) found standardized communication tools provide a method to offer structured, organized, and integrated conversations that better reflects the care providers' true narrative and a shared mental model of mutual understanding. The communication strategies help bridge the divide and create effective communication to involve teamwork, collaboration, and the understanding of each other's roles.

The participants in this study have been exposed to the TeamSTEPPS curriculum prior to participating in the simulation; thus, with the goals of assessing an increased exposure to standardized communication tools and strategies, the following research was posed:

RQ5: Do standardized patients perceive the students to communicate with the patient collaboratively instead of individually?

Chapter Three: Method

In the body of literature, there is a great deal of diversity of how universities inform, teach, and practice interprofessional collaboration. Even though there are differences among the teaching methods, there is strong evidence that interprofessional learning is enhanced when the approach is grounded in the principles of adult learning (Barr, 2001). For the content to resonate with the students, the activity must be active and reflective; they must be able to make the direct connection between an interprofessional experience and their future practice.

The use of simulation in health professional education provides a safe and realistic environment for students to develop strategies for patient care and to practice team problem-solving and communication (Larew, Lessans, Spunt, Foster, & Covington, 2006). Simulation experiences can be presented in various formats, depending on the goal(s) of the exercise. Regardless, simulated clinical experiences allow students to validate, demonstrate, and share their knowledge and decision-making skills in an interactive fashion, without the stress inherent in the clinical environment (Tanner, 2006). The information below details a simulated experience conducted at a Midwestern public university that was evaluated to assess the effectiveness of interprofessional communication.

Participants

Students ($N = 222$) from a Midwestern public university participated in an interprofessional learning event for two hours in October 2018. Forty Master of Science in Nursing (MSN), 90 traditional nursing (BSN), 20 dental hygiene, and 72 dental students participated. This event was not voluntary; it was a course requirement. Each

student attended three interprofessional events during the course of their program prior to this session. Additionally, the students completed 40 minutes to an hour of pre-work on Canvas, an online learning management system, to prepare for simulation activities.

The pre-work was comprised of an Interprofessional Collaborative Competencies Attainment Survey to measure students' perceived ability to function personally and collaboratively on an interprofessional team. Additionally, the students read and reviewed content, such as narrative listening, values and ethics, and communication tools. The TeamSTEPPS communication strategies (i.e., SBAR, CUS, check-back, and teach-back) were included in the students' pre-work. The students were informed of the characteristics of effective communication, barriers, and skills when communicating with patients/clients. At the end of the module readings, the students clicked "yes" to verify they had completed the one, online module and were acting in compliance with the University's code of student conduct.

Prior to the event, the organizers divided the students into groups of four or five. Each team had a different ratio of professions to create interprofessionalism among all teams. Due to the number of students, the simulated experience occurred over the course of three days. The students were communicated with, via email, their specific session time and date; however, they did not know who would be in their interprofessional team until they arrived at the simulation center.

Twenty-two university faculty members participated as facilitators for the interprofessional event. The purpose of the facilitator was to lead the debrief session with the students in the last 45 minutes of the event and address any questions and/or concerns. Facilitators also commented on the team's dynamic, collaboration, and

effectiveness. The facilitators were not there to solely assess students but to create and continue discussions about interprofessional practice and patient-centered care. All facilitators volunteered their time and were recruited by their respective program's Director and/or Dean.

Ten standardized patients participated in the interprofessional learning event. The simulation Director hired and trained these individuals. Each standardized patient was given the case three weeks prior to the event to allow enough time to prepare. Participating standardized patients had at least two years of simulation experience, so they were knowledgeable, dynamic, and professional.

Procedure

The students and facilitators were assigned a two-hour session, either 8 a.m.-10 a.m. or 10 a.m.-12 p.m. during a three-day period in October 2018 at the university's simulation center. All session assignments were communicated via email and Canvas to participants.

Once the participants arrived for their sessions, each group (i.e., students, facilitators) had their own 15-minute orientation. During this time, the event organizers reviewed the agenda, simulation activities, handouts, and assessment(s), and answered any questions from the students and facilitators. The students had five minutes to review the case (see Appendix A) and write down any notes. After all the students' concerns were addressed in the orientation, they reported to their designated exam room, and the facilitators went to the simulation control room to observe the interactions unobtrusively.

Once the students entered the exam room, their 10-minute huddle started. The students were asked to set a team goal when meeting with the patient, John/Joanna Doe;

create a plan to accomplish the goal; determine the responsibilities and roles of each team member; and decide John's role (see Appendix B). The students needed to discuss how they would handle prioritizing health challenges, identify health assets, and develop actionable "next steps" for the patient. They had a care plan worksheet to record any notes, if needed (see Appendix C). The students received a two-minute warning announcement over the intercom before the standardized patient would enter the exam room to prompt them to finish their huddle. The standardized patient knocked two times on the door before entering the exam room; then, the 10-minute encounter began.

During the huddle and first encounter in the exam room, the facilitator sat in the simulation control center watching from a computer monitor with headphones. He or she could see and hear everything that was occurring in the exam room with and without the patient. At this time, the facilitator completed a Team Huddle and Patient Encounter Behavior Checklist (see Appendices D and E). The facilitator observed and took notes about the team structure, leadership, situation monitoring, mutual support, and communication during the huddle and encounter. When the facilitator was watching the huddle, he or she filled out the Team Huddle Behavior Checklist; then when he or she watched the first encounter, he or she completed the Patient Encounter Checklist.

Along with jotting down notes, the facilitators documented how often they saw specific behaviors in the huddle and encounter (e.g., works collaboratively with other team members, includes patient/family/client in communication, empowers others to speak). They rated each behavior on a scale with 0 indicating the behavior was never observed, 1 = the behavior was observed one to two times, 2 = the behavior was observed 3 or more times, and 3 = the behavior did not apply to this situation. The facilitator

recorded the frequency of behaviors (i.e., team structure, leadership, situation monitoring, mutual support, and communication) in the huddle and encounter.

In the control room, the time-keeper announced when the 10-minute encounter was finished, and the standardized patient left the room. The standardized patient immediately completed his or her CARE Patient Feedback Measure form (see Appendix G) and handed it to the assigned facilitator. The students had a 20-minute debrief among themselves, without the facilitator, to discuss and reflect on their individual and team behaviors. The facilitator continued to watch the debrief and made notes on the interactions.

There was an announcement over the intercom when the students needed to start their second huddle. The team reviewed the case for his follow-up appointment (see Appendix H), which the second encounter simulated as being two months later. There were a few health condition changes that needed to be addressed in the huddle. The students were asked once again to set goals, create a care plan, and determine responsibilities and roles of each team member (see Appendix B). The time-keeper gave the students another two-minute warning to finish their conversation, and then the same standardized patient entered the room. The second 10-minute encounter began. The facilitator continued to watch the huddle and the encounter from the control room. He or she documented observations and noted the frequency of behaviors again but on new assessment sheets (see Appendices D and E). The assessment sheets were useful for the facilitator to see the differences between the two huddles and encounters as well as for program evaluation.

The time-keeper announced the end of the second 10-minute encounter, and the standardized patient left the room. He or she completed the CARE Patient Feedback Measure again (see Appendix G) and handed it to the assigned facilitator. The facilitator entered the exam room with the students after he or she received the standardized patient's feedback and assisted with the final, 40-minute debrief. The facilitator asked students how they felt during the experiences; discussed their strategy, communication, teamwork, and how they focused on the patient (or not); and exchanged views about patient-centered care. He or she could refer to his or her notes on the Team Huddle and Patient Encounter Behavior Checklist as well as the standardized patient's feedback to help facilitate the conversation with the students. Providing specific examples from the huddle and encounter assisted in explaining the principles and practice of interprofessional care.

The session concluded when all thoughts and opinions were shared in the debrief and the students completed their Self and Team assessment (see Appendix F). Students first assessed themselves about their own communication and teamwork behaviors and then evaluated their team holistically on the same assessment items. Additionally, on a 5-point Likert-type scale from strongly disagree to strongly agree, the students answered if they were able to use specific tools, such as effective communication; engaged in self- and team-reflection; and interacted with other professionals, in the simulated encounters. The participants were dismissed when all assessments were returned to the event organizer(s).

Instrument

Each participant in this interprofessional event completed at least one assessment. For this specific study, Mercer, Maxwell, Heaney, and Watts's (2004) CARE Patient Feedback Measure was analyzed. The standardized patients completed the form immediately following an encounter with the interprofessional healthcare team (students). The measure includes 10 Likert-type questions to understand the therapeutic relationship within the consultation (see Appendix G). Examples of questions focused on the standardized patient's comfort level, communication, and the feeling of care and compassion. There was also one yes/no question at the end of the survey: "Did the team interact with you collaboratively (as opposed to individually)?" Finally, the standardized patient was encouraged to leave written comments.

This specific tool is used to evaluate the quality of consultations in terms of the "human" aspects of medical care (Mercer et al., 2004). The measure provides healthcare providers direct feedback on their strengths and weaknesses in terms of relational empathy, as perceived by patients. The provider-patient relationships are built upon the delivery of patient-centered care, and this model of care relies heavily on communication skills (Bonvicini, Perlin, Bylund, Carroll, Rouse, & Goldstein, 2008); thus, this study focuses on all 10 items because each question required verbal and non-verbal communication from the team members.

Data Analysis

I gathered the 92 CARE Patient Feedback forms from the October 2018 interprofessional event sessions. An undergraduate student, paid by the university, entered all of the data, which included comments, into an Excel sheet. The Excel sheet

included the room number, date, session time, encounter number (1 or 2), 10 Likert-type behavior question responses, the yes/no question response (i.e., Did the team interact with you collaboratively?), and the standardized patients' comments. To ensure all the data was accurate, I checked each form with the information entered in the Excel document.

A mixed method approach was used to address the five research questions proposed in the literature review. To answer the first research question, a qualitative, grounded theory approach was used (Glaser & Strauss, 1967). This approach was chosen because this study wanted to uncover the interprofessional characteristics exemplified in this simulation experience. A thematic analysis was used as the method for identifying, analyzing, and reporting patterns in this specific event. The work of Braun and Clarke (2006) guided the process of identifying themes in the facilitators' comments.

A theme "captures something important about the data in relation to the research question and represents some level of *patterned* response or meaning within the data set" (Braun & Clarke, 2006, p. 88); this is also referred to as a category by other researchers (Corbin & Strauss, 1990; Lindlof & Taylor, 2019). For this specific study, the term *theme* is used. To complete an in-depth thematic analysis, six processes were followed:

1. Familiarizing oneself with the data,
2. Generating initial codes,
3. Searching for themes,
4. Reviewing themes,
5. Defining and naming themes, and
6. Producing the report

To begin, I included all of the encounter comments in one document, noting which ones were from encounter one and two. I read through the comments to familiarize myself with the standardized patients' feedback. The immersion of the data permitted me

to read the data in an active way – searching for meanings and patterns, which provided a foundation for my coding process.

I used an open coding process, which is the initial, unrestricted coding of data (Strauss, 1987). Themes were driven by the data rather than theory (Braun & Clarke, 2006) because I asked a specific research question that I was confident the data could answer and was not already present in the body of literature. During this process, I read through all standardized patients' comments, line by line, to look for distinct codes in the data. Codes were complete thoughts and included words, phrases, or sentences. Highlighters and colored pens were used to help indicate potential communication patterns and/or behaviors. When I identified prominent codes, I provided a definition, attributes, and examples of behaviors for each to assist in the development of a well-defined code.

Once the entire data set was initially coded and collated, I had a list of different codes. At this point in the process, it was important to analyze these specific codes at a broader level. The definitions created previously helped form overarching themes. I categorized each code in a table in Microsoft Word to illustrate the number of codes, how the theme evolved, and illustrate how the codes related to one another (Braun & Clarke, 2006). At the end of the axial coding process, I had a collection of candidate themes.

With the list of candidate themes, it was important to review them to see if they were relevant to the research questions, had enough data to support them, had the possibility of grouping specific themes together, and were distinct from each other. The first step in this process was to review each of the coded comments to ensure they formed a coherent pattern; in other words, they were congruent with the message, strategy, and/or

idea. If they did not have a mutual relationship with one another, then the theme was problematic, and I needed to rework or eliminate the theme. After the candidate themes were identified, I re-read the entire set to ensure the themes “worked” in relation to the data and to code any additional items that were missed in the initial stages of open coding (Braun & Clarke, 2006). Because generating themes could go on indefinitely, I did not continue to recode if only one or two items were missed. At the end of this stage, I knew what my themes were, how they fit together, and the overall story they told about my data (Braun & Clarke, 2006). I developed a codebook, which is “a tool for the development and evolution of a coding system and is an important means for documenting the codes and the procedures for applying them” (Weston, Gandell, Beauchamp, McApiline, Wiseman, & Beauchamp, 2001, p. 395). The codebook included the themes and exemplars to inform the coder of the differences between each one.

To ensure the validity of the themes, two individuals were selected as coders. Each coder was given the same 20 comments and the codebook. The comments consisted of those from encounter one and two. The coders highlighted words, fragments, and sentences to indicate an exemplar of the theme. After the coding was complete, I measured the interrater reliability, which is “the extent of agreement among data collectors” (McHugh, 2012, p. 277). Due to human nature, people interpret information differently; thus, it was critical to ensure the themes developed were accurate and consistent among the coders. For this data set, the two coders were 57.1% in agreement, which is too low to accurately report any findings (McHugh, 2012).

The coders shared written and oral feedback on how to improve the codebook because there was some confusion between some of the themes. To provide more clarity,

I modified the codebook to include revised themes, a definition of each theme, and exemplars of behaviors for each. Once refined, two coders, one new and one returning, analyzed the same 20 comments. For this data set, the two coders were 72.6% in agreement, a 27% increase from the original coding set. The results reported Cohen's Kappa as 0.649, which is a moderate level of agreement between the coders (McHugh, 2012). The interrater reliability score validated that the themes were evident in the data set. The coding process allowed for an explicit explanation of the "essence" of each theme, and the discovery of issues that emerged more prominently than others (Braun & Clarke, 2006). Specific data extracts (i.e., standardized patients' comments) are provided in the results section to explicitly demonstrate how the themes respond to the research questions and their relationships.

To address the second research question, a statistical analysis, a paired samples t-test, was used. This test compared the means in before and after observations on the same population. In this study, the students first participated in an encounter with a standardized patient, and then had the opportunity to debrief with one another about that experience before interacting with the same standardized patient again. Because the standardized patients evaluated 10 items on a Likert-type scale, I compared encounter one and two scores for each question of each team. In addition, I performed a pair samples t-test on the summative scores for each Likert-type items. The paired samples t-tests were used to determine if there was an increase in effectiveness as an interprofessional team.

With the IPEC communication competencies embedded in this simulation experience's curriculum, the third research question asked if the teams' behaviors

mapped to specific skills and knowledge. The themes developed to answer the first research question were also used to answer the third research question. Those themes informed how and why specific behaviors were in fact in accordance with the IPEC communication competencies.

The fourth research question sought to discover the positive and negative communication behaviors the team expressed during both encounters. During the thematic analysis process, positive and negative behaviors were outcomes of the final themes. I noted these behaviors in a separate document. When the coders were coding the comments, they also indicated if the sentence, fragment, and/or word they highlighted exemplified a positive or negative behavior. The sentences, fragments, and/or words were categorized based on whether they were received positively or negatively. The exemplars provided support for the demonstrated behaviors.

The fifth research question particularly pertained to the last question on the CARE Patient Feedback Measure form, which stated, “Did the team interact with you collaboratively (as opposed to individually)?” The standardized patient selected either “yes” or “no.” To answer this question, I approached it both quantitatively and qualitatively. First, I performed a frequency count to measure the number of times a standardized patient perceived the group of students to be working collaboratively. This descriptive quantitative analysis provided statistical evidence in the differences between the encounters and if the teams were perceived as collaborative and patient-centered. From a qualitative perspective, the themes generated to answer the first research question informed the types of collaborative or individual behaviors illustrated in the encounters. The behaviors provide evidence why a patient-centered approach is significant,

welcomed, and needed. Behaviors are results from feelings and emotions; thus, the standardized patients were able to provide feedback on how the encounter made them feel.

Chapter Four: Results

This descriptive study assessed how effective groups of health professional students are in an interprofessional simulation after being exposed to interprofessional education at least three times prior to this learning event. The interprofessional simulation required students to converse collaboratively as a team with the patient; however, there are barriers, such as preparedness, willingness to participate, or understanding each other's profession, that may have hindered patient care. The results below illustrate and describe how the simulation experience increases communication effectiveness.

Interprofessional Communication Characteristics

To address the first research question, *What are effective interprofessional communication characteristics from the standardized patient's perspective?*, a thematic analysis, guided by the work of Braun and Clarke (2006) and Glaser and Strauss (1967), was conducted. Four themes emerged from the data set: *aware of the patient's situation*, *participate in the interaction equally*, *create a safe space*, and *nurture and strengthen a relationship* (see Table 1).

The first theme that was apparent was students [providers] being *aware of the patient's situation*. In this context, students understood the patient's perspective, current living situation(s), and barriers to achieving their health goals. Students were engaged in the conversation by asking the patient questions about his or her health, goals, and activities to fully understand his or her overall well-being, instead of only the condition at hand. To provide support for this theme, standardized patients commented, "They gave me lots of time to tell my story and explained why they came up with their solutions and how they would help," "Wow – very empathetic and concerned with my well-being

(body and spirit),” and “Made me feel independent enough, and I like how they gave me a few things to do today and that I can do myself.” When providers were aware of the patient’s situation, they were capable of developing tailored tasks and/or a care plan, which in turn communicated empathy for the patient and his or her situation.

The second theme identified was *participate in the interaction equally*; the interaction refers to the patient encounter. In an interprofessional environment, all individuals who are part of the team, which includes the patient, must be actively involved and engaged in the conversations. Each person on the healthcare team provides a different perspective; thus, participation among all individuals are imperative to the patient’s health plan and/or next steps. In the data, common examples of participating equally were students sharing their own knowledge on how to manage the patient’s health, and all voices being valued and encouraged throughout the visit. Standardized patients responded with positive feedback to the group effort, especially during the second encounter, by stating, “Did a better job of prompting/reading off each other’s comments/responses,” “much better sense of connection with each other this time, and you maintained a positive atmosphere,” “Good teamwork, great job of following up with each other...good explaining actions and plan of action,” and “I liked how you were able to listen to my specific concerns and include me as a participant in my healthcare.” These comments validate the standardized patients’ appreciation of the true team approach; each person contributed something to the conversation, not just a select group of providers.

The third theme found was *create a comfortable environment*. To establish a welcoming space, the providers need to use verbal and non-verbal communication

effectively. The types of communication used to explain this theme were to use open body language, provide an introduction when starting the patient visit, and arrange the room to be conducive for a conversation. In response to creating a safe space, the standardized patients shared, “You all were kind and professional – I appreciated being offered a seat,” “nice when asked to take my purse for me,” and “good upbeat intro – made the patient feel comfortable and cared for.” The simple gestures, like offering a seat or holding a purse, immediately allowed the standardized patient to feel comforted and more at ease during the encounter.

The fourth theme discovered was *nurture and strengthen a relationship*. The communication between the providers and patient affects relationships. Students commonly showed kindness, compassion, and respect when interacting with the standardized patients to create trust. The qualities of care were expressed verbally, such as “great job at ... empowering me to take control of my healthcare plan with assistance,” and “I appreciated being asked what my biggest concern was.” Furthermore, the feeling of being valued significantly affected the way the standardized patients perceived the students’ responses, such as, “helped me find or let me know how I could the resources,” and “you also engaged in my silence, it made me feel that you were listening with your hearts.” It is evident that the standardized patients valued the opportunity to speak during the encounter because it allowed them to engage in the conversation and voice their concerns, specifically, when they were asked questions. These communicative acts created meaningful dialogue between all participants, which influenced their relationships with one another.

Table 1

Interprofessional Communication Themes

Theme	Definition	Examples	Positive Behavior Quotes	Negative Behavior Quotes
Aware of the patient's situation	Providers understand the patient's perspective, current living situation(s), and barriers to achieving their health goals. Patients feel as if the providers are in "their shoes" and are able to converse about external factors that influence their health.	<p>Listen to the patient's story</p> <p>Tailor conversations to the patient's overall well-being</p> <p>Do not make assumptions; ask questions to understand the situation</p>	<p>"They gave me lots of time to tell my story and explained why they came up with their solutions and how they would help."</p> <p>"Multiple times, team leaders said some version of 'hear you saying...' and repeated back information I had shared."</p> <p>"Planning for this session was much more apparent; focus on plan of action was much better and more solidly focused on the whole person, not just a couple of issues."</p> <p>"Great idea to summarize briefly with</p>	<p>"I felt interrogated and ashamed about it, because I didn't think you fully understood my situation."</p> <p>"I was frustrated when one team member assumed I didn't want to go to church because of bad memories rather than asking why I hadn't been in months."</p> <p>"It may have been easier to start off asking my needs or goals instead of asking questions based off your info."</p> <p>"I was provided ideas without plans for practical execution."</p>

			me to make sure I understood this initial first step.”	
Participate in the interaction equally	All individuals who are part of the team, including the patient, are actively involved and engaged in conversations to determine a comprehensive care plan (i.e., next steps).	<p>Providers share their own perspectives/knowledge to manage the patient’s health</p> <p>Create realistic steps, not one discipline dictating the care plan</p> <p>All voices (disciplines, patient, etc.) are valued and encouraged</p>	<p>“I liked how you were able to listen to my specific concerns and include me as a participant in my healthcare.”</p> <p>“...worked well as a team and fed off each other well when someone missed something.”</p> <p>“Students worked together to help reach a goal.”</p> <p>“Great job at discussing as a group with me, empowering me to take control of my healthcare plan with assistance.”</p>	<p>“Not very clear teamwork – individual ideas seemed in tension with one another.”</p> <p>“Some members didn’t speak.”</p> <p>“A couple students dominated the conversation.”</p> <p>“I just felt overall like I needed you to include me – talking with me and not at me.”</p>
Create a comfortable environment	Providers situate the room and communicate amongst each other how to create a safe, welcoming place so that	Use open and welcoming body language	“Good upbeat intro – made patient feel comfortable and cared for.”	“Awkward entry – didn’t wait until I left the room to start talking.”

	all individuals feel comfortable in exchanging a dialogue about health.	<p>Arrange the physical space to be conducive for a conversation and for the appropriate distance from one another (sitting in a circle, standing, etc.)</p> <p>Provide an introduction</p>	<p>“Super nice!! Liked the comment: re: ‘we’re glad to see you!’”</p> <p>“Excellent tone and body language.”</p> <p>“Very friendly and good intro</p>	<p>“I was very uncomfortable sitting up on the table – and one team member giggled at the conversation.”</p> <p>“There were giggles after asking me if I liked eating at a gas station. I felt belittled.”</p> <p>“When introduced to the team I was unsure of what role everyone was.”</p>
Nurture and strengthen a relationship	Providers use non-verbal and verbal communication to express empathy, compassion, kindness, and respect towards the patient to create, enhance, and strengthen the relationship between them and the patient.	<p>Demonstrate kindness and respect in conversations</p> <p>Value the conversation by looking at the patient and responding in a timely manner</p> <p>Provide resources and/or advice to motivate the patient’s ambition to improve his or her well-being</p>	<p>“Good responses to my concerns, I felt listened to.”</p> <p>“Very personable, caring, good verbal/nonverbal cues of compassion and involvement.”</p> <p>“Nice tone and pace of the encounter! You also engaged in my silence. It made me feel that you were ‘listening with your hearts’.”</p>	<p>“Be sensitive to patient care. Young people didn’t know what it’s like to have constant pain.”</p> <p>“Be careful of ‘medical jargon.’ I felt that I wasn’t taken seriously through some body language i.e. looking up at the ceiling while talking to me and dangling legs.”</p>

			<p>“You gave me space to soak in my thoughts and then respond; I received good patient education that gave me understanding about my disease.”</p>	<p>“Less lectures of checking that [feet] and more about finding solutions to my lack of resources.”</p> <p>“Be sure you are allowing me to finish my thoughts before moving so quickly with a plan.”</p>
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Communication Effectiveness in Encounters

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To answer the second research question, *How effective is the team’s communication from the first encounter to the second encounter?*, a paired samples t-test was conducted in SPSS. I compared each Likert-scale question (i.e., showing care and compassion) between the two encounters, among the 46 teams participating (see Table 2).

The first CARE Patient Feedback Measure was “How good was the practitioner (student) at...making you feel at ease?” (see Appendix G). The characteristics that define this statement are introducing himself or herself, explaining his or her position, being warm towards the patient, treating the patient with respect, and not being cold or abrupt. There was a significant difference in scores for students making the standardized patient feel at ease in first ($M=3.17$, $SD=1.081$) and second ($M=3.76$, $SD=0.899$) encounters; $t(45)=-3.809$, $p=0.00$

The second CARE Patient Feedback Measure was “How good was the practitioner (student) at...letting you tell your ‘story’?” (see Appendix G). The characteristics that define this statement are giving the patient time to fully describe his or her condition in his or her own words, not interrupting, and not rushing or diverting the patient. There was a significant difference in scores for students letting the standardized patient tell his or her story in first ($M=3.15$, $SD=0.965$) and second ($M=3.76$, $SD=0.814$) encounters; $t(45)=-4.389$, $p=0.000$.

The third CARE Patient Feedback Measure was “How good was the practitioner (student) at...really listening?” (see Appendix G). The characteristics that define this statement are paying close attention to what the patient was saying and not looking at the notes or computer as the patient was talking. There was a significant difference in scores for students really listening to the standardized patient in first ($M=3.37$, $SD=0.928$) and second ($M=3.89$, $SD=0.875$) encounters; $t(45)=-3.308$, $p=0.002$.

The fourth CARE Patient Feedback Measure was “How good was the practitioner (student) at...being interested in you as a whole person?” (see Appendix G). The characteristics that define this statement are asking/knowing relevant details about the patient’s life and his or her situation, and not treating the patient as “just a number.” There was a significant difference in scores for students being interested in the standardized patient as a whole person in first ($M=3.04$, $SD=1.115$) and second ($M=3.89$, $SD=0.948$) encounters; $t(45)=-4.983$, $p=0.000$.

The fifth CARE Patient Feedback Measure was “How good was the practitioner (student) at...fully understanding your concerns?” (see Appendix G). The characteristics that define this statement are communicating that he or she had accurately understood the

patient's concerns and anxieties, and not overlooking or dismissing anything. There was a significant difference in scores for students fully understanding the standardized patient's concerns in first ($M=2.93$, $SD=1.020$) and second ($M=3.63$, $SD=1.040$) encounters; $t(45)=-4.786$, $p=0.000$.

The sixth CARE Patient Feedback Measure was "How good was the practitioner (student) at...showing care and compassion?" (see Appendix G). The characteristics that define this statement are seeming genuinely concerned, connecting with the patient on a human level, and not being indifferent or "detached." There was a significant difference in scores for students showing care and compassion in first ($M=3.35$, $SD=1.016$) and second ($M=3.89$, $SD=0.875$) encounters; $t(45)=-4.723$, $p=0.000$.

The seventh CARE Patient Feedback Measure was "How good was the practitioner (student) at...being positive?" (see Appendix G). The characteristics that define this statement are having a positive approach and a positive attitude and being honest but not negative about the patient's problems. There was a significant difference in scores for students being positive in first ($M = 3.391$, $SD=.977$) and second ($M=4.00$, $SD=0.843$) encounters; $t(45)=-4.327$, $p=0.000$.

The eighth CARE Patient Feedback Measure was "How good was the practitioner (student) at...explaining things clearly?" (see Appendix G). The characteristics that define this statement are having fully answered the patient's questions, explaining clearly, giving the patient adequate information, and not being vague. There was a significant difference in scores for students explaining things clearly in first ($M=2.93$, $SD=0.975$) and second ($M=3.78$, $SD=1.094$) encounters; $t(45)=-5.158$, $p=0.000$.

The ninth CARE Patient Feedback Measure was “How good was the practitioner (student) at...helping you take control?” (see Appendix G). The characteristics that define this statement are exploring with the patient what he or she can do to improve his or her health himself or herself and encouraging rather than “lecturing” the patient. There was a significant difference in scores for students helping the standardized patient take control in first ($M=2.83$, $SD=0.996$) and second ($M=3.70$, $SD=1.152$) encounters; $t(45)=-5.230$, $p=0.000$.

The tenth CARE Patient Feedback Measure was “How good was the practitioner (student) at...making a plan of action with you?” (see Appendix G). The characteristics that define this statement are discussing the options, involving the patient in decisions as much as he or she wants to be involved, and not ignoring the patient’s views. There was a significant difference in scores for students making a plan of action with the standardized patient in first ($M=2.89$, $SD=1.080$) and second ($M=3.67$, $SD=1.283$) encounters; $t(45) = -3.600$, $p = 0.001$.

For a summative score of the 10 questions, a paired samples t-test was conducted (see Table 2). There was a significant difference in scores for students interacting and conversing with the standardized patient in first ($M = 143.00$, $SD = 9.888$) and second ($M = 174.80$, $SD = 5.371$) encounters; $t(9) = -16.135$, $p = 0.000$.

Table 2

Differences in CARE Characteristics Between Encounter 1 and 2

<i>M(SD)</i>	<i>M(SD)</i>	<i>t</i>	<i>df</i>	<i>p</i>
<u>Feel at ease</u>				
Encounter 1	Encounter 2			
3.17(1.081)	3.76(0.899)	-3.809	45	0.000

<u>Let you tell your “story”</u>				
Encounter 1	Encounter 2			
3.15(0.965)	3.76(0.814)	-4.389	45	0.000
<u>Really listening</u>				
Encounter 1	Encounter 2			
3.37(0.928)	3.89(0.875)	-3.308	45	0.002
<u>Interested in you as a whole person</u>				
Encounter 1	Encounter 2			
3.04(1.115)	3.89(0.948)	-4.983	45	0.000
<u>Fully understanding your concerns</u>				
Encounter 1	Encounter 2			
2.93(1.020)	3.63(1.040)	-4.786	45	0.000
<u>Showing care and compassion</u>				
Encounter 1	Encounter 2			
3.35(1.016)	3.89(0.875)	-4.723	45	0.000
<u>Being positive</u>				
Encounter 1	Encounter 2			
3.391(.977)	4.00(0.843)	-4.327	45	0.000
<u>Explaining things clearly</u>				
Encounter 1	Encounter 2			
2.93(0.975)	3.78(1.094)	-5.158	45	0.000
<u>Helping you take control</u>				
Encounter 1	Encounter 2			
2.83(0.996)	3.70(1.152)	-5.230	45	0.000
<u>Making a plan of action with you</u>				
Encounter 1	Encounter 2			
2.89(1.080)	3.67(1.283)	-3.600	45	0.000
<u>Aggregate</u>				
Encounter 1	Encounter 2			
143.000(9.888)	174.80(5.371)	-16.135	9	0.000

Demonstrating IPEC Communication Skills

The third research question asked, *Do the students’ behaviors reflect the IPEC communication competencies, demonstrating learned and effective skills?* One of the four

IPEC IPE core competency domains is interprofessional communication, which is defined as “communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease” (IPEC, 2016). There are eight sub-competencies that explicitly state behaviors that facilitate the all-inclusive definition.

The first interprofessional communication sub-competency (CC) found in the data set was CC1, which states, “choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function” (IPEC, 2016). The standardized patients did not specifically state the name of the tools, like SBAR and CUS, but inferred that they were used, because there was team collaboration. For example, a standardized patient said, “Students worked together well and I feel they want to come up with a plan to help me...I felt like they had a leader and everyone worked around that.” In interprofessional practice, all providers of the team have a responsibility to the patient and their team members. At times, a team leader will arise. This role can ensure continuity and consistency of care for the effective delivery of health services. Due to the professional cultures, those individuals in the medical field usually embody this role because of the perception that they hold more recognition and power in healthcare teams (Kaini, 2015). For the standardized patients, the communication techniques influenced the team function in a way that made them feel valued.

Another example of how the interprofessional teams used communication techniques to improve team function and clarity was confirming with the patient what he

or she said. A standardized patient said, “Multiple times, team leaders said some version of ‘I hear you saying’ ...and repeated back information I had share. I could tell they were listening...by the end, there were strong specifics.” This type of communication allows all team members to hear what their colleagues heard and understand. Using the talk-back strategy, which is a tool under TeamSTEPPS, creates a sense of transparency and common understanding among all, especially the patient. Providers are able to follow-up with questions if there are misunderstandings as well as to know if the patient is understanding the conversation. Again, team leaders emerged from this encounter, which highlights how effective this role plays in an interprofessional setting.

The second interprofessional communication sub-competency (CC) found in the data set was CC2, which states, “communicate information with patients, families, community members, and health team members in a form that is understandable, avoiding discipline-specific terminology when possible” (IPEC, 2016). During the encounters, standardized patients perceived that providers were intentional and doing their best to find solutions, even though, some teams failed to develop a comprehensive care plan. Providers asked the patients questions to hear their concerns and goals, which provided insight into how the conversation should be approached and directed. Including all those involved in the conversation and employing strategies created the opportunity for the communication to be more effective and precise. During the first and second encounters, standardized patients shared a few strategies that were useful in understanding the information shared with them, such as summarization and repetition. For example, one standardized patient said, “Great idea to summarize briefly with me to make sure I understood this initial first step.” Also, standardized patients commented

about the pace and timing of the encounter, “Nice tone and pace of the encounter!,” “Nice tone and pace on my level,” “Good sharing of time,” and “They gave me lots of time to share my story.” The pace, tone, and time reflected if the information was understood by the patient. If the pace moves too quickly, then that can create confusion or misunderstandings. Allowing providers to speak with the patient rather than at the patient, which was noted by several standardized patients, allowed for the health information to be understood as well as the appropriate care steps to be realistic. Also, to ensure clarity, teams used the white board in the exam room and/or created a resource chart for the patient. The communication tools allowed the providers to approach the patients at a comprehension level they were comfortable with, which ultimately impacted their relationship with one another.

The third communication sub-competency identified was CC4, which is “listen actively and encourage ideas and opinions of other team members” (IPEC, 2016). In the first and second encounter comments, the majority of standardized patients noted if all providers participated or just a few. Those who had all providers engaged in the conversation felt the encounter was positive overall. For example, a standardized patient commented, “[They] worked well as a team and fed off each other well when someone missed something.” However, when they did not engage with one another, a standardized patient noticed and stated, “Be careful of relying too much on the premise, the magic of a social worker being added to the team – continue to focus on what you can bring to the table from each of your area’s expertise.” The purpose of having multiple disciplines in the room is to create a holistic perspective for the patient, but it requires engagement from all providers.

Also, one team did not have a team leader to dictate the encounter, which allowed all to participate. Because of this, a standardized patient noted, “a bit of looking at each other where to go to next.” Planning as a team and listening actively to each provider would have reduced the confusion in the encounter; nonetheless, they created the space for all opinions and thoughts to be shared by putting them all on an equal playing field even without a leader to guide the team.

Moreover, comments from the first encounter illustrated that students functioned more from an individual agenda, which did not encourage ideas and opinions of other team members, such as “We spent a great deal of time exploring my situation, but it seemed to jump from topic to topic, depending on which learner was taking control of the situation.” This type of approach reduced the sense of collaboration and left the patient’s with no plan to follow and/or confusion. For that specific standardized patient, he or she followed up with the statement, “I left hearing no idea what the plan was;” hence, he or she was unclear on next steps, so, he or she may not return to the clinic and/or his or her health could worsen.

On the other hand, the encounter two comments shared more how the team members were engaged with one another, such as, “Good sharing the conversation, good plan, thank you all for participation!” and “Much better sense of connection with each other this time, and you maintained a positive atmosphere throughout the entire encounter; better sense of direction and treating the patient in all areas of concerns.” Whether the comments were in encounter one or two, those quotes illustrate the need to ensure that each team member has the opportunity to speak, share, and listen to one

another's discipline perspective because of its influence on patient care and comprehension.

The fourth communication sub-competency observed in the data was CC6, which is "use respectful language appropriate for a given difficult situation, crucial conversation, or conflict" (IPEC, 2016). Respectful language can be applied to providers speaking to other providers as well as providers conversing with patients; in this study, the latter was evident. The standardized patient had a list of health issues that needed to be addressed immediately due to being discharged from the hospital recently; thus, this situation required the providers to have a crucial conversation to help motivate the patient to manage his or her health better.

In the data set, respectful language was demonstrated through expressing kindness and empathy, inquiring about the patient's goals, responding appropriately to the patient's concerns, and sharing the conversation. These communication behaviors affected how the standardized patient perceived the overall effectiveness of the encounter. To illustrate the use of respectful language, the standardized patients commented, "The team seemed warm and friendly – I appreciated being asked what my biggest concern was," and described the team as "Very personable, caring, good verbal/nonverbal cues of compassion and involvement." Some teams appropriately used non-verbal communication, such as "You gave me space to soak in my thoughts and then to respond," and "Listened more effectively – no moments where the patient had to explain again something that had already been covered." Additionally, standardized patients even offered advice in how to improve this communication sub-competency. One participant stated, "Try educating your patient about their disease – see what they do and

don't understand. I understood your frustration, but your professionalism and empathy prevailed." To the standardized patients, expressing concern and the ability to be empathetic in the situation was valued more than being given a list of things to do when he or she leaves the clinic.

The final competency found in the data set was CC8, which is "communicate the importance of teamwork in patient-centered care and population health programs and policies." Much of the data presented how and why teamwork is necessary in this type of environment when addressing a patient with complex needs. The standardized patient did not highlight any specifics surrounding population health programs and policies, just about patient-centered care. To create an effective care plan, the providers had to include the patient in the conversation. The standardized patients stressed the importance of having the providers introduce their roles, and how they are going to assist during the visit. This communicative behavior opened the door for all to participate in the healthcare interaction. An overarching goal of patient-centered care is to place the patient in a position of prominence in conversations. For example, standardized patients made comments such as, "You took charge of the room to accommodate me with forethought. You allowed me to fulfill a part of my healthcare discussions as well," "Felt you heard my issues more accurately this time...and I felt more included in the conversation," "Listened more effectively...gave patient full rein to express himself," and "Great job at discussing as a group with me, empowering me to take control of my healthcare plan with assistance." The standardized patients acknowledged the teamwork, and how the providers included them as active participants in their healthcare; thus, those who did

include the patient in the conversation received more positive feedback as a team than those who did not.

Though there are eight sub-competencies, these five were found to be the most prominent. The behaviors of using of respectful language, communicating accurate and timely information to the patient, and listening and encouraging ideas from team members were visible in the encounter comments from the standardized patients.

Positive and Negative Communication Behaviors

The fourth research question asked, *What are the positive and negative communication behaviors the team uses with the standardized patient?* Within each of the themes that emerged in the data (i.e., aware of the patient's situation, participate in the interaction equally, create a safe space, and nurture and strengthen a relationship), standardized patients commented on both positive and negative communication behaviors. Both behaviors were found in encounter one and two comments (see Table 1).

The positive behaviors were often expressed by students employing specific communicative actions. Students introduced themselves, summarized briefly the care plan and/or next steps, allowed the patient to share his or her story without interrupting, planned for the conversation as a team, listened to the patient's concerns, and guided the conversation to help all those involved stay on task and engage in the issue at hand. Standardized patients praised the students, who took control of the room, yet, included the patient in the dialogue. The standardized patients wrote, "Great idea to summarize briefly with me to make sure I understood this initial first step," "They gave me lots of time to tell my story and explained why they came up with their solutions and how they would help," and "I liked how you were able to listen to my specific concerns and

include me as a participant in my healthcare.” The teams that prioritized the patient’s goals and concerns exemplified behaviors that were more positive because they allowed the patient to share his or her perspective, contribute to the care plan, and guide the conversation at a pace and tone that was comfortable for all those involved.

Additionally, through non-verbal communication, the students showed empathy for the patients. To illustrate empathy in the encounters, students demonstrated kindness and respect, valued the conversation by keeping eye contact with the patient, and provided the patient a comfortable place to sit to have a conversation. The standardized patients wrote that team members were “Super nice!!” and “Very personable, caring, good verbal/nonverbal cues of compassion and involvement.” They also commented on specific behaviors that led to these perceptions. For example, a standardized patient said, “Nice tone and pace of the encounter! You also engaged in my silence. It made me feel that you were ‘listening with your hearts.’” The steps that made the standardized patient feel appreciated, valued, and respected were perceived as positive behaviors.

Not all teams, however, expressed positive behaviors in their encounters. Unlike the positive responses, the negative behaviors created a fragmented relationship, which led to mistrust, frustration, shame, and uncomfortableness. Those who engaged in negative behaviors interrupted patients more than once, giggled and snickered at his or her situation, operated under assumptions without consulting the patient, dominated the conversation, and failed to develop an actionable plan. The standardized patients were quick to note when providers engaged in those ill-desired communicative acts. Standardized patients commented, “A couple students dominated the conversation,” “There were giggles after asking me if I liked eating at a gas station. I felt belittled,” and

“Multiple questions were difficult. Some members didn’t speak.” Engaging in these types of behaviors illustrated that the providers were uninterested in helping; did not value the patient emotionally, physically, and mentally; and had their own individual and/or team agendas. The negative behaviors discouraged the patient from becoming part of the team.

The standardized patients also commented on how the negative behaviors influenced their thoughts and emotions. Many noted that they would not return to the provider, did not have confidence in themselves to follow the care plan, were lost without any direction, and/or did not feel treated as an equal in the conversation. The standardized patients wrote, “I came away from this encounter feeling like I am on my own,” and “I felt interrogated and ashamed about it, because I didn’t think you fully understood my situation.” They suggested that team members “Be careful of ‘medical jargon.’” One standardized patient explained, “I felt that I wasn’t taken seriously through some body language i.e. looking up at the ceiling while talking to me and dangling legs.” The negative behaviors demonstrated how easy it is to create distance and isolation between the patient and provider, which can undermine collaboration and realistic care planning.

Communicating Collaboratively versus Individually

The final research question asked, *Do standardized patients perceive the students to communicate with the patient collaboratively instead of individually?* A mixed method approach using quantitative and qualitative analyses was performed. The final question on the CARE Patient Feedback Form asked, “Did the team interact with you collaboratively (as opposed to individually)?” The standardized patient either selected yes or no; therefore, a frequency count was performed.

In Encounter 1, of 46 teams, 28 standardized patients noted that their care team performed collaboratively. Seven stated that the team worked individually, and 11 did not answer the question. In Encounter 2, of 46 teams, 35 standardized patients noted that their care team performed collaboratively. Three stated that the team worked individually, and eight did not answer the question. Overall, there was a 25% increase in teams functioning and performing collaboratively rather than individually. Working independently, while in a team environment, decreased by 57%.

In the comments, standardized patients often used words like “teamwork,” “worked well together,” and “group effort” to describe the collaborative nature of the encounter. The common outcomes of the collaborative efforts were good suggestions, plan of action, good sharing of the conversation, feeling valued, solution focused, clear sense of direction, and efficient use of time. Additionally, the standardized patients commonly noted the improvement from encounter one to encounter two in terms of collaboration. For example, standardized patients commented, “Much better – felt you heard my issues more accurately this time,” “Some improvement from last encounter group – seemed to work well together,” “They showed concern – was group effort this time; better on introductions,” and “Better as a group.” The comments correlate to the scores presented; thus, increased exposure in an interprofessional environment demonstrated improved collaboration among team members.

Chapter Five: Discussion

In 2015, the IOM expressed the need to focus on the link between interprofessional education and performance in practice. In the literature, it is evident that interprofessional practice has increased patient satisfaction, decreased costs (Reeves, Perrier, Goldman, & Freeth, 2008), and increased provider satisfaction (Sinksky, Willard-Grace, Schutzbank, Sinksky, Margolius, & Bodenheimer, 2013); however, there is a lack of research on the patient and health system outcomes (Abu-Rish et al., 2012; IOM, 2001; Remington, Foulk, & Williams, 2006). Reeves et al. (2008) called for additional research in this area by stating that a “continued increase in eligible studies represents a further positive step forwards in establishing a robust evidence base for the effect of IPE on professional practice and healthcare outcomes” (p. 16). Because interprofessional activities, initiatives, and/or programs can be designed differently, there are methodological differences that cause challenges in identifying key attributes for effective interprofessional practice and education. Practice is linked with education, and this research study fills a gap in the research by providing evidence about how behaviors impact patient outcomes.

This study analyzed a specific simulation event in a longitudinal curriculum to identify communication characteristics and their effectiveness. Curricula in interprofessional education is designed to affect learner behavior in clinical settings in ways to improve patient outcomes, or to improve processes of care, which affect patient outcomes (Remington et al., 2006). This research described the types of behaviors that support the interprofessional communication characteristics, which are demonstrated by teams. There is a need to understand what behaviors are present in an interprofessional

event because students will implement those learned attributes into their own clinical practice. Communication is a skill that is significantly focused on, because when medical errors occur, they are regularly traced back to breakdowns in communication between members of the healthcare team (Lingard et al., 2005). Communication affects the quality of care as well as the patient's safety; thus, this skill must be practiced and refined before interacting with patients. This study identified specific characteristics and behaviors to inform educators in the IPE field on what needs to be included, improved, and/or refined in curricula.

Implications

Simulation provides a realistic look into how students respond to patient situations. Additionally, simulations are positive learning environments in which students can refine patient skills and collaborate in risk-free settings (Robertson & Bandali, 2008). The goal of this research was to uncover the communicative behaviors that create a meaningful, patient-centered, collaborative encounter, in other words, improve patient safety and quality care.

Because health professional students are educated in "silos," students learn particular socialization processes that contribute to their behaviors as future providers. The socialization processes can greatly affect students' opportunities and ability to work in an interprofessional manner; also, it may lead to difficulties in assimilating and adjusting to the clinical environment. In this simulation context, behaviors were exemplified as skill proficiencies. As seen in this study, there were team members who did not participate in the encounter, they simply watched and observed. At other times, team members talked the entire time. Some team members talked when prompted. In

many of the encounters, team members did not even introduce themselves nor their profession. This type of behavior provides evidence on why there is a need for interprofessional education and practice in health professional curricula. Even though the study's participants attended three interprofessional events before this simulation, it is evident that their behaviors still mimic the “silo” nature of health professional education, which continues to have a dramatic effect on behaviors.

Standardized patients frequently commented on the CARE Feedback form about student behaviors, because their role was to reflect on how the providers made them feel as a person. For example, negative behaviors, like laughing and giggling in front of the patient, immediately created distance and isolation between all team members and the patient. These simple behaviors influenced the way the team and patient perceived the effectiveness of the care. As seen in this study, those teams that exhibited negative or poor behaviors did not communicate with one another, did not collaborate, and did not address the patient properly (e.g., engaging him or her in the conversation and asking about his or her health goals). These examples are not characteristics of interprofessional practice nor patient-centered care. If the providers embodied a patient-centered approach then the patient would have the space to talk, interact, and feel valued. This study discovered the characteristics that do matter most to patients – those that inspire and motivate patients to manage their health the minute they walk away from the encounter.

The communicative characteristics found in this study were of the team, not the individuals. A significant amount of interprofessional education and practice literature focuses on self-perception and assessment. In a systematic review, Blue, Chesluk, Conforti, and Holmboe (2015) stated, “several instruments exist to measure teamwork

behavior, with the majority of these constructed as team and self-assessment measures to examine the effectiveness of team processes” (p. 76). Though self-reports are important, this study evaluated behaviors through standardized patients’ perspectives. The students did not have any input about their performance in this data set, which provides a bit more authenticity to the results. This study provides a holistic view of necessary communicative strategies and tools that must be enacted to have a positive, collaborative patient encounter.

The four communication characteristics that emerged were *aware of the patient’s situation, participate in the interaction equally, create a safe space, and nurture and strengthen a relationship*. Each communication characteristic influenced how the patient felt during and after the encounter. Through the standardized patients’ feedback, it can be predicted what the outcome would be if the encounter had been authentic. Findings from this study revealed that if these communication characteristics were not included in the patient encounter, patients were confused, frustrated, agitated, and depressed. The value of this study is knowing that without recognition and implementation of these communicative characteristics as a team, patients will bear significant consequences, which are detrimental to their overall well-being. Not all teams incorporated these communicative acts in their patient encounters, which provides evidence that students, these in particular, need to have repeated exposure in interprofessional settings. In a study by Edwards, Molina, McDonough, Mercante, and Gunaldo (2018), the authors noted students, who were in a longitudinal academic curriculum and had repeated exposure to IPE experiences, had increased their awareness and confidence in developing and executing team-based behaviors, especially concerning communication. For this study in

particular, the communication difference between patient encounter one and encounter two, in a single event, demonstrated a higher level of understanding, communication, and collaboration as a team.

Furthermore, this study informs the interprofessional field of research about whether and how the IPEC communication competencies were achieved. For effective teamwork and patient-centered care, IPEC proposes that students should be engaged in education to help them achieve the competencies, which the students were in this study via a simulation. The competencies contain behavioral sub-competencies that go beyond knowledge acquisition. Competencies provide a framework, but the program must have a shared framework that enables others to accurately assess students in an interprofessional event. This study provides concrete examples of how students met the communication sub-competencies. The data presented demonstrated that the students were proficient in five of the eight communication sub-competencies. The competencies that were missing were CC3 (expressing one's knowledge and opinions to team members), CC5 (give timely, sensitive, instructive feedback to others about their performance), and CC7 (recognize how one's uniqueness contributes to effective communication, conflict resolution, and working relationships) (IPEC, 2016). Each of these competencies may not have been present because they focused on provider-provider communication, not the provider-patient communication, which is what the standardized patient was assessing. Because this study identified five of the eight communication competencies, more than half, in the data set, the program can be interpreted as effective in providing an opportunity to practice, enhance, and refine communication skills in a realistic, clinical setting. The research study not only provides a methodology in how to identify

competencies but also specific examples of how students demonstrated the sub-competencies.

This study does not explicitly state the correct way to assess student's communicative behaviors and IPEC competencies; rather, it advises researchers and practitioners to be mindful of characteristics and behaviors found in an interprofessional simulation. A design of an interprofessional simulation may look different from others, but this study argues that without these visible characteristics, teams will fail at providing collaborative patient care. By acknowledging positive and negative behaviors, educators can appropriately address the group in a manner that is constructive and helpful for future events. Interprofessional workshops focusing on behaviors could be developed with the study's findings to allow students to be aware of how their behavior affects patient outcomes.

Given that each interprofessional activity is implemented differently, with various disciplines, participant sizes, and levels of advancement, there is a diverse collection of methods and tools used to assess IPE students and evaluate programs (Blue et al., 2015). Many instruments are locally developed to assess satisfaction or attitude change, but there is a need to develop robust outcome measures. With the differences in methodology, the level of effectiveness, satisfaction, perception, and other variables may not be reliable across studies. This particular study built upon the existing IPE framework to identify characteristics, behaviors, and competencies that are visible in the data. The framework from other studies assessing competencies were not taken into account in this data analysis. Integrating behaviors as scales or metrics could greatly improve interprofessional instruments; this study provides the evidence on how important

behaviors are in achieving positive patient outcomes. Researchers can advance this knowledge about behaviors into other studies to inform healthcare systems of specific outcomes, and why IPE is an essential model. Future results could affect how healthcare organizations structure themselves to reduce costs and burnout while improving patient satisfaction and outcomes. With an increased amount of knowledge and standardized assessment tools, there is likely to be a shift in the healthcare culture, and the Quadruple Aim will be within reach, instead of being thought of as fictitious goals.

Interprofessional education involves learning, and learning requires reflection in how to design processes to equip future healthcare professionals. Educators and providers need to consider the characteristics and behaviors discovered in this study because the findings will guide the development of assessment and evaluation tools for interprofessional initiatives. D'Amour and Oandasan (2005) stated, "it is believed by many that if we train competent collaborative practitioners, more collaborative practice settings will be developed over time. With an increased number of settings, more opportunities for learning and teaching collaboration are envisioned" (p. 12). Ensuring that these characteristics found in this study are assessed in future interprofessional activities have the potential to greatly shift the behaviors, and ultimately, the culture of healthcare. The Quadruple Aim will not be solved unless all providers shift their way of delivering care from an uni-professional to an interprofessional approach. The communication characteristics found are stepping stones in ensuring teams are collaborative in providing patient care.

Competencies are worth considering in evaluation too because they set the stage for new IPE learning opportunities. The value of interprofessional education experiences

is that they are designed differently but still have the four core competency domains included. The focus of this study was on the communication competency, which was evaluated based on interactions with a standardized patient. Students can demonstrate their acquisition of interprofessional competencies through different artifacts, like exams, reflective essays, and self-assessments, not simply through a simulation. The competencies for this study were derived from the standardized patients' feedback because there was no assessment tool that measured the communication competencies. It is difficult to understand if a program is successful without evaluating the IPEC competencies, in this case, the communication domain. Educators and other health professionals are responsible for establishing the competencies in their prelicensure or precertification education that meet accreditation expectations as well as prepare those entering the workforce. Without a standardized way of assessing competencies in interprofessional practice initiatives, the students may not be receiving the core message and significance of interprofessional, patient-centered care; thus, negative behaviors will continue to arise. Because there are multiple competency domains, it is evident that there needs to be repeated exposure of interprofessional collaboration among students. The results found that this event is successful because the students demonstrated more than half of the communication sub-competencies.

Limitations

The first limitation of this study was the interprofessionality of the student teams. Although there was a large number of participants, 222 students, only nursing, dental hygiene, and dental students attended this particular interprofessional event. Even though working in a team with three different professions is considered "interprofessional," the

study would have benefited from additional health disciplines, such as medicine, physical therapy, occupational therapy, and social work. In this study, the teams were not able to consult any outside resources; thus, their patient encounters may have suffered due to the lack of knowledge.

The second limitation to draw attention to is the CARE Feedback form, which the standardized patients completed after each encounter. The standardized patients received a training prior to the event so that they were aware of the case and how to respond to specific student behaviors during the encounter. However, what was not addressed during the training was how to accurately complete the CARE Feedback form. The standardized patients were aware of the form, but that was the extent of their knowledge. With that being said, there could be fluctuations in the data collected depending on the standardized patient's perception of the Likert-scale.

In terms of the methodology conducted for this study, my thematic analysis may have omitted themes due to my coding process and perspective. The results concluded the interrater score as a moderate level of agreement, which is acceptable but could be improved. If additional or refined themes were provided, the study may have resulted in a more ideal agreement level, between .80 - .90 (McHugh, 2012).

The results in the study reflect the data from the CARE Patient Feedback form, which was only a small sample of the data used for this research study. During the event, not only did standardized patients complete evaluations but so did the facilitators and students. Each group of individuals assessed the communication, team structure, support, and situation. The only document used to answer the study's research questions was the

CARE Patient Feedback form. The other evaluation documents could have further informed and/or provided evidence to support the research questions.

Future Directions

In the past 25 years, there has been an increase in evaluation activity aimed at measuring the processes and outcomes of interprofessional activities and initiatives (Brandt, Lutifyya, King, & Chioreso, 2014). Even though this descriptive study focuses on a specific interprofessional event, the results should be taken into consideration when developing interprofessional activities and initiatives; most importantly, those involved in simulation experiences. To support the literature regarding interprofessional practice and education, researchers should consider creating and evaluating interprofessional teams that would be found in a “real-world” clinic. Researchers may find differences in the communication and teamwork due to the realistic nature of the encounter and environment. A well-rounded team can bring forth specific knowledge that may influence how the standardized patients perceive communication effectiveness.

In addition to creating more interprofessionalism among teams, developing a more reliable and accurate measure on how to evaluate communication and collaboration in an experiential learning event would be valuable. Each person, a standardized patient in this case, had his or her own perception of teamwork, which heavily influenced the scores. The outcomes were based upon these scores; thus, identifying a more dependable evaluation tool and creating a standardized process in how to complete it would be essential in future studies. Depending on the effectiveness of the tool, it could be implemented in upcoming interprofessional activities and initiatives.

Furthermore, this descriptive study approached the results from strictly the patient's perspective. Feedback from the students and facilitators were not addressed nor considered. Since interprofessional activities are designed for students, it would be essential to identify if the patient's perceptions align closely with those of the students. In addition, incorporating the comments and scores from the facilitators would provide the study a more holistic picture of the event and its overarching outcomes. Comparing the results of this study with findings from the students and facilitators would shed light on how accurate the patient's perception of the encounters were. Future studies could use and build upon the existing data found in this study to further validate and provide evidence surrounding communication effectiveness.

Conclusion

The IOM calls for radical realignment of the healthcare system to enhance its quality, safety, patient-centeredness, timeliness, efficiency, and equity (IOM, 2015). To shift the healthcare culture, professionals must be trained to function as interprofessional teams. Thus, this study informs educators in the healthcare disciplines of the significance and importance of implementing interprofessional practice opportunities, specifically simulation, for students to achieve effective communication skills.

With much of the literature linking communication to patient outcomes, especially the failures resulting in harm, there must be a better understanding and focus on how the students translate their communication skills learned in the classroom to their clinical practice. This study highlighted the interprofessional characteristics that are needed for a positive patient encounter. These behaviors shed light on expected patient outcomes and further contribute to IOM's (2015) call for additional research in

measuring their impact. Students must be exposed to IPE many times during their program's curriculum to ensure they can demonstrate the IPEC competencies before entering the clinical space. Healthcare culture will never evolve if future providers are not equipped with the communication skills and knowledge to implement a collaborative model into the system.

Appendix A

Case Study

For the simulation activities, the students were presented with a case regarding a patient named John Doe. John was an older adult who was retired for six years from sales. He lived alone in subsidized housing on the south side of Indianapolis, which is where he had been living for many years. John had no immediate family in the area and was divorced about 15 years ago. His nearby church community took an interest in John, but he rarely attended any meetings or masses. He lived in an isolated existence with very little support. His medical history revealed that he had been in and out of the hospital, just discharged six months prior to this visit. John had forgotten his last two appointments at the clinic, was gaining weight, had progressing periodontal/gum disease, and had developed cognitive issues, such as being more forgetful than usual and having symptoms of white matter disease. He was insulin dependent to manage Type 2 diabetes, and his compliance on discharge instructions had been variable. John expressed to his healthcare team that he wanted to better manage his diabetes with diet and exercise, instead of medications.

Appendix B

Instructions for the Team

Team Huddle (10 minutes)

Do not enter the room until you are instructed to do so. When you hear the announcement, enter the exam room where your team huddle will occur. During this time you will use your interprofessional care plan worksheet to:

- Set a goal for your team for the meeting with John/Joanna Doe.
- Create a plan to accomplish the goal.
- Determine the responsibilities and roles of each team member.
- Determine John/Joanna Doe's role.

You will receive a two-minute warning before your 10 minutes are up; and you also be told when your 10-minute huddle is over. Stay in the exam room. You will hear an announcement that the SP may enter the room. The SP will knock, and your team should open the door for them to enter.

Instructions for Patient Encounter #1 (10 minutes)

Your team is meeting John/Joanna Doe 6 months after discharge from the hospital. S/He has been to this clinic before but has missed the last two appointments.

The goal for this visit is to:

- Prioritize health challenges.
- Identify health assets -- What kind of resources or tools does John/Joanna Doe have available to help address his/her health needs?

- Take first steps to address John/Joanna Doe’s primary health needs. *Please note: it is not acceptable to only make a series of referrals as your primary action.*
- Develop an actionable “next steps” plan that builds upon patient/client assets, uses relevant community resources, and integrates care to support health improvement.

Note: The focus of your meeting with John/Joanna Doe is to prioritize the things s/he needs and to address those that your team has the knowledge, skills, and resources to do today. While a short list of potential referrals is appropriate as one actionable step to recommend to your patient at the end of the visit, it is not the focus of the visit today.

Appendix C

Interprofessional Care Plan Worksheet

To be effective and comprehensive, the care planning process must involve all disciplines that are involved in the care of the patient/client. Once the initial assessment is completed, a problem list should be created. This may be as simple as a list of diagnoses and potential issues. The list can actually include patient/client strengths as well as family/relationship/environment problems, which can affect the person's overall well-being.

Once the problem list is complete, look at each problem and ask the question, “Will this problem get better?” If the answer is yes, then your goal for the problem will be to resolve or show signs of improvement within a period of time. If the problem is not likely to improve or resolve, then ask the question, “Can we keep this from getting any worse, or developing complications?” The approaches (or interventions) should also be measurable and realistic.

This template provides two sections of landscape formatted pages however, if you need additional landscape pages follow these instructions.

Assessment/Problem List (i.e., physical, psychological, familial, cultural, spiritual):	Outcomes/Goals/Approaches:	Intervention (i.e., what will you do to help him reach his goals):

Appendix D

Team Huddle Behavior Checklist*

Please respond to the following statements with the frequency in which each behavior occurs for the team as a whole, using the scale provided. Please provide additional notes/comments for each, based on what you observe during the team huddle.

0=NEVER
Behavior Never
Observed

1=SOMETIMES
Behavior Observed 1-2
times

2=OFTEN
Behavior Observed 3
or more times

3=N/A
Behavior Does not
Apply to this Situation

					NOTES
Team Structure					
Identifies goals in the team huddle (for the team)	0	1	2	3	
Assigns roles and responsibilities from the huddle	0	1	2	3	
Holds each other accountable for their roles and responsibilities	0	1	2	3	
Leadership					
Utilizes available resources	0	1	2	3	
Empowers each other to speak (including the	0	1	2	3	
Works as a team to problem solve	0	1	2	3	
Situation Monitoring					
Cross monitors members and applies STEP** process	0	1	2	3	
Includes patient/client/caregiver in communication	0	1	2	3	
Mutual Support					
Actively collaborates with each other	0	1	2	3	
Distributes work across all team members	0	1	2	3	
Communication					
Provides brief, understandable, specific, useful and timely	0	1	2	3	
Seeks and communicates information from all available sources	0	1	2	3	

Facilitates integration of information as it is obtained into	0	1	2	3	
Utilizes closed loop communication	0	1	2	3	
Addresses conflict appropriately	0	1	2	3	
ONLY RESPOND TO THE SECTION BELOW IF APPLICABLE: Uses communication tools (SBAR***, CUS****, call-outs, check-backs, and handoff techniques; please indicate which tools were used in your notes).	0	1	2	3	

*Adapted from University of Washington (2011)

**STEP=Status of the patient; Team members; Environment; Progress towards goals, is a tool for monitoring situations in the delivery of health care.

***SBAR=Situation, Background, Assessment, Recommendations

****CUS=Concerned, Uncomfortable, Safety Issue

Appendix E

Patient Encounter Behavior Checklist*

Please respond to the following statements with the frequency in which each behavior occurs for the team as a whole, using the scale provided. Please provide additional notes/comments for each, based on what you observe during the patient encounter.

0=NEVER
Behavior Never
Observed

1=SOMETIMES
Behavior Observed 1-2
times

2=OFTEN
Behavior Observed 3
or more times

3=N/A
Behavior Does not
Apply to this Situation

					NOTES
Team Structure					
Meets goals identified in the huddle (team goals)	0	1	2	3	
Fulfills assigned roles and responsibilities from the huddle	0	1	2	3	
Holds each other accountable for their roles and responsibilities	0	1	2	3	
Leadership					
Utilizes available resources	0	1	2	3	
Empowers each other to speak (including the	0	1	2	3	
Works as a team to problem solve	0	1	2	3	
Situation Monitoring					
Cross monitors members and applies STEP** process	0	1	2	3	
Includes patient/client/caregiver in communication	0	1	2	3	
Mutual Support					
Actively collaborates with each other	0	1	2	3	
Distributes work across all team members	0	1	2	3	
Communication					
Provides brief, understandable, specific, useful and timely	0	1	2	3	
Seeks and communicates information from all available sources	0	1	2	3	

Facilitates integration of information as it is obtained into	0	1	2	3	
Utilizes closed loop communication	0	1	2	3	
Addresses conflict appropriately	0	1	2	3	
ONLY RESPOND TO THE SECTION BELOW IF APPLICABLE: Uses communication tools (SBAR***, CUS****, call-outs, check-backs, and handoff techniques; please indicate which tools were used in your notes).	0	1	2	3	

*Adapted from University of Washington (2011)

**STEP=Status of the patient; Team members; Environment; Progress towards goals, is a tool for monitoring situations in the delivery of health care.

***SBAR=Situation, Background, Assessment, Recommendations

****CUS=Concerned, Uncomfortable, Safety Issue

Appendix F

Team Member Self- and Team Report of Communication and Teamwork Behaviors (Modified)*

Instructions: Please complete the following items at the end of the event. Circle the response that best represents the frequency with which YOU exhibited behavior and YOUR TEAM exhibited each behavior. If you would like to provide comments on your ratings, please use the comment section on the next page.

0=NEVER
Behavior Never
Observed

1=SOMETIMES
Behavior Observed 1-2

2=OFTEN
Behavior Observed 3
or more times

3=N/A
Behavior Does not
Apply to this Situation

I...				MY TEAM....		
0	1	2	Identified goals in the huddle.	0	1	2
0	1	2	Met goals identified in the huddle.	0	1	2
0	1	2	Assigned roles and responsibilities.	0	1	2
0	1	2	Fulfilled assigned roles and responsibilities from the huddle.	0	1	2
0	1	2	Held others accountable for their roles and responsibilities.	0	1	2
0	1	2	Utilized available resources.	0	1	2
0	1	2	Empowered others to speak.	0	1	2
0	1	2	Work with others to problem solve.	0	1	2
0	1	2	Included patient/client/caregiver in communication.	0	1	2
0	1	2	Cross monitored members and the situation.	0	1	2
0	1	2	Actively collaborated with others.	0	1	2
0	1	2	Distributed work across all team members.	0	1	2
0	1	2	Provided brief, understandable specific, useful and timely information.	0	1	2
0	1	2	Sought and communicated information from all available sources.	0	1	2
0	1	2	Facilitated integration of information as is it obtained into action plan.	0	1	2

0	1	2	Utilized closed loop communication (i.e. check backs)	0	1	2	3
0	1	2	Addressed conflict appropriately.	0	1	2	3
0	1	2	Used communication tools appropriately.	0	1	2	3

Which communication tools were used, if any? (Circle all that apply)

SBAR

CUS

Hand-off

Check-back

Call-out

Please indicate the extent to which you agree with the following statements.					During today's activities, <u>I was able to</u> :
Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use effective communication tools and techniques to facilitate improved team function.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engage other professionals appropriate to the specific practice situation to participate in shared patient-, client-, community-, and population-focused problem solving.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Communicate information with patients, families, community members, and health team members in a manner that is understandable, avoiding discipline-specific terminology when possible.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reflect on how learning is applicable to future practice.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Engage in self- and team- reflection.

Any additional comments you would like to make about today's activities?

*Adapted from University of Washington (2011)

Appendix G

CARE Patient Feedback Measure

ROOM #: _____ DATE: _____ SESSION (circle): 8:00-10:00 or 10:00-12:00
ENCOUNTER (circle): 1 or 2

Please rate the following statements about today's consultation.

Please mark the box like this ☒ with a ball point pen. If you change your mind just cross out your old response and make your new choice. Please answer every statement.

How good was the team at...	Poor	Fair	Good	Very Good	Excellent	Does not apply
1) Making you feel at ease (introducing him/herself, explaining his/her position, being friendly and warm towards you, treating you with respect; not cold or abrupt)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Letting you tell your "story" (giving you time to fully describe your condition in your own words; not interrupting, rushing or diverting you)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Really listening (paying close attention to what you were saying; not looking at the notes or computer as you were talking)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Being interested in you as a whole person (asking/knowing relevant details about your life, your situation; not treating you as "just a number")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Fully understanding your concerns (communicating that he/she had accurately understood your concerns and anxieties; not overlooking or dismissing anything)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Showing care and compassion (seeming genuinely concerned, connecting with you on a human level; not being indifferent or "detached")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Being positive (having a positive approach and a positive attitude; being honest but not negative about your problems)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) Explaining things clearly (fully answering your questions; explaining clearly, giving you adequate information; not being vague)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) Helping you to take control (exploring with you what you can do to improve your health yourself; encouraging rather than "lecturing" you)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Making a plan of action with you (discussing the options, involving you in decisions as much as you want to be involved; not ignoring your views)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) Did the team interact with you collaboratively (as opposed to individually)?	Yes <input type="checkbox"/>					No <input type="checkbox"/>
Comments: If you would like to add further comments, please do so here. You may also use the back for additional space.						

Appendix H

Follow-Up Case

John had a follow-up appointment two months later with the same clinic providers. He had not made much progress since his last visit. John still lived alone in subsidized housing on the south side of Indianapolis, had no immediate family in the area, was divorced for about 15 years, and had not reconnected with his church. Fortunately, he had not been re-admitted to the hospital since his last appointment. In the past, he had been in and out of the hospital. John had gained six pounds, but he was still able to fit into his clothes and he felt that getting into better shape was possible with exercise.

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CURRICULUM VITAE

Kelsey Elizabeth Binion

Education

MA, *Indiana University Purdue University-Indianapolis*, Indianapolis, IN, July 2019

- Major: Applied Communication
- Thesis: Assessing communication effectiveness in interprofessional healthcare teams (Advisor: Maria Brann, PhD, MPH)

BA, *DePauw University*, Greencastle, IN, May 2014

- Majors: Communication and Spanish

Professional Experience

Project Coordinator, Indiana University Interprofessional Practice and Education Center, Indianapolis, IN, 2018-present

- Coordinate and organize the implementation the TEACH! curriculum on IU's South Bend and Northwest-Gary campuses, assist with the on other campuses
- Oversee the Center's communications, website, and student workers
- Responsible for the Collaborating Across Borders Conference VII planning, lead three subcommittees, manage the abstract software database, direct communications
- Direct and support the Center's Grand Challenge: Responding to Addictions grant
- Manage and oversee the Comprehensive Pain Clinic and Wellness & Oral Health Clinic at the IU Health/Methodist Family Medicine Center

Award

IUPUI Top Graduate Paper, *20 years of missed opportunities: The case of Larry Nassar*,
2019

Presentations

Pfeifle, A., Willis, D., Guck, T., McGaha, A., **Binion, K.**, Velazquez Perez, F. (Dec. 2019). *Family medicine resident engagement in team care clinics: Emerging best practices and lessons learned*. Workshop scheduled to present at STFM Conference on Practice & Quality Improvement, Phoenix, AZ.

Binion, K., Pfeifle, A., Willis, D., Newton, A. (Oct. 2019). Effective communication facilitates team coordination and collaboration in addressing chronic and acute patients at a primary care interprofessional clinic. Workshop scheduled to present at Collaborating Across Borders VII, Indianapolis, IN.

Pfeifle, A., Buchanan, A., & **Binion, K.** (Oct. 2019). Leveraging interprofessional education to improve training for future health professionals in pain management, alternatives to opioids, and better prescribing practices. Poster scheduled to present at Collaborating Across Borders VII, Indianapolis, IN.

Romito, L., Stone, C., **Binion, K.**, & Buchanan, A. (Oct. 2019). *Responding to the Opioid Crisis: An Interprofessional Workshop for Future Prescribers*. Poster scheduled to present at Collaborating Across Borders VII, Indianapolis, IN.

Pfeifle, A., Willis, D., **Binion, K.**, & Surber, M. (June 2019). *Grand Challenge: Comprehensive Pain Clinic*. Workshop scheduled to present at Indiana Rural Health Association, French Lick, IN.

Binion, K. (April 2019). *Understanding how infertility creates a culture of silence*. Paper presented at Central States Communication Association, Omaha, NE.

Binion, K. (April 2019). *Non-biological and international adoptive siblings use social support to construct identity*. Paper presented at Central States Communication Association, Omaha, NE.

Pfeifle, A., Stone, C., Ballard, J., Buchanan, A., & **Binion, K.** (Oct. 2018). *Leveraging interprofessional education to improve community partnerships for future health professionals in pain management*. Panel presented at the 2018 IN Public Health Conference, Indianapolis, IN.

Binion, K. (May 2018). *Understanding how infertility creates a culture of silence*. Paper presented at Communication and Culture, Uniwersytet Wroclawski, Poland.

Membership in Professional Societies

National Communication Association

International Communication Association

Central States Communication Association

Conference Service

Paper Reviewer, Central States Communication Association Conference, 2018

Reviewer, Collaborating Across Borders VII Conference, 2019

Undergraduate Paper Reviewer, IUPUI Communication Studies Undergraduate Paper and Creative Project Awards, 2019

Travel Grant

Graduate Student Travel Grant, Department of Communication Studies, IUPUI, for
travel to present at the Central States Communication Association conference,
2019. Funded \$500.