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Interprofessional Education: Solution for Better Patient Outcomes?

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INTERPROFESSIONAL EDUCATION: SOLUTION FOR BETTER PATIENT OUTCOMES?

Submitted by

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ABSTRACT

In building a quality accredited continuing professional development program, Sidra Medical and Research Center (Sidra) decided that one hundred percent of educational activities for their healthcare providers would be composed of interprofessional education (IPE). Sidra's healthcare providers are professional recruited from North America, Europe, Middle East, Australia, New Zealand and South Africa. The challenge at Sidra is bringing together healthcare practitioners who trained differently and have experience in different healthcare settings to come together and practice as a team. The great challenge is that even though all speak English, there is a variety for naming conventions and vernacular therefore there is room for misunderstanding. These healthcare professional need to come together as team that provide a seamless, cohesive units to deliver family and patient centered, high quality medical care to the women and children in Qatar. This study is a qualitative research that examines the premise that if one hundred percent of Sidra's continuing professional development activities are planned and implemented as interprofessional education, would that lead to more effective teamwork in the clinical setting? With key informant interviews and observations, the study shows that planning and implementing continuing professional development as an interprofessional education will lead to more effective teamwork.

CHAPTER 1 - INTRODUCTION

Medical errors kill more people per year than those deaths that are due to motor vehicle accidents, breast cancer and AIDS together. Thought leaders, healthcare regulators and providers are attempting to constantly find ways to reduce preventable medical errors in hospitals. One of the new ways that the health industry is attempting to combat preventable medical errors is to provide medical education and continuing professional development in an interprofessional education teams that learn from, about and with each other thus forming a seamless and effective healthcare team. Since it is estimated that 79% of medical errors are due to preventable human error, is interprofessional education a fad or a useful trend? Sidra Medical and Research Center decided to utilize interprofessional education in continuing medical education/continuing professional development (Institute of Medicine, November 1999).

Sidra Medical and Research Center (Sidra) is an ultramodern medical center for women and children that is being built in Doha, Qatar. Qatar is one of the world's richest countries. Sidra's mission focuses on three areas; to provide family and patient centered world-class health care for women and children; to become a beacon for learning in medical education; and to conduct biomedical research that is pertinent to the healthcare issues of Qatar and the Gulf (Sidra Fact Sheet, 2015). "Sidra will follow the North American model of care, with inter-professional teams working to ensure that a comprehensive and exceptional service is delivered seamlessly to all patients " (Sidra Fact Sheet, 2015). Sidra will be a tertiary care center with around 400 beds and was scheduled to open in 2013 but there were numerous delays in completing the hospital building. Currently, there are 400 plus healthcare and social work providers including

physicians, nurses, pharmacists, allied health, and social/caseworkers in Doha, Qatar that were recruited from all over the world. The majority of the healthcare providers are from the United States and Canada and a sizable numbers are from the United Kingdom and other European countries. There are also providers from Qatar, other Middle Eastern countries, Australia, New Zealand and South Africa. Since Sidra Medical and Research Center has not opened as yet, the Sidra healthcare providers are providing patient care in Qatar's government hospital named Hamad Medical Corporations (HMC). There are sizeable numbers of Sidra physicians and other healthcare providers that were recruited from academic health systems in the United States, Canada and other countries and many of them have been active educators providing continuing professional development (CPD) such educational hours, seminars, and major conferences on evidence based medicine and up-to-date best practices and guidelines in Doha, Qatar. Sidra healthcare providers need continuing professional development credits to renew their professional licenses in their home countries and continuing professional development credits has now become a requirement for all healthcare providers that are licensed as healthcare practitioner in Qatar.

Peck et al. (2000) describe CPD as:

> Continuing professional development is the process by which health professionals keep updated to meet the needs of patients, the health service, and their own professional development. It includes the continuous acquisition of new knowledge, skills, and attitudes to enable competent practice. There is no sharp division between continuing medical education and continuing professional development, as during the past decade continuing medical education has come to include managerial, social, and personal skills, topics beyond the traditional clinical medical subjects. The term continuing professional development acknowledges not only the wide ranging competences needed to practise high quality medicine but also the multidisciplinary context of patient care.

The medical field is highly complex system and is constantly changing due to the amazing growth in new diagnostic tools, treatments and the use of technology that made it possible for the general public to be educated regarding their health. However, the need for health care providers to constantly upgrade their knowledge has been in existence since the Hippocratic oath (Aparicio 2015). Aparicio (2015) indicates that in an article written in 1955, ‘’Dr. Vollan goes on to write in the report: ‘The continuing education of a physician throughout his professional life is absolutely essential if he is to use judiciously and effectively the new developments in the diagnosis, treatment and prevention of disease that are necessary for adequate medical care.’”

Due to the importance of continuing professional development for healthcare practitioners and in a move to improve the healthcare system, the State of Qatar created the Qatar Council of Health Care Practitioners (QCHP), a department within the Ministry of Public Health in 2013. For the first time in the history of Qatar, the QCHP set standards and requires all healthcare practitioners to be licensed, mandates that all healthcare practitioners accumulate certain number of CPD credits per year and sets standards for fitness to practice. QCHP also created a hotline, investigations unit and complaint department for the public to utilized to launch complaints or address problems regarding their healthcare providers. The QCHP Accreditation Department collaborated with the Royal College of Physicians and Surgeons of Canada, International (RCI) to set criteria and standards for accredited CPD in Qatar. Sidra Medical and Research Center applied and received accreditation from the QCHP to become an accredited CPD provider (QCHP, n.d.).

During the QCHP accreditation application process, Sidra assembled representatives from physicians, nurses, allied health, pharmacists and administrators named the Sidra Continuing Medical Education/Continuing Professional Development Taskforce (Sidra CME/CPD Taskforce) to build an infrastructure for a quality and accredited CPD Program that is based on the standards and criteria that is compliant with many accreditation agencies such the QCHP, RCI and the major accreditation agencies in the United States. After many meetings and literature review, the Sidra CME/CPD Taskforce decided that the Sidra CME/CPD Program would be based on Interprofessional Education (IPE) that promotes teamwork. This decision was precipitated by several factors: 1) healthcare practitioners at Sidra were recruited from all over the world and have varied training and experience when providing healthcare, 2) the importance of IPE in promoting teamwork to deliver a family and patient centered healthcare, 3) the idea that IPE will enhance teamwork which will aide in Sidra's emphasis on quality and patient safety, and 4) the introduction of TeamSTEPPS as an orientation training for all Sidra's Healthcare providers.

Sidra's leadership and education leaders are very keen on improving team performance specifically communication, cooperation and coordination, their three key components of effective teamwork. TeamSTEPPS stands for Strategies and Tools to Enhance Performance and Patient Safety and is a much-touted tool for improving effective teamwork and enhances interprofessional education.

Weaver et al. (2010) stated the following about teamwork:

> Medical care today is undeniably a team effort. No provider can complete the continuum of care alone; communication, cooperation, and coordination are vital to effective care.[1] Although it has been a decade since the Institute of Medicine (IOM) report To Err Is Human[2] highlighted

> teamwork as one mechanism for enhancing care quality and safety, recent statistics indicate that a focus on the impact of teamwork remains imperative.[3] For example, communication, a core component of teamwork, was cited by The Joint Commission as root cause in many (nearly 70%) sentinel events.[4] Although the 2009 benchmarking database for the Agency for Healthcare Quality and Research's (AHRQ) Hospital Survey on Patient Safety Culture (HSOPS) indicates that 79% of 196,462 providers felt positively about the teamwork within their units, only 62% felt positively about the communication openness, and only 44% felt positively about handoffs and transitions.[5]

The World Health Organization (2010) defines interprofessional education as:

> Interprofessional education occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes. Once students understand how to work interprofessionally, they are ready to enter the workplace as a member of the collaborative practice team. This is a key step in moving health systems from fragmentation to a position of strength.

The World Health Organization (2010) report also states, "After almost 50 years of enquiry, the World Health Organization and its partners acknowledge that there is sufficient evidence to indicate that effective interprofessional education enables effective collaborative practice."

Douglas Brock et al (2013) indicated, "Communication failures in healthcare teams are associated with medical errors and negative health outcomes. These finding have increased emphasis on training future health professional to work effectively with in team." Over the last ten to fifteen years, continuing medical education/continuing professional development in the United States and internationally has undergone tremendous change led in part by the regulatory, scientific and academic institutions who were alarmed by the subpar patient outcomes, increasing cost of health care and the perceived failures of continuing medical education efforts. Organizations such as the World Health Organization and the Institute of Medicine strongly recommended a greater

focus on Interprofessional Education. Brock et al (2013) feel that, "Among the most compelling is the growing recognition and evidence that improved communication and collaboration by interprofessional teams leads to better delivery and access to care." Brock et al (2013) continue "in its 2004 sentinel event data report, the Joint Commission list leadership, communication, coordination and human factors as among the leading root causes of sentinel events."

Purpose of the Study

Despite most of the world's healthcare regulatory and research institutions call for interprofessional education as a panacea to the world's health care problems, there are challenges associated with the IPE and how it might lead to teamwork. This study will explore if Sidra's CME/CPD Program and its mission of requiring that one hundred percent of all educational activities to be planned and implemented as an interprofessional education will orient the Sidra healthcare providers to work as a team while providing medical care to the women and children of Qatar.

Research Question

The research question examined in this study is, if one hundred percent of the continuing professional development activities at Sidra Medical and Research Center are interprofessional education, will it lead to physicians' and nurses' orientation to effective teamwork? As a new healthcare institution, Sidra leadership and healthcare providers are placing patient safety as a top priority. Among the many ways to assure patient safety, Sidra has a very robust Quality and Patient Safety Department that utilizes health information system and reporting infrastructure to capture patient safety and sentinel events. Interprofessional Education is another method that Sidra is using to assure patient

safety so as to build a culture of patient safety. The idea is that healthcare teams that spend time learning with, from and about each other on effective teamwork are likely to deliver safe healthcare.

Research Hypothesis

The research hypothesis for this study is planning one hundred percent of continuing professional development activities to include interprofessional education at Sidra Medical and Research Center, will lead to physicians' and nurses' orientation to effective teamwork. The Joint Accreditation for Interprofessional Continuing Education, the leading organization on accrediting institutions for interprofessional education requires that any institution applying for accreditation as a CME/CPD provider show evidence that twenty five percent of their continuing education to be interprofessional. In assuring that one hundred percent of Sidra's continuing education as interprofessional education means that Sidra meets and exceeds the minimum requirement to become an interprofessional education provider.

Scope and Limitations

One of the prevailing thoughts in the healthcare industry is that interprofessional education enhances teamwork, which in turn leads to better coordination and communication between healthcare teams thus leading to better health outcomes for patients. There is also a prevailing thought that interprofessional education reduces silo practice in healthcare and leads to the breakdown of professional individuality amongst physicians, nurses and other healthcare providers. What have been difficult to measure is that interprofessional education does lead to better coordination and communication; that interprofessional education leads to breakdown of professional silos and that

interprofessional education leads to better patient outcomes. However, the question is to see how healthcare professional perceive interprofessional education? Do they feel that interprofessional education led them to have better communications and coordination in their team? Did they feel that their professional silos have lessened when they learn with, from and about other members of other healthcare professionals on their teams?

CHAPTER 2 - LITERATURE REVIEW

Examination of scholarly journal articles and expert opinions on IPE's affect on teamwork and collaborative practice in healthcare settings yielded several themes, 1) Importance of IPE on Teamwork and Collaborative Practice, 2) Meeting the Challenges of Rapid Healthcare Complexity and Growth through IPE, and 3) Educating Healthcare Practitioners effectively on IPE. This chapter will explore the theories, ideas and recommendations from the scholars who studied IPE, teamwork and collaborative practice in healthcare.

Importance of IPE on Teamwork and Collaborative Practice

In reviewing the literature, there is a consensus among healthcare thought leaders that IPE leads to better teamwork and collaborative practice in healthcare, which in turn leads to improved patient care. Clements, Dault & Priest (2007) describe teamwork in healthcare:

> In healthcare, teamwork is the ongoing process of interaction between team members as they work together to provide care to patients. The researchers found that while *teamwork* and *collaboration* are often used as synonyms in casual discussion, they are not synonymous. Critically, the researchers identified inter-professional collaboration as both a process affecting teamwork (and, in turn, patient care and health provider satisfaction) and an outcome in and of itself. In fact, collaboration can take place whether or not health professionals consider themselves to be part of a team. The researchers cite the example of primary healthcare, where professionals including a family physician, a physiotherapist and a dentist may all provide care to the same patient, yet in most cases do not see

> themselves as a functioning team. On the other hand, effective teamwork rarely happens where there is no collaboration (Oandasan et al. 2006).

What makes IPE important in healthcare is that the interprofessional team is working as a team to care for the patient instead of just collaborating with each other but still work in silos.

The definition of teamwork in Merriam-Webster Dictionary (n.d.) is "work done by several associates with each doing a part but all subordinating personal prominence to the efficiency of the whole." What is involved in teamwork? What are the specific components to teamwork that can be measured to ascertain if there is an effective teamwork? After literature review and analysis of the concept of teamwork in healthcare setting, Xyrichis & Ream (2007) defined teamwork as, "Teamwork is a dynamic process involving two or more healthcare professionals with complementary backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, or evaluating patient care. The current healthcare system is attempting to overcome the practice of medicine in silos – where the various healthcare professional practice their specific specialty to take care of the patient. Over the years, it has become very clear, that interprofessional practice (also called collaborative practice) has become the norm. Mitchell et al (2012) stated, "The rapidity of change will continue to accelerate as both clinicians and patients integrate new technologies into their management of wellness, illness, and complicated aging. The clinician operating in isolation is now seen as undesirable in health care—a lone ranger, a cowboy, an individual who works long and hard to provide the care needed, but whose dependence on solitary resources and perspective may put the patient at risk." It is clear from the scholarly literature that it is not to any patient's benefit to be treated by a professional

from a single profession. It takes a team to provide their collective knowledge and effort to provide patient and family centered care and to assure better health outcomes.

Meeting the Challenges of Rapid Healthcare Complexity and Growth through IPE

Another issue that is pressuring healthcare practitioners to work in teams is the exponential growth in new medical developments. Mitchell et al (2012) state, "The driving force behind care practitioners' transition from being soloists to members of an orchestra is the complexity of modern healthcare, which is evolving at a breakneck pace. The U.S. National Guideline Clearinghouse now lists over 2,700 clinical practice guidelines, and each year, the results of more than 25,000 new clinical trials are published. No single person can absorb and use all this information. " In a healthcare team setting, the collective knowledge of each professional on the team will be able to contribute their knowledge and skills thus providing better healthcare to their patients.

Mitchell et al (2012) describe the principles of team-based health care as including shared goals, clear roles, mutual trust, effective communication and measureable processes and outcomes. Valentine, Newbhard & Edmondson (2013) indicated, "Teamwork in health care settings is widely recognized as an important factor in providing high-quality patient care. However, the behaviors that comprise effective teamwork, the organizational factors that support teamwork, and the relationship between teamwork and patient outcomes remain empirical questions in need of rigorous study. " It seems clear that effective healthcare teams are essential in healthcare, but what is not clear is how to prepare the teams to work together and what are the important components of teamwork that should be emphasized. "Despite the potential benefits, many healthcare organizations lack effective teamwork which results in

negative consequences for the patients such as preventable deaths which could have been avoided with effective teamwork. Teamwork failures are due in some part to professional hierarchy in medicine between high status and low status healthcare providers which inhibits effective communication due to fear; frequent transitions due to shiftwork (handovers); challenges managing human relations and personalities (Valentine, Newbhard & Edmondson, 2013.)" Could hospitals, medical education institutions and thought leaders prepare a healthcare team that breaks down hierarchical statuses so the healthcare teams can be members of a collaborative practice?

"To improve health care, to meet the complex healthcare needs of populations in the face of globalization, urbanization, and the tremendous revolution in scientific discoveries, it is essential to have functioning, collaborative teams. Collaborative teams depend on educating and training members together, who are willing to be respectful of each other's professions, who are voiced and are able to function up to their full individual capacities that are aligned with their education (Meleis, A.I., pp. 106-112)." There has been progress in teamwork in healthcare but there are still many barriers that need to be overcome for a true IPE to take place in healthcare settings. Meleis (2015), concludes, "However, the most obstinate barriers to this team-oriented approach, the persistent narrative of medical privilege and the profession-centrism, must be replaced with equity and transdisciplinary narratives." The thought leaders in healthcare have been emphasizing the need for Schools of Nursing and Medicine and other health

professions to train students in an interprofessional education setting thus breaking down professional silos early in the educational process.

Educating Healthcare Practitioners effectively on IPE

Thistlethwaite (2012) describes another factor that affects interproffesional collaboration in that:

> The concept of communities of practice based on the theory of situated learning is also relevant.[55] Students undertaking interprofessional activities move first from the periphery of their own profession into a greater understanding of their role within it, and then interact with other professions, first as observers and later as members of the team.[56] Knowledge exchange and knowledge transfer are key components of such activities[57] and fit within the learning 'with, from and about' paradigm. A difficulty that arises with the community of practice model within the health care setting concerns whether the established community, in which learners are placed or work, is indeed interprofessional, or whether the professions are working in parallel in separate 'communities', thus hindering interprofessional learning and practice.

In the Sidra CME/CPD policies, there is a requirement that the scientific planning committee for all educational activities must have members that reflect the target audience as required by the Qatar Council of Healthcare Practitioners requirements and standards. Normally, the target audience involves all healthcare practitioners that are in the specialty therefore if an educational activity is an educational rounds on obstetrics, the committee will have to include the healthcare practitioners in the field. Is this an interprofessional education? Begley (2008, p. 277) suggests that, "Shared teaching, (or multi- disciplinary/multiprofessional learning), is the teaching of common content to a number of professions, usually in a large group, without any intention to develop teamwork or interaction (Barr, 2001)". The author continues to discuss, "shared learning is true interprofessional learning, which involves a structured learning process with planned learning opportunities that enhance team

working skills, including problem-solving abilities and conflict resolution (Cooper et al., 2001)". Healthcare leaders, educators and practitioners have coalesced around the idea the IPE works and that it is important to educate healthcare professionals on IPE and collaborative care. What is not clear from the literature is how to deliver the best and effective IPE training for healthcare professional. "Team training works! It is a viable instructional strategy for optimizing teamwork in health care settings. The challenge to health care is to not rush into adopting a program, but to ensure its relevancy and its careful design and create a learning environment for team members (Salas, E., DiazGranados, D., Weaver, S., King, H., 2008, pp 1002-1009). The Qatar Council for Healthcare Practitioners, Accreditation Department is ahead of the world by requiring their accredited CME/CPD Providers to make their educational activities interprofessional. It would be important if this requirement of interprofessional education leaders to effective teamwork.

T. Manser (2008) states that "surveys and interview studies regarding attitudes toward teamwork indicate that – consistent with many other high-risk industries – healthcare providers attribute a high degree of importance to teamwork aspects such as communication or coordination.[9,14,40] ." In a qualitative study on the meanings attached to teamwork in the operating room, coordination, leadership, and its role in assuring patient safety and staff well-being were identified as the most prominent meanings.[41]" In the various survey instruments the authors reviewed, they found that the most commonly assessed dimensions of teamwork were communication, coordination and respect. The authors suggest that there are effective survey instruments in use to measure teamwork and advice

researchers to use the existing instruments rather than invent new ones. (Valentine, Newbhard & Edmondson, 2013.) Using surveys and interviews that are currently in use, will assure better assessment of interprofessional education.

CHAPTER 3 - RESEARCH METHODOLOGY

The Qatar Council of Healthcare Practitioners (QCHP) requires all accredited CME/CPD providers to require that scientific/planning committees to have members that reflect the target audience to plan and implement an educational activity. Since the majority of CME/CPD activities generally involve physicians, nurses, pharmacist and allied health professional, a scientific/planning committee that represents the target audience will plan and implement an interprofessional education activity. This research project's purpose is to study the perceptions, attitudes and ideas of healthcare providers' thoughts on whether interprofessional education leads to effective teamwork. This study is qualitative research using case study design with data collected from on site/field visit observations and structured interviews with key informants.

Research Question

Would planning hundred percent of the continuing professional development activities at Sidra Medical and Research Center as interprofessional education lead to physicians' and nurses' orientation to effective teamwork? Since Sidra Medical and Research Center is accredited by the QCHP that requires that CME/CPD educational activities to be planned and implemented as IPE activities, the experts and the learners (particularly physicians and nurses) would have thoughts on whether IPE leads to effective teamwork. Sidra Medical and Research Center as an institution accredited by

QCHP as a provider is unique in that all CME/CPD activities will be planned and implemented as an IPE. The question is whether physicians and nurses at Sidra will be more receptive to teamwork?

Hypothesis:

Planning one-hundred percent of continuing professional development activities as interprofessional education at Sidra Medical and Research Center, will lead to physicians' and nurses' orientation to more effective teamwork. In developing the national CME/CPD Framework for the State of Qatar, the QCHP accreditation department gathered information from stakeholders in Qatar, as well as international CME/CPD accreditation agencies in order to build an effective and quality CME/CPD in Qatar. The QCHP standards include the best practice criteria for quality educational programs for healthcare providers and are unique in their requirements that all CME/CPD are interprofessional education activities. In order to prove or disprove the hypothesis, interviewing those who are responsible for coming up with the standards and others who are intimately involved in CME/CPD in Qatar as experts or educators will hopefully yield useful information about IPE in Qatar.

In reviewing the literature, IPE activities are unique in that the learners from different healthcare professional are learning with, from and about each other. This is different from having leaners just learning from the same source but not interacting with each other to learn with, from and about each other. For this study, two CME/CPD activities were observed to gauge the following:

1) Interactions that show if leaners are learning **with** each other (examples of common understanding of material, eye contact, etc.)

2) Interactions that show if the learners are learning **from** each other (discussions with each other especially across professions, questions to each other, etc.)

3) Interactions that show if the learners are learning **about** each other (discussions and examples given regarding different professions, etc.)

Dependent and Independent Variables

The dependent variable for this study is the physicians ‘and nurses' orientation to more effective teamwork. The independent variable for this study is the planned one hundred percent of continuing professional development activities as interprofessional education at Sidra Medical and Research Center.

For this purposes of this study, the independent variable will only change if a particular CME/CPD activity is not planned according to the QCHP standards of planning all activities as IPE because it is part of the requirement. The independent variable will also change if there are interprofessional scientific/planning committees but not all of the members from the various healthcare professions are not contributing or voicing their opinions. The dependent variable can be observed to change with each IPE activity because the perceptions, attitudes and ideas of the learners will become more oriented towards teamwork.

Data Collection Process Overview:

Primary Data. Primary data was collected from several key informants using a structured interview technique. A prepared set of questions (see Appendix A) were asked of all the key informants. Follow-up questions were asked to provide for clarification of any answer. Data was prepared and collated, then transferred to tables and charts to make it

easier to compare and contrast. Chapter 4, Results and Findings, provides the raw data, analysis and key findings for this study.

Secondary Data. Pre and post evaluations of a TeamSTEPPS (Strategies and Tools to Enhance Performance and Patient Safety) CME/CPD educational activity was reviewed and analyzed for any improvements in the learner's perception and orientation towards teamwork.

Controlling for Internal Validity and External Validity

Internal validity. Internal validity reference to the extent to which the results obtained in this research study are a function of the variables that were systematically manipulated, measured and observed in this study. The internal validity of this study can be affected by the terminology used in the questionnaire, getting the right mix of key informants, and the accuracy of the observations. It can also be affected whether the healthcare practitioners had a chance to practice patient care in a team because the Sidra healthcare practitioners are providing patient care in various hospitals in Doha, Qatar therefore might not have had a chance to work together in a clinical setting as a team.

Maturation. This study was completed in a short time period, from March 28, 2016 to April 15, 2016. The collection of interview data was completed April 17, 2016. The natural physiological or psychological changes that might occur over a longer period of time did not play a role in this study.

Bias. Researcher bias was controlled by adopting a uniform unobtrusive and objective role in capturing primary data. Interview questions were reviewed and beta-tested with the thesis advisor to ensure personal bias did not threaten the internal validity of this study.

External Validity. External validity refers to the generalizability of a study. The following measures were taken to reduce any threats to external validity.

Demand Characteristics. In this study, a strict protocol was used to ensure the key informant population was not aware of the anticipated outcomes of this study to reduce the possibility of a threat to external validity. This study can be used in similar hospital setting that is using interprofessional education as a way to encourage teamwork.

Operational Definitions:

Interprofessional Education (IPE) is defined by the World Health Organization as "Interprofessional education occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes. Once students understand how to work interprofessionally, they are ready to enter the workplace as a member of the collaborative practice team. This is a key step in moving health systems from fragmentation to a position of strength (Interprofessional Education Collaborative, 2016)"

Continuing Professional Development is the process by which health professionals keep updated to meet the needs of patients, the health service, and their own professional development. It includes the continuous acquisition of new knowledge, skills, and attitudes to enable competent practice. There is no sharp division between continuing medical education and continuing professional development, as during the past decade continuing medical education has come to include managerial, social, and personal skills, topics beyond the traditional clinical medical subjects (Peck, McCall, McLaren & Rotem, 2000).

Continuing medical education: Continuous learning by physicians to update their clinical knowledge to improve patient care and lately includes managerial, education, social and personal skills to enhance the total physician practice in all their responsibilities (Peck, McCall, McLaren & Rotem, 2000).

Teamwork: The levels of cooperation, coordination and collaboration characterizing the relationships between professions in delivering patient-centered care (Core Competencies for Interprofessional Collaborative Practice, 2011).

Collaboration: When multiple health workers from different professional backgrounds work together with patients, families, and communities to deliver the highest quality of care (Core Competencies for Interprofessional Collaborative Practice, 2011).

Sidra Medical and Research Center is a hospital being built in Doha, Qatar with a mission to provide high quality healthcare to the women and children in Qatar and will be based on North American model (evidence based and patient centered) of healthcare practice.

Sidra physician and nurses are full time employees of Sidra Medical and Research Center who are board certified in the field of study and who have extensive experience (over 5 years) in the medical field.

Orientation to Effective Teamwork:

Orientation means the particular things that a person prefers, believes, thinks, or usually does. For the purpose of this study, orientation to effective teamwork will be how the physicians' and nurses' at Sidra perceive their preparedness and understanding of teamwork after being involved in interprofessional education (Cambridge Dictionary, n.d).

CHAPTER 4: RESULTS AND FINDINGS

In order to test the hypothesis for this research study, thirteen key informants and experts were interviewed and the responses to six set questions (see Appendix A) were compiled under each question (See Appendix B). In addition, two IPE events were observed and the results were tabulated (See Appendix C). The hypothesis for this study is, " planning one hundred percent of the continuing professional development activities at Sidra Medical and Research Center, will lead to physicians' and nurses' orientation to more effective teamwork." This chapter discusses the results and finding of the research project.

In analyzing the key informant responses to the questions, it was interesting to note that the majority of the interviewees had similar responses to the questions, which in turn seem to match what was indicated in the literature review. The results and finding are grouped into three distinct themes similar to the literature review chapter.

Importance of IPE on Teamwork and Collaborative Practice

In response to question 1, what is your opinion of the QCHP standard of planning and implementing all CME/CPD activities as an IPE educational activity? The key informants interviewed for this research project overwhelming agreed that planning and

implementing CME/CPD activities at Sidra, as an IPE activity was a good idea. The interviewees made statements such as:

"Very good idea, fantastic idea, good standard, way of the future, beneficial, unique and relevant and "…as healthcare professionals, we work in teams of different professions so it makes since that we plan and implement CPD activities as interprofessional teams." Another important quote that summarizes what most informants were saying is, "Way of the future. IPE is a great idea that will lead to improvements in patient safety."

In response to question 2, in what ways, if any, does having a scientific/planning committee that consists of the target audience lead to healthcare professionals learning with, from and about each other? The interviewees were again in agreement most of the time but not all the answers were exactly the same. What was clear from the responses is that the majority of the interviewees agreed that there should be representation from the target audience on the scientific/planning committee and that will lead to healthcare professional learning with, from and about each other. Interviewee #1 responded by saying that "by planning and implementing together would open communications, creates networking opportunities, learns different views of patient care, learns what educational activities are important to providers in different professions. In the beginning, physicians will probably take the lead and other professions might fight harder to participate but eventually, healthcare providers will learn to work well together." This statement by interviewee #1 was a summary of what other interviewees have stated.

In response to question 3, what are the challenges and benefits of IPE in healthcare settings? The interviewees again were in agreement in their responses. What

was interested in the responses to this question is that some emphasized the challenges while others emphasized the benefits. Interviewee #1 summarized the benefits as IPE:

- Reflects teamwork
- Communication
- Building habits of teamwork
- Reinforces to each provider that they are not the sole healthcare provider
- Providers learn how to work effectively with providers of other professions
- Learn more about roles, knowledge and skill of other professions
- Learn to respect other professions
- Creates opportunities to learn what other professions do (gain more of the technical and scientific knowledge of other professions)
- Learn to problem solve together

Interviewee #3 summarized what other interviewee indicated about the challenges as:

- Hierarchy – with physicians on top and can lead to lack of respect for other healthcare professions
- Time – some professions are in clinic or hospital and do not have much free time to participate in IPE in a scientific planning committee. While others have scheduled that can be adjusted since they are preplanned.
- IPE is not always appropriate or advisable. Some educational activities are some times for specific profession or subspecialty.
- Money – perceived value – some times the cost of a particular activity is just of reach for some professions.

The key informants clearly communicated the importance of IPE in building effective teams that can work well in a collaborative practice in healthcare settings. The literature strongly supports the fact that IPE is beneficial to building effective teamwork and the CME/CPD experts in Qatar strongly agree with the importance of IPE in building effective teams. It is also clear that a major challenge to effective IPE is hierarchy in healthcare settings. Interviewee #12 stated that in the Middle East, traditional roles of healthcare practitioners with physicians on top (hierarchy) is an impediment to IPE and added that reducing professional hierarchy in health care especially in the Middle East is essential for patient safety. Other interviewees have indicated that lack of respect and

physician dominance create a climate where nurses or other healthcare professions do not feel safe to report an incident or sentinel event which has a tremendous impact on patient safety. Sidra Medical and Research Center has several factors that can affect patient safety and the key informants support this.

1) Diverse healthcare practitioners that hail from all over the world with differences in educational background and medical practice and protocols. For these diverse healthcare professional to work as an effective team will require concerted effort by the institution in providing training that can lead to effective teams with common language, purpose, goals in a collaborative practice.
2) Hierarchy with physicians on top is an issue in the Middle East and healthcare providers adhere to the traditional roles. In general, nurses and other healthcare providers do not feel safe or empowered to address any problems.
3) Time and money is an issue that impedes IPE. Nurses have the least time to devote to IPE activities and other healthcare providers cannot afford the cost of IPE activities.

Meeting the Challenges of Rapid Healthcare Complexity and Growth through IPE

In meeting the needs of patients in today's highly complex healthcare system has prompted the emphasis on IPE and effective teams. The interviewees for this research project have support this notion in that they feel that the mere fact that healthcare providers are placed in situation where they are learning with, from and about each other helps them develop more cohesive teams in the clinical setting.

In response to question 4, how, if at all, does IPE lead to more effective teamwork in healthcare setting? The informants again had similar answers. Interview #4 stated, "IPE can achieve an atmosphere of interprofessionalism. Learn about each other's role and contributions. Learn to value and appreciate valid opinions. Learn about each professions knowledge and strengths in their technical and scientific expertise. As you understand the other professions by getting to know during IPE settings, it becomes much easier to discuss and coordinate with each other for the care of your patients and this is an effective team." Interviewee #7 added the following, "IPE creates a platform for people of different professions to appreciate and understand each other, discuss issues pertinent to their field, learn to anticipate and plan together, support each other, challenge patient safety issues, build team morale and all that leads to better patient outcomes."
The responses from the key informants again tend to mirror what the scholars have discussed in the literature review.

Educating Healthcare Practitioners effectively on IPE

Scattered through out all the questions, some interviewees pointed out that the "how" you plan and implement an IPE is important. They also pointed out that the type of IPE activity should match the outcomes you are attempting to accomplish. Interviewee #1 pointed out that if the goal is to improve team dynamics, it is important to have role-playing and simulations. Interviewee #3, stated that requiring that the scientific committee is composed of the target audience is sending the message that collaborative practice is important. Identifying the target audience should be a thoughtful process and participants should be identified early in the process to participate fully. Interviewee #4

commented that she noticed that scientific planning committees seemed to be top heavy with physicians and it is important to have a more evenly represented committees. Many of the interviewee seems to value simulation and role-playing as an integral part of the IPE activity since that allows for more active participation.

OBSERVATIONS:

Scientific Committee for planning an OB/GYN Conference in November 2016.

- Committee includes eight physicians, one nurse, one allied health, and two administrative staff.
- The physicians dominated discussion even though input from the other professions was noted.
- There was a collegial atmosphere and the various professions interacted nicely.
- The physicians volunteered to take on most action items but all three other healthcare professions volunteered also.
- Observed learning about each other – information sharing, case discussions.

TeamSTEPPS IPE Activity – a full day workshop:

- Physicians, nurses, pharmacists and allied health were all represented and not one group was dominant.
- Observed information sharing and case discussion.
- Role-playing created a very positive and interactive atmosphere.
- Common communications tools were provided and practiced, again noted extensive interaction and shared information such cases encountered where this communication tools would have been helpful.
- Observed learning with, from and about each other throughout the day.

CHAPTER 5: CONCLUSION, RECOMMENDATIONS AND FURTHER STUDIES

CONCLUSION

The hypothesis for this research project is, "planning one hundred percent of the continuing professional development activities at Sidra Medical and Research Center, will lead to physicians' and nurses' orientation to more effective teamwork." The research project results and finding confirm this hypothesis. The research findings show:

1) That planning and implementing all CME/CPD activities, as an IPE activity is a good idea and according the interviewee is supported by research and practice evidence. The QCHP, in strongly encouraging the standard of planning and implementing IPE in continuing education has put into practice the best practices in continuing education and will lead to improvements in patient safety.
2) That the requirement of having the scientific planning committees that consists of the target audience assures that the education provided to the target audience is relevant. It encourages healthcare professionals to work together and interact in planning and implementing the CME/CPD activity. By planning and implementing educational activities together, this creates a forum for healthcare providers of various professions to share their point of view, which leads to a realistic program that has input from different professions.
3) That the benefits of IPE activities include improved communication (this was observed in the TeamSTEPPS activity and well as interviewee responses), social bonding, learning about other professions knowledge, skills and

scientific expertise which all lead to better team performance in clinical setting.

4) That challenges were hierarchy and traditional roles, which hinder teamwork and impede patient safety because some professions would not voice concerns in the clinical setting due to low status. Barr, Koppel, Reeves, Hammick and Freeth (2005, p 8) state, "The root of the problem may, however, lie more in education than in practice. Professional education is a process of socialization, a means by which students come to identify with their intended profession, its values, culture, roles and expertise. Students entering programmes for different professions in the same college have ill-informed notions about each other's roles and responsibilities at the beginning of their courses, which may be modified little by the end…." This supports that getting health care practitioners to together to learn with, from and about each other is essential to reduce hieratical professional barriers. Other challenges include time, and cost of activities which was not available to some practitioners.

5) That IPE improves communication because practitioners tend to learn to speak the same language and develop tools for common communication, which is essential for patient safety. Barr, Koppel, Reeves, Hammick and Freeth (2005, p 1) state, "If only professions communicated better, problems in collaborating with each other would not arise. This widely held sentiment gains credence from numerous reports of miscommunication or non-communication between practitioners from different professions…." This also

applied to the diversity in Sidra's healthcare force that were recruited from all over the world with different training and practice backgrounds.

6) That it is important how IPE activities are planned and implemented. Weller, Boyd and Cumin (2013) stated, "Modern healthcare is delivered by teams rather than individuals and requires the cooperation of healthcare professionals from multiple disciplines. However, the evidence suggests that these changes in healthcare delivery have not been supported by changes in the systems for communication between health professionals, especially across disciplines." It seems that IPE activities will improve with communication amongst healthcare providers. This is supported both by the literature and the research questions responses and observations.

RECOMMENDATIONS

Sidra Medical and Research Center's vision, mission and goals to provide the best healthcare possible in a family centered hospital for women and children and with the patient outcomes possible. Sidra has developed a sizeable Patient Safety program and is consistently striving to train its healthcare workforce in an environment where patient safety is a top priority. As one of the tools for providing the best possible patient outcomes, Sidra will be providing all of the CME/CPD activities in IPE format. Here are the recommendations:

1) Sidra should continue to strongly encourage that all continuing education activities are IPE activities. This will improve the performance of the clinical teams. (Timeline – ongoing)

2) There should be team performance IPE activities such as TeamSTEPPS or other team building educational activities, every 6 months. Could be January and June of each year.
3) Sidra should empower and encourage all their healthcare providers (but especially nurses, pharmacists and allied health) to participate in scientific planning committees for IPE activities and to provide them with protected time for these activities. This should be communicated to all line managers by the Sidra leadership and accomplished by September 2016.
4) Sidra should provide funding for all their healthcare providers so they are able to cover the cost of IPE activities. This should be accomplished by January 2017.
5) Sidra should provide workshops and other resources that train educational leaders and planners on how to plan and implement IPE activities that allow for a safe and pleasant environment that empowers all participants to contribute equally. Timeline for this should be ongoing and accomplished by the Sidra CME/CPD Office. Complete first set of workshops by December 2016.

FURTHER STUDIES:

The only Sidra can determine if the push for IPE activities is leading to better team performance in the clinical setting is to conduct further research.

1) Sidra should perform time series research that looks at the progress of IPE educational activities and its impact on team performance.
2) Since Sidra is requiring that all healthcare practitioners to participate in the TeamSTEPPS, a research should be conducted on the effectiveness of TeamSTEPPS by conducting quantitative research that looks at the

participants six months after they participate in TeamSTEPPS and changes in team performance. This can be conducted as before TeamSTEPPS and six months after TeamSTEPPS,

3) Sidra should conduct a qualitative research by survey to test if healthcare providers who have participated in scientific/planning committees feel that the participation improve communications, coordination and building relationships and did that translate to effective teamwork in the clinical setting?

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APPENDIX A - QUESTIONS

I am inviting you to participate in a brief interview on continuing education for healthcare providers and focuses on the Qatar Council of Healthcare Practitioners (QCHP) requirements that accredited CME/CPD provide CME/CPD activities as IPE educational activities.

My name is Fatima Mohamud and I am completing my master's degree in public administration at Golden Gate University. I'd like to get your personal perspectives on this topic. The interview should take approximately 15 minutes to complete. Your answers will be kept confidential and anonymous and will be used by me only for the purpose of completing my degree. I will not publicly release your personal responses or other information about you without your consent. I hope that you will participate in this interview because your input is important. Thank you for participating and for helping me complete my research study.

Interviewee One

1. What is your opinion of the QCHP standard of planning and implementing all CME/CPD activities as an IPE educational activity?

2. In what ways, if any, does having a scientific/planning committee that consists of the target audience lead to healthcare professionals learning with, from and about each other?

3. What are the challenges and benefits of IPE in healthcare settings?

4. How, if at all, does IPE lead to more effective teamwork in healthcare setting?

5. What components of teamwork are changed in CME/CPD activities that are planned and implemented as an IPE?

6. In your opinion, how does IPE change communication and/or coordination?

APPENDIX B – RESPONSES TO QUESTIONS

1. **What is your opinion of the QCHP standard of planning and implementing all CME/CPD activities as an IPE educational activity?**

Interviewee #1: Very good idea. Consciously makes CPD planners to be inclusive. CME planners not to feel they have all the knowledge – forces them to learn from other healthcare providers by including them. Assures input and expert knowledge from other healthcare professions – brings different prospective.

Interviewee #2: Fantastic idea. Embedding IPE can be beneficial for patient outcomes and prepare the interdisciplinary collaborative team.

Interviewee #3: Good standard. The mere fact that the QCHP Standards require that all healthcare professionals to gather the same # of CME/CPD credits (when this is not true of all countries – generally physicians are required to have more credits, and other healthcare professionals less. This standard will be a challenge in the beginning – just because healthcare professionals are not used to it but learners tend to see the benefits of IPE activities rather quickly and are convinced of its benefits quickly.

Interviewee #4: Very good thing. QCHP's standards embodied the best in CME/CPD by assuring the practice of IPE in all activities. The system is set up to strongly encourage IPE activities. Ahead of the rest of the world which tend to tweak slightly rather require IPE.

Interviewee #5:

The idea of IPE is a good one, it encourages across discipline educational experience. However, not all CPD activities should be in an IPE – there are times where CPD should be for one specific profession or a specific subspecialty.

Interviewee #6:

IPE is wonderful approach and the current favorite model of CME/CPD. Way of the future, which has high evidence that it improves collaborative practice and leads to better patient care.

Interviewee #7:

Way of the future. IPE is a great idea that will lead to improvements in patient safety.

Interviewee #8:

I agree with the IPE approach. As healthcare providers, we work in teams of different professions so it makes since that we plan and implement activities as interprofessional team.

Interviewee #9:
Good standard. Meets and exceed international standards.

Interviewee #10:

Beneficial – good idea for most CME/CPD activities.
Cognizant of learners – assures input from representatives of participants in the activity.

Interviewee #11:

Unique and relevant. Engaging stakeholders across Qatar that was involved in CME/CPD let to encouraging IPE and thus planning educational activities in IPE format.

Interviewee #12:
Provides opportunities for the underprivileged (lower in the hierarchy) to find resources and to get empowered.
Related more to the real world issues in the clinical areas.

Interviewee #13

New to IPE (was involved in continuing nursing education) and find that IPE is a great learning mode for building teamwork. Qatar had a great idea to encourage IPE in their standards.

2. **In what ways, if any, does having a scientific/planning committee that consists of the target audience lead to healthcare professionals learning with, from and about each other?**

Interviewee #1: Forces direct communication between practitioners from different professional. By planning and implementing together – opens communications, creates networking opportunities, learns different views of patient care, learns what educational activities are important to providers in different profession. In the beginning, physicians will probably take the lead and other professions might have to fight harder to participate but eventually, healthcare providers will learn to work well together.

Interviewee #2: Creating a balanced committee that consists of the target audience will set a great standard for Qatar's healthcare. A balance committee allows those involved

from the various professions to interact, learn together, from each other and with each other. This leads to the CME/CPD activity to have a wider impact across the different professions – leads to the different healthcare professionals to influence each other.

Interviewee #3: It is critical that target audience is represented in the scientific planning committee otherwise how could learners be empowered to hear all the voices of the various professions – if target audience is not represented – the activity will only have the voice of one profession. Point of view of other professions will be missing. This standard assures that learning activity includes different prospective which will produce a better product.

Interviewee #4: Ethos of having representation, learn about each others expertise, learn to respect each others opinion – in a good committee. Physicians heavily represent most IPE committees – nurses and allied health might not speak up or share their opinions. But this will gradually changed as more committees are formed – with proper representation.

Interview #5: If scientific planners are from one profession, they will only consider a CPD activity that includes only their knowledge, vision, & expertise. However, if the includes other professionals – their will be broader input, ideas and expertise.

Interviewee #6:
Allows for realistic program that has input that represents the learners. Will allow for better goals and objectives for the IPE activity and better educational formats.

Interviewee #7:

Because planning committee consists of the target audience, planners have same educational objectives, which will be meaningful and relevant to all the participants.

Interviewee #8:

This approach ensures that no particular profession is underserved in the educational activities and their issues will be addressed in the educational activity.

Interviewee #9:

Because if target audience is represented, they add another prospective to the planning and implementation of the IPE activity. Inclusive and rich process.

Interviewee #10:

Indispensible – example, if I am thinking about having a CME activity on Congestive heart failure, I have to think about all aspects of the clinical collaborative team for

planning the educational activity. I know that I should include social workers, pharmacists, nursing, etc. Because they all very important to the clinical team and will provide information on many areas to cover that I (as the physician) will not think of.

Interviewee #11:

The objective of this standard to strongly encourage IPE but also includes flexibility for single profession educational activity as long as it is clear in the target audience.

Interviewee #12:

This standard assures that the education provided is relevant to the target audience. It encourages providers of different profession to come together and work together to plan and implement an learning activity that is relevant to all of them and that creates opportunities for interaction.

Interview #13:

Again, I am new to IPE and was always involved in profession specific educational activity. IPE really provides a forum for different professions in healthcare to get to know each other, learn about each others professional scope, bond together and all this makes it so much easier when we work together as a clinical team.

3. **What are the challenges and benefits of IPE in healthcare settings?**

Interviewee #1:

Benefits: Reflects teamwork, communication, building habits of teamwork, reinforces to each provider that they are not the sole healthcare provider, providers learn how to work effectively with providers from different professions, learn more about roles, knowledge and skills of other professions, learn to respect other professions, creates opportunities to learn what other professions do (gain more of the technical and scientific of other professions), learn to problem solve together

Challenges: Hierarchy, physicians being on top; scientific planners in IPE tend to provide educational activities that are all things to all people – thus learning might not be in depth learning activities for all professions.

Interviewee #2:

Challenges: Professional silos are a huge challenge. There is a fear of the other profession taking over. Time is also a challenge and those involved in IPE have to feel that there is a benefit from them to make the time or buy in of the IPE activity.

Benefits: IPE teaches the various professions involved who does what and their scope of work – this leads to a team that treat the better more holistically that is more streamlined and efficient.

Interviewee #3:

Benefits are huge. Modern healthcare is practiced in collaborative teams. Teams planning and implementing educational activities improves the clinical collaborative practice. IPE helps teams to understand and know each other, creates mutual support of team members. IPE also sends the message that collaborative clinical practice is very important.

Challenges:
1) Hierarchy – with physicians on top and can lead to lack of respect for other healthcare professions.
2) Time – Some professions are in clinic or hospital and do not have much free time to participate in IPE – as a scientific planning committee member. While others have schedules that can be adjusted since they are preplanned.
3) IPE is not always appropriate or advisable. Some educational activities are some times for specific profession or subspecialty.
4) Money – perceived value – some times the cost of a particular activity is just out of reach for some professions.

Interviewee #4:

Benefits: Learn more on how to work well in teams. Learn about each other's quality, expertise, and roles. Develop mutual respect for each other's profession. Breaking down barriers and professional hierarchy, which leads to better teams in the practice setting.

Challenges: Hierarchy (with doctors on top) and time.

Interviewee #5:

Benefits: In the current healthcare system, patients are cared for by multiple healthcare practitioners for the care of the overall health of the patient therefore IPE can only enhance that holistic care of the patient by having a more effective care team.

Challenges: Just pushing IPE, could impede other innovative educational opportunities and hinder creativity.

Interviewee #6:

Benefits:

- Prepares healthcare team for better team experiences.
- Prepares teams with knowledge, skills necessary for effective teams.
- Prepares teams for understanding of each other's roles and expertise.

- Breaks down barriers and building bridges among different professions.
- Increases appreciation for each professions skill.

Challenges:

- Logistic and time
- Cost
- Traditional roles and behavior – hierarchy
- Lack of respect for other professions

Interviewee #7:

Challenges:

- Power gradient with doctors on top, nursing second, etc.
- This power gradient is damaging and detrimental for patient safety – because other professions do not feel safe to speak up even they see a problem.

Benefits:

- IPE breaks establish hieratical barriers. Other professional feel safer and empowered to speak up especially when there is a patient safety issue.
- IPE brings people together and become aware of value and role of other team members.
- IPE leads to better patient outcomes

Interviewee #8:

Challenges: demands for different training and educational activities; each profession has its on training needs, language and terminology and different educational backgrounds – and the challenge is how to address everyone's needs.

Benefits: creates respect for each others knowledge and expertise

Interviewee #9:

Benefits: Broader prospective, working together in IPE activity leads to working better in clinical team setting.

Challenges: hierarchy – even more so in the middle east, lack of respect for other professions (top – doctor), traditional roles (the know it all doctor and no one can questions or add to that knowledge). This is difficult to change but it must …to assure patient safety.

Interviewee #10:

Challenges –

Not knowing all the healthcare professions that should be included – we all think we know each other profession but we know very little. I am always surprised to hear a social worker or child life professional speak and learn all kinds of professional scope that I was not aware of as physician.

Benefits:

Getting to know about the role, scope of practice about other professions.
Developing professional respect for other healthcare providers.
Learning what others can bring to improve a patient's care and outcomes.
Learning to all work for the common goal of the care of the patient.

Interviewee #11:

Challenges - understanding how to design an IPE that is relevant to all learning but that includes activities and formats that encourage for learners to learn with, from, and about each other.

Benefits – better understanding of the function of leadership, roles, and communication skills (speaking the same language).

Interviewee #12:

Benefits – Creates opportunities for interaction that develops skills and relationship that is useful in the real clinical setting. Allows for building trust and communication skills.

Challenges – In the Middle East, traditional roles of health care practitioners (with physicians on top) is an impediment to IPE. But reducing professional hierarchy in health care especially in the Middle East is essential for patient safety.

Interviewee #13:

Benefits: learning common language, understand colleagues' professional scope of service, generally getting to know each other, building mutual respect and trust.

Challenges: In medicine, it has always been professional hierarchy that keeps those in lower status professions not to feel safe to speak up.

4. **How, if at all, does IPE lead to more effective teamwork in healthcare setting?**

Interviewee #1: teams that work together and learn together work more effectively, simulations and role-playing are the best tool for improving team dynamics.

Interviewee #2: IPE improves each professions understanding the roles and expertise of the other professions. Those involved in IPE also get to know each other and can work together more effectively which is great for the patients. Sharing each other expertise also leads to more understanding of each other role within the team – leads to team being more effective.

Interviewee #3: By the mere fact that different professions are working together on a project (IPE educational activity), learn each others strengths, knowledge, and personality which leads to effective team work in the clinical setting.

Interviewee #4: IPE can achieve an atmosphere of interprofessionalism. Learn about each other's role and contributions. Learn to value and appreciate valid opinions. Learn about each professions knowledge and strengths in their technical and scientific expertise. As you understand the other professions by getting to know during IPE settings, it becomes much easier to discuss and coordinate with each other for the care of your patients and this is an effective team.

Interviewee #5: IPE reminds one of the contributions of others in healthcare team. Gain understanding of other health professions and will learn not to be dismissive of other professions. However, not sure how if teamwork is ever measured correctly to see improvements or lack of.

Interviewee #6: Providers of different professions tend to bond in IPE settings, and get to know each other's roles and work better in teams together.

Interviewee #7:

IPE creates a platform for people of different professions to appreciate and understand each other, discuss issues pertinent to their field, learn to anticipate and plan together, support each other, challenge patient safety issues, build team morale and all that leads to better patient outcomes.

Interviewee #8:

Communication improvements

Interviewee #9:

IPE leads to effective team because

- participants get to know each other
- learn about roles and responsibilities of other participants

- bonding occurs and interpersonal relationships are built

It is like a *"honeymoon after an arrange marriage"* --- IPE is the honeymoon. Healthcare providers work in teams, but they do not know each other, IPE activities change that by allowing participants to get to know each other.

Interviewee #10:

Getting to know the scope of practice and professional role, valuing what the other professionals bring to the table to care for the patient.

Interviewee #11:

Understanding of the roles of different professions, social interaction, creating respectful atmosphere, breaking down barriers all lead to effective teamwork.

Interviewee #12:

Level of communication and respect.

Interviewee #13:

Definitely communication skills by learning tools for common language.

5. What components of teamwork are changed in CME/CPD activities that are planned and implemented as an IPE?

Interviewee #1: Communication (creates open channel of communication between different providers), breaks down power differential, clarifies roles, creates more effective use of time and resources, better coordination.

Interviewee #2: Communications, shared mental model, clinical skills and knowledge, knowing each other roles. Shared mental model is that team members have a shared understanding of the work that needs to be perform and can anticipate each team members' needs.

Interviewee #3: Communication, attitudes, and coordination.

Interviewee #4:

1) Leadership (can change from physicians to other healthcare professions)
2) Communication (as other healthcare professions become empowered to speak up)
3) Collaboration (easier when one knows and respects the expertise of their colleagues in other healthcare professions)

Interviewee #5:

I am guessing that IPE changes (these are vague changes) communication and cooperation.

Interviewee #6:

Roles (different professions learn about each others roles)
Communication (tend to develop common tools and language for communication)
Leadership (the more different professions work together – leadership goes to more appropriate leader for each event)
Collaborate better (because learners are familiar with each other's role and scope of service, thus save time and resources – tend to anticipate and plan better)

Interviewee #7:

In my opinion, leadership roles change the most. Instead of the traditional leadership role – always doctors; IPE tends to lead to change in who takes the leadership role. That is, that leadership role in IPE tends to be those who take the lead because they can address the situation the best.

Interviewee #8:

Communication is improved because participants get to know each other

Interviewee #9:

- Trust
- Getting to know each other
- Know each others strengthens and weakness
- Role, knowledge and expertise
- Information sharing/problem solving together

Interviewee #10:

Communication – by understanding each other
Ability to recognize the role of the other professions
Building trust

Interviewee #11:

Leaderships roles changes from doctors to others that might be more appropriate for the particular event.

Communication skills (speaking the same language)

Interviewee #12:

By improving communication skills

Interviewee #13:

The social bonding that takes place
Getting to know the other professions role
Exchanging ideas
Developing common language

6. In your opinion, how does IPE change communication and/or coordination?

Interview #1: At the human level

- Providers get to know each other
- Get to know each others role in the team
- Understand (more in depth) what the other professional in their team do
- Bond and build relationships (makes it easier to work together in a team)
- Builds respect
- Lack of respect (causes damage to teamwork, team members get disengaged, and that is a huge patient safety issues since providers might not speak up when there is a problem.

Interviewee #2: Communications change – team members understand each other roles and expertise, know each other on personal level, develop common communication skills.

Interviewee #3: Understand each other's role, develop respect for each other, and learn common tools to use in the clinical setting which leads to efficiency or better coordination.

Interviewee #4:

1) Increased understanding of other's prospective, role and value
2) Understanding of how roles of various professions fit together
3) Enables communication because in IPE settings, the team members go to know each other well and feel empowered in the clinical team setting
4) Leads to what, how and where which is coordination.

Interviewee #5:

Depends on the type of IPE activity. If focused on team building activities, it will improve communication by providing tools for common language.

Interviewee #6:

IPE activities tend to grow participants confidence and competence in their role and in working together. They tend to feel safer to communicate concerns in clinical practice.

Interviewee #7:

- Valuing people
- Cross monitoring of each other to support

Interviewee #8:

> Learning to speak the same language thus leading to better communication.
> Getting to learn about each other's roles – leads to better coordination.

Interviewee #9:

By getting to know each other, communications gets easier – learn to use same terminology and speak the same language.

Interviewee #10:

Ability to coordinate the care of the patient because trust is developed, professional appreciation for each other's role is enhanced, and participants are comfortable to talk with each other to address patient needs.

Interviewee #11:

Understanding each other's roles and responsibilities, learning conflict management and how to avoid conflicts and learning how to communication and speak the same language leads to better communication and coordination.

Interviewee #12:

Coordination and communication both change by the fact that the healthcare providers get to know each other while together to plan and implement activities together.

Interviewee #13:

I find that communication and coordination improve because of the following:

- social interaction – people just get to know each other better
- learning better way to communicate and understand each other – especially in team building IPE activities.
- And myriad of other ways – you just feel better about your colleagues and that transfer to the clinical setting.

APPENDIX C - OBSERVATIONS

OBSERVATIONS:

Scientific Committee for planning a OB/GYN Conference (April 12, 2016 – 1.5 hour meeting) scheduled for November 2016. Observation data collected by written notes.

- Committee includes eight physicians, one nurse, one allied health, and two administrative staff.
- The physicians dominated discussion even though input from the other professions was noted.
- There was a collegial atmosphere and the various professions interacted nicely.
- The physicians volunteered to take on most action items but all three other healthcare professions volunteered also.
- Observed learning about each other – information sharing, case discussions.

TeamSTEPPS IPE Activity – a full day workshop, April 13, 2016:

- Physicians, nurses, pharmacists and allied health were all represented and not one group was dominant.
- Observed information sharing and case discussion.
- Role-playing created a very positive and interactive atmosphere.
- Common communications tools were provided and practiced, again noted extensive interaction and shared information such cases encountered where this communication tools would have been helpful.
- Observed learning with, from and about each other throughout the day.