EVALUATING THE EFFECTS OF A CONTINUING INTERPROFESSIONAL EDUCATION (CIPE) WORKSHOP ON PARTICIPANTS' ATTITUDES AND COLLABORATIVE PRACTICE BEHAVIORS

by

Laura Mundy Magennis

A doctoral scholarly project submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Nursing Practice

Charlotte

2019

Approved by:

_____
Dr. Kathy Jordan, DNP, MS, FNP-BC, ENP-BC, ENP-C, SANE, FAEN

_____
Dr. Dena Evans, EDD, MSN, RN, CNE, CNL

_____
Dr. Jean Ann Davison, DNP, RN, FNP-BC

_____
Dr. Diane Zablotsky, PhD

ABSTRACT

LAURA MUNDY MAGENNIS. Evaluating the effects of a continuing interprofessional education (CIPE) workshop on participants' attitudes and collaborative practice behaviors. (Under the direction of DR. KATHLEEN JORDAN)

Key organizations, such as the WHO, IHI, and NAH, encourage interprofessional education (IPE) in healthcare to promote collaborative care practices and improved patient outcomes (Gilbert, Yan, & Hoffman, 2010; Owen & Schmitt, 2013; Thistlethwaite, 2012; World Health Organization [WHO], 2010). However, post-licensure continuing interprofessional education (CIPE) is difficult to effectively implement in professional development activities (Interprofessional Education Collaborative [IPEC], 2016; Owen & Schmidt, 2013; Thistlethwaite, 2012).

Purpose. This study was conducted to determine if integrating CIPE activities in a professional development workshop made a difference in participants' attitudes about roles and responsibilities of other healthcare professionals.

Design. A quasi-experimental, mixed-methods approach was utilized. Observations, evaluation surveys, and pre- and post-assessments of interprofessional attitudes were collected before and after a CIPE workshop at Charlotte Area Health Education Center (AHEC).

Methods. A convenience sample of self-selected individuals (n=8; 6 nurses and 2 pharmacists) participated in the CIPE workshop which included unfolding case studies and interprofessional group interactions. The modified Interprofessional Attitudes Scale (IPAS) by Norris, et al. (2015) was used to measure changes in interprofessional attitudes after the workshop.

Results. Using paired *t*-test analysis, statistically significant ($p < 0.05$) changes were noted in 2 of the 28 assessment items (Item 15, $t = -2.656$, $p = 0.033$; Item 17, $t = -2.366$, $p = 0.05$) indicating a positive change in awareness of interprofessional biases in healthcare after the CIPE event.

Conclusion. Awareness of biases about other professionals were impacted, but changes in collaborative practice behaviors could not be determined. CIPE is enhanced when participants are motivated; when there is a high level of trust; and when the IPE facilitator is well-trained. *Social Learning Theory* and the IPEC® Core Competencies were instrumental in the development and facilitation of the CIPE activities.

ACKNOWLEDGMENTS

Utter gratitude does not fully express my feelings for the many people who have been helpful and supportive to me during my educational journey. First and foremost, to Dr. Kathy Jordan, you were instrumental from the very first day of immersion in guiding my scholarly project and providing academic advising and insights. However, it was your positive words and never-ending encouragement when I needed it the most that truly helped me through the whole process. To Dr. Jean Davison, your clinical expertise and patient support were so helpful to me through the development of my scholarly project. To Dr. Dena Evans, your guidance and feedback on my project, as well as your positive energy, were truly appreciated. To Dr. Katherine McGuffin, your direction in keeping us on track was truly helpful, especially during the last few busy months. To Pam Collins, thank you for being a mentor and friend and for encouraging me to find my right path. To May Cheung, Katie Fitzpatrick, Rachel Ford, Sarah Ashcraft, and all the staff at Charlotte AHEC, thank you so much for your belief in me. I am so glad I was able to take this journey with you by my side. Finally, my family has provided me with the most amazing unconditional love and support throughout the last couple of years. To my children, Becca, Logan, Brandon, and Matthew, thank you for allowing me this time to follow one of my life-long dreams. I would have never started this journey without your approval and support, but you gave it all without question. And to my husband, Jim, you are my rock and strength. Thank you for pushing me and believing in me, even in times when I didn't believe in myself. I truly could not have done this without you. And of course, through the many worries and anxieties, God has always provided, and to Him I must give the glory! Thank you!

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LIST OF ABBREVIATIONS

AHEC	Area Health Education Center
CIPE	Continuing interprofessional education
DNP	Doctor of Nursing Practice
IOM	Institute of Medicine
IHI	Institute for Healthcare Improvement
IPE	Interprofessional education
IPEC	Interprofessional Education Collaborative
NAM	National Academy of Medicine
NIH	National Institute of Health
NSAC	Nurse Science Advisory Council
WHO	World Health Organization

CHAPTER 1: INTRODUCTION

The growing complex needs of patients in healthcare settings has led to increased workloads on healthcare professionals, as well as the development of many different roles within the healthcare setting. It is crucial that collaborating healthcare professionals (e.g., nurses, doctors, nurse practitioners, respiratory therapists) know the roles and scope of each other to be able to provide coordinated care and better meet the needs of the patients they serve (Thistlethwaite, 2012). Interprofessional education (IPE) has been shown to help meet this need by improving collaborative practice in healthcare (Owen & Schmitt, 2013; Reeves, Pelone, Harrison, Goldman, & Zwarenstein, 2017; Thistlethwaite, 2012). While IPE has been incorporated successfully into many undergraduate programs, it is not always easily implemented into post-licensure training. Incorporating IPE into practice through continuing interprofessional education (CIPE) would be a way of bridging this gap and of enhancing collaborative practice in the healthcare setting.

1.1 Background

The concept of IPE was introduced over four decades ago (Thistlethwaite, 2012). However, the importance and relevance of IPE has grown substantially over recent years, mostly due to the call to action by the World Health Organization (WHO) in 2010. To help improve patient care outcomes, the WHO published the *Framework for Action on Interprofessional Education and Collaborative Practice* in 2010 to provide strategies for healthcare organizations for improving interprofessional education and collaborative practice (Gilbert, Yan, & Hoffman, 2010; Thistlethwaite, 2012; WHO, 2010). Furthermore, the Institute of Healthcare Improvement's (IHI) Triple Aim for Healthcare called for optimal patient outcomes with positive patient satisfaction at reduced costs

(Gilbert, Yan, & Hoffman, 2010). These two initiatives have escalated the need for collaborative and coordinated patient care (Earnest & Brandt, 2014). To help the healthcare arena move toward collaborative care, the IHI and the WHO recommend IPE as an educational modality in which "two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (WHO, 2010, p. 7).

Though IPE is now part of most academic curricula, key stakeholders--such as the National Academy of Medicine (formerly referred to as the Institute of Medicine or IOM)--recommend that this concept be a part of post-licensure education through continuing interprofessional education within the healthcare workplace (Moradi, Rahmati Najarkolai, & Keshmiri, 2016; Owen & Schmitt, 2013). Meaningful CIPE initiatives are crucial to enhancing collaborative healthcare practices and positive patient outcomes (Gilbert, Yan, & Hoffman, 2010). With collaborative practice, all team members contribute their unique specialized knowledge and skill sets in a collaborative effort, which strengthens the healthcare delivery system and produces enhanced patient outcomes (Gilbert, Yan, & Hoffman, 2010). Continuing interprofessional education brings together members of the healthcare team in a non-threatening environment for continuing collaborative education (Thistlethwaite, 2012). This can help reduce stereotyping and role discrimination, thus improving collaborative practice (Thistlethwaite, 2012).

1.2 Problem Statement

According to the World Health Organization's (WHO) *Framework for Action on Interprofessional Education and Collaborative Practice*, healthcare professionals often

work in silos, leading to fragmented patient care and sub-optimal patient outcomes (Gilbert, Yan, & Hoffman, 2010; WHO, 2010). Though the benefits of collaborative care are well documented, the process for changing educational practice can be a challenge for educators, especially within continuing education settings for the healthcare workforce (Gilbert, Yan, & Hoffman, 2010; Hammick, Freeth, Koppel, Reeves, & Barr, 2007; IPEC, 2016; Reeves et al., 2010). The siloed roles of different healthcare professionals, as well as deep-seated attitudes and resistance to change, can create an environment in which CIPE is difficult to achieve (Earnest & Brandt, 2014; Hart, 2015; Owen et al., 2014). For these and a myriad of other reasons, integrating CIPE into continuing professional development is not an easy task.

Holding continuing education workshops and conferences that are interprofessional does not always include the act of learning from other professionals. For those IPE workshops that do have activities for other interprofessional learning, it is often not known if these activities lead to improved collaborative practice. This preliminary work of this DNP project may be used to shape future CIPE offerings at continuing professional development settings.

1.3 Purpose of the Project

The key driver for this project is that evidence of improving IPE can lead to enhanced interprofessional collaborative practice, resulting in better patient care and outcomes (Gilbert, Yan, & Hoffman, 2010; Hammick et al., 2007; Reeves & Freeth, 2006). The goal of this project is to create an optimal learning environment for CIPE in which interdisciplinary participants learn with and from each other (WHO, 2010). Therefore, the purpose of this project is to implement CIPE activities in a traditional

continuing education workshop to enhance collaborative practice. Through this process, it is anticipated that participants of a CIPE workshop will state a change in attitude regarding interprofessional collaboration with other healthcare profession(s) after the workshop. Subsequently, it is expected that these activities will lead to stated changes in practice toward improved collaborative behaviors.

1.4 Significance

Traditionally, healthcare education and care delivery have been professionally siloed, which causes fragmented patient care and sub-optimal outcomes (Gilbert, Yan, & Hoffman, 2010). Alternatively, with collaborative practice, healthcare professionals know how to optimize their skills, which will strengthen the healthcare delivery system and produce better outcomes (Gilbert, Yan, & Hoffman, 2010). Development of CIPE programs at a traditional continuing education setting is needed to meet the future continuing education needs of healthcare professionals, and thus make a positive impact on the patients they serve. This educational pedagogy can help to reduce stereotypes and improve communication among the different healthcare profession groups (Cox, Cuff, Brandt, Reeves, & Zierler, 2016; Hart, 2015; IPEC, 2016).

1.4 Clinical Question

Continuing professional development can take place in many different venues, including healthcare practice settings or through an organization that specializes in providing continuing education to healthcare professionals. Charlotte Area Health Education Center (AHEC) is a local organization that provides continuing education and professional development to healthcare professionals who live in the eight counties around Charlotte, North Carolina. These professionals work in a multitude of settings

(e.g., hospitals, clinics, private practice) and have a variety of healthcare roles and specialties (e.g., nursing, medicine, radiology, social work) (About Charlotte AHEC, n.d.). Several CIPE workshops and conferences have been conducted at Charlotte AHEC; however, like many other CIPE initiatives, it is not fully known if these workshops made an impact on interprofessional attitudes and collaborative practices.

One workshop, "Adult Physical Assessment for Nurses", is typically taught to a single profession of nurses only; however, this DNP scholarly project will include the integration of CIPE teaching strategies into the curriculum and other professions will be invited to participate. The aim of this project is to determine whether this CIPE offering made a difference in the participants' attitudes about the roles and responsibilities of other healthcare professionals, which subsequently resulted in change of practice. Specifically, the PICOT question is: Do participants (P) in a continuing education workshop on adult physical assessment using an IPE infrastructure (I) report a change in attitude toward interprofessional education and collaboration (O) after participating in the program (T) as compared to their self-reported attitude prior to the program (C)?

1.5 Project Objectives

Charlotte AHEC has frequently provided a two-day continuing education workshop on adult physical assessment targeted at nurses and taught by nursing faculty from the University of North Carolina at Chapel Hill. This workshop was changed to include CIPE activities, renamed to *Adult Physical Assessment Workshop for Healthcare Professionals*, and opened to other healthcare professionals including pharmacists, physical therapists, and emergency personnel. The structure of the workshop was changed to include opportunities for participants to work on interactive case studies in

groups so that they can learn with, from and about each other. The project objectives included:

- Appraise the theoretical models and frameworks for CIPE program development to serve as a foundation for the project design (Sargeant, 2009).
- Perform an educational needs assessment prior to the workshop of various healthcare professionals to determine the educational gap, target audience, and potential barriers for CIPE project (Owen & Schmitt, 2013).
- Identify IPE facilitator training activities to complete prior to the workshop to ensure IPEC® *Core Competencies* are utilized in the workshop (IPEC, 2016).
- Develop a curriculum for a CIPE workshop on adult physical assessment utilizing IPEC® *Core Competencies for Interprofessional Collaborative Practice* (IPEC, 2016).
- Integrate interactive learning activities into the CIPE workshop curriculum to ensure participants learn with, from, and about each other (Owen & Schmitt, 2013).
- Analyze outcomes of CIPE workshop to determine the effectiveness of the project based on Kirkpatrick's model for program evaluation (Abdulghani et al., 2014; Bonnel & Smith, 2014).

The desired goals of this CIPE initiative were that participants would have a positive change in their attitudes about the roles and responsibilities of other healthcare professionals and that they report at least one change in their professional practice toward more collaborative care. These outcomes would demonstrate an IPE activity that is meaningful and provides a positive impact of patient quality and safety. Though literature

review provided many different methods of designing effective CIPE activities, these goals remained consistent throughout the design process (Hart, 2015; Heath et al., 2015; Mann, Sargeant, & Hill, 2009; Moradi et al., 2016; Phillips, Hall, & Irving, 2016; Sargeant, 2009; Telford & Senior, 2017).

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORKS

2.1 Integrated Literature Review

Publications by key agencies (WHO and IHI) provide the background and support for continued focus on implementing IPE and CIPE in academic and healthcare settings (Gilbert, Yan, & Hoffman, 2010; Owen & Schmitt, 2013; Thistlethwaite, 2012). However, even with this high-level support, there are many factors that can interfere with the success of implementing CIPE in a continuing education setting. One of these includes the lack of rigorous research on IPE implementation and outcomes. Because of the variety of research possibilities surrounding IPE and CIPE and the lack of a standardized evaluation process, the available research for IPE is difficult to synthesize (Hammick et al., 2007). This may be due to the varied nature of the topics and the difficulty in performing higher level research studies such as randomized control trials (Lutfiyya, Brandt, Delaney, Pechacek, & Cerra, 2016).

The Cochran Collaborative published an updated review in 2013 on *Interprofessional Education: Effects on professional practice and healthcare outcomes* (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). This review included fifteen studies that evaluated the effect of IPE on professional practice and patient outcomes. Though generalizable outcomes could not be determined through their analysis, they did identify overarching gaps in evidence that could be filled through further research and data collection, including controlled before- and after-assessments with a qualitative data component of interprofessional education interventions (Reeves et al., 2013).

Thistlethwaite (2012) discussed the fact that there is a lack of alignment between what is taught in school and the reality of the workplace setting. Recent graduates of

health education programs have most likely been a part of IPE activities at some point in their academic studies. This preparation leads to a workforce that is IPE-competent and ready to practice in collaborative teams (Gilbert, Yan, & Hoffman, 2010). However, healthcare institutions may not be at the same place in their CIPE journey, leading to a dichotomy of healthcare workforce professionals—those used to interprofessional education and collaboration, and those who are still practicing in siloed roles (Earnest & Brandt, 2014). Many reasons exist for this lag in advancement toward CIPE by healthcare facilities, including the difficulty of change in a fast-paced healthcare environment; staffing and funding issues; lack of IPE champions; unclear competencies regarding CIPE initiatives; and negative attitudes of the participants (Earnest & Brandt, 2014; Hammick et al., 2007; Lutfiyya et al., 2016; Moradi et al., 2016).

There are several factors that can lead to successful CIPE initiatives. Thistlethwaite (2012) outlined factors for success in developing an IPE program, including participants feeling positive about their experience and the interprofessional teamwork activities leading to successful outcomes. Unfortunately, many participants lack the foundational skills that are needed for successful outcomes in CIPE activities, including skills in teamwork, communication, and a full understanding of their role in healthcare delivery (Earnest & Brandt, 2014). Other factors that can interfere with a successful CIPE implementation include lack of institutional or administrative support, instructors who are not trained in CIPE, lack of understanding of IPE competencies, not having the correct mix of professionals, and frequent changes in leadership (Hart, 2015; Owen et al., 2014; Reeves & Freeth, 2006; Thistlethwaite, 2012).

In a qualitative study by Hart (2015), the question of the influence of participants' perceived status on an interprofessional team was evaluated. Through individual focused interviews with one clinical team, the author found that while the nurses felt they had less professional power, other professionals on the team felt that nurses had all the power within any patient care situation. Though this conflicting viewpoint may be a variant of that clinical team, it shows the importance of identifying the underlying perceptions of power whenever implementing a CIPE program (Hart, 2015).

The methodologies and variables of published CIPE and IPE studies vary widely among the practice settings, types of professions, number of participants and method of evaluation (Hammick et al., 2007; Little et al., 2016; Reeves et al., 2017). Of the published studies reviewed, most were implemented with paired before- and after-assessments for a quantitative analysis of change in knowledge and/or attitudes, most showing improvement in scores after the CIPE event (Bilodeau et al., 2010; Hammick et al., 2007; Heath et al., 2015; Moyer, 2016; Phillips, Hall, & Irving, 2016; Reeves et al., 2010). Additionally, several studies included participant interviews or discussion boards to obtain descriptive data and concept themes (Hammick et al., 2007; Hart, 2015; Heath et al., 2015; Owen et al., 2014; Reeves & Freeth, 2006). These themes revealed several barriers to interprofessional collaborative practice in the healthcare setting, including lack of administrative support, time constraints, resistance to collaboration, or social biases from other healthcare professionals on their team (Hart, 2015; Mann, Sargeant, & Hill, 2009; Moyer, 2016; Reeves & Freeth, 2006).

Though many different studies have been published demonstrating the change in participants' attitudes and perspectives after CIPE initiatives, few are available to

demonstrate actual practice change toward collaborative care (Little et al., 2016; Reeves et al., 2017). The inclusion of this type of outcome data is needed to demonstrate the effectiveness of CIPE on patient outcomes. This type of data is important to support the impact CIPE may have on the IHI Triple Aim healthcare approach (Earnest & Brandt, 2014; Lutfiyya et al., 2016).

To determine if there were changes toward collaborative practice as the result of CIPE studies, several articles included questions about the participants' "commitment to change" toward collaborative practice (Abdulghani et al., 2014; Mann, Sargeant, & Hill, 2009; Owen et al., 2014; Phillips, Hall, & Irving, 2016). In motivational interviewing, the participant's "commitment to change" has been shown to be an effective parameter to measure the potential for actual behavioral change (Perry & Butterworth, 2011). Though this data may demonstrate some intent toward a change of practice, stronger data is needed to truly determine if CIPE does in fact lead toward collaborative patient care (Reeves et al., 2013). To provide outcome data on true changes in practice and improved patient outcomes resulting from CIPE, randomized-control trials or controlled before-and after research studies with observational data have been suggested by several organizations; however, publications of these studies are lacking (Lutfiyya et al., 2016; Reeves et al., 2013; Thistlethwaite, 2012; Zwarenstein et al., 2007).

For the purposes of this DNP scholarly project, the addition of a post-workshop follow-up survey to determine changes in practice was utilized to capture data on practice change. This methodology was included in some of the studies with mixed results (Abdulghani et al., 2014; Mann, Sargeant, & Hill, 2009; Phillips, Hall, & Irving, 2016). One of the limitations of this type of data collection is the low return rates of the follow-

up survey (Mann, Sargeant, & Hill, 2009; Phillips, Hall, & Irving, 2016). A multi-faceted approach needed to be utilized to increase the rate of return for long-term follow-up assessments.

2.2 Conceptual & Theoretical Frameworks

The use of theoretical frameworks to enhance the success of a CIPE initiative has been described in literature (Owen et al., 2014; Sargeant, 2009; Thistlethwaite, 2012). Due to the complex nature of interprofessional interactions and education of interprofessional teams, three frameworks were used for this scholarly project. *Social Identity Theory* provides a conceptual basis for facilitators of CIPE to help ensure collaboration between participants in the learning environment (Pecukonis, 2014). The *Interprofessional Education Collaborative (IPEC®) Core Competencies* provide a foundation for structuring CIPE events to ensure participants learn with and about each other (IPEC, 2016). Finally, *The Kirkpatrick Model* of levels of evaluation provides a framework for outcomes assessment for educational offerings (Kirkpatrick & Kirkpatrick, 2016). These three frameworks were used to structure and evaluate this scholarly project and are outlined in Figure 1 and described in detail in the following text.

Theoretical Framework	Use in CIPE Scholarly Project	References
Social Identity Theory	Knowledge of social identities guided CIPE facilitator in group participative activities.	Anderson, Smith, & Hammick, 2016; Barr, 2013 Hart, 2015; Owen et al., 2014; Pecukonis, 2014
IPEC® Core Competencies	Four competencies were used to structure the informal interview questions and to ensure IPE facilitation. Interprofessional Attitude Scale (IPAS) was structured around the four IPEC® Core Competencies.	IPEC, 2016; Norris et al., 2015
The Kirkpatrick Model	Levels of evaluation provided structure for evaluating CIPE outcomes.	Abdulghani et al., 2014; Anderson et al., 2016; Kirkpatrick & Kirkpatrick, 2012; Lown et al., 2011; Mann, Sargeant, & Hill, 2009

Figure 1. Theoretical Frameworks Utilized with CIPE Scholarly Project

2.3 Social Identity Theory

Because working in groups can lead to threatened social or professional identity, the CIPE program must ensure methods are in place to encourage collaboration and cooperation among the participants; therefore, *Social Identity Theory* with experiential and reflective learning was utilized (Anderson, Smith, & Hammick, 2016; Hart, 2015; Owen et al., 2014). This theory states that participants identify with the group that they are assigned to (e.g. nurses, doctors, etc.) and that people, in general, want to belong to the "in" group (Barr, 2013). Facilitators of CIPE must be careful to address the importance of input from all professionals present while also identifying and reducing any power-plays between groups (Pecukonis, 2014).

2.4 IPEC® Core Competencies

Additionally, the Interprofessional Education Collaborative (IPEC®) (2016) has published updated *Core Competencies for Interprofessional Collaborative Practice* to help guide facilitators in the implementation of IPE initiatives. The four IPEC® Core Competencies include: 1) "Values and Ethics for Interprofessional Practice"; 2) "Roles and Responsibilities" of IPE team members; 3) "Interprofessional Communication"; and 4) "Teams and Teamwork" relationships (Interprofessional Education Collaborative, 2016). Though this guide was intended to be used in academic settings for future healthcare professionals, the competencies and operational definitions can certainly serve as a framework for CIPE project development. IPEC® Core Competencies were used to structure the informal interview questions and as a facilitator guide for leading CIPE discussions (IPEC, 2016).

2.5 The Kirkpatrick Model

Measuring outcomes helps to determine if the goals of the project are met (Kleinpell, 2014). *The Kirkpatrick Model* of levels of learning evaluation were used as a framework for outcomes measurement (Kirkpatrick & Kirkpatrick, 2012). Many peer-reviewed, published studies have cited this framework as an effective way to evaluate outcomes for interprofessional education (Abdulghani et al., 2014; Anderson, Smith, & Hammick, 2016; Kirkpatrick & Kirkpatrick, 2012; Lown et al., 2011; Mann, Sargeant, & Hill, 2009).

The evaluation levels in Kirkpatrick's model advance in complexity. Level 1 evaluates the reactions of the learners to the educational event. Level 2 evaluation can be delineated into attitudes and perceptions or knowledge and skills. Most educational offerings are evaluated on one or both Levels 1 and 2. Level 3 evaluation includes a change in the participant's behavior as a result of the educational event. Since this cannot truly be determined until well after the education event, it is often difficult to achieve this level of evaluation. Finally, Level 4 evaluates whether there were organizational changes or patient outcome changes as a result of the educational event. This level requires systematic, ongoing data collection and is very difficult to obtain. Figure 2 describes the Kirkpatrick levels of evaluation for this DNP scholarly project and the different methods utilized to evaluate (Kirkpatrick & Kirkpatrick, 2012).

Evaluation Level	Methods to Evaluate
Level 1 (Learners' Reactions)	• Observational data collected during workshop • Informal interview questions during workshop • Charlotte AHEC post-workshop online evaluation survey questions on perception of the workshop
Level 2a (Attitudes & Perception)	• Observation data collected during workshop • Informal interview questions regarding attitudes and perceptions while working with others from different professions • Pre- and post-workshop modified IPAS survey
Level 2b (Knowledge & Skills)	• Participation in case studies and observational findings during workshop • Opportunity for questions and answers • Adult assessment skills practice and return demonstration • Charlotte AHEC post-workshop online evaluation survey questions regarding their perceived increase in knowledge and skills after the workshop
Level 3 (Behavioral Change)	• Charlotte AHEC post-workshop online evaluation survey question about intent to change practice • One-month follow-up survey to determine actual change in practice
Level 4 (Organizational Change & Patient Outcomes)	• Not evaluated with this scholarly project

Figure 2. Kirkpatrick's Evaluation Levels Measured with CIPE Scholarly Project

(Kirkpatrick & Kirkpatrick, 2012).

CHAPTER 3: PROJECT DESIGN AND ANALYSIS

3.1 Setting

The CIPE workshop took place at a classroom in Charlotte AHEC's Center for Learning and Development. To stimulate group interaction, the classroom was set up with tables in "pod" formations of three tables and six chairs. The classroom is equipped with a laptop, projector, flipcharts, and microphone. The paper data collection tools and classroom instruction were completed in this setting. Since the SurveyMonkey® evaluation surveys are formatted for online use, they were completed in the setting of the participant's choice allowing for a computer connection.

3.2 Population/ Subjects

As an interprofessional initiative, the target audience (population) consisted of a convenience sample of licensed healthcare professionals interested in attending the CIPE course on adult physical assessment. Historically, only nurses or students in the AHEC Nurse Refresher program have been the target audience of the Adult Physical Assessment workshop. The Nurse Refresher program, managed by North Carolina AHEC, is for nurses who have been out of practice for over five years; the Adult Physical Assessment workshop is a requirement of the program for RN Refresher participants. In the past, other interested nurses outside of the RN Refresher program have also attended.

For CIPE events, at least two or more professions should be included in the target audience (Owen & Schmidt, 2013). However, continuing professional development is only beneficial if it fills an education gap for the individual. In considering other professions who may need the content presented in the Adult Physical Assessment workshop, it was felt that pharmacists and physical therapists may benefit. To ascertain a

need for this content for physical therapists, the Charlotte AHEC liaison for physical therapy education confirmed the need. To assess for the need for pharmacists, this was discussed this with the Charlotte AHEC pharmacist on staff. He provided contact information for pharmacists across the state to assess whether this information is needed. Individual emails were sent to these people with positive results.

The target audience included nurses, pharmacists, and physical therapists. Emergency technicians and social workers were also included in the target audience, as well as other interested healthcare professionals. Charlotte AHEC guidelines required a registration fee of $180 for the two-day workshop; however, the RN Refresher students' fees were covered by state grant funds. A minimum of 10 attendees and a maximum of 40 were required to ensure the group interaction component of the workshop was effective.

Several continuing education credit options were provided by Charlotte AHEC, including continuing education credits for nurses, pharmacists, physical therapists, and general continuing education credit. Charlotte AHEC staff, including an educational specialist and project coordinator, provided program development and coordination of project planning. The instructors for the workshop included a faculty member from the UNC-Chapel Hill School of Nursing and this DNP student.

3.3 Inclusion and Exclusion Criteria

Registration for the workshop was done individually by the participants through the Charlotte AHEC website. Most often, participants registered for the workshop on their own accord based their professional education needs. However, others may have registered to attend the workshop at the suggestion or requirement of a manager, or at the

requirement of the RN Refresher program. All registered participants were eligible to participate in the scholarly project; however, only those who consented to participate in the data collection were included in the project. There were no exclusion criteria. Declining consent for the scholarly project data collection did not exclude participants from attending the workshop or participating in the activities.

3.4 Marketing

As a continuing professional development provider, Charlotte AHEC utilizes many different tactics to promote the classes they offer. For the initial marketing component, the CIPE project titled *Adult Physical Assessment Workshop for Healthcare Professionals* was included in the Charlotte AHEC fall catalog. The workshop was included on the Charlotte AHEC webpage for continuing professional development, including the date, time, location, description, outcomes, and continuing education credit.

To further promote the workshop, email marketing was utilized with an electronic postcard developed by the Charlotte AHEC graphic designer (See Appendix A). Charlotte AHEC has access to the NC AHEC database of healthcare professionals who have attended previous educational offerings. Those who "opted in" for email promotions in the database were able to receive the mailing. Based on the target audience, the email addresses of healthcare professionals from the eight counties around Charlotte AHEC were included in the email marketing. The initial marketing was sent out approximately eight weeks before the workshop, with repeated emails subsequently sent due to low registration numbers. Individual emails were sent to those who provided feedback for the pharmacy needs assessment. Finally, an electronic version of the

postcard was sent out to area faculty members and other potentially interested professionals as a personal email invitation.

3.5 Intervention

The *Adult Physical Assessment Workshop for Healthcare Professionals* was a two-day workshop scheduled for November 5 and 6, 2018. Participants registered for the workshop through the Charlotte AHEC website. No pre-class work was required. On the first day of the workshop, participants arrived onsite at the Charlotte AHEC's Center for Learning and Development, signed in on the attendance roster, and chose their seat in the classroom. During the introduction of the workshop, participants were provided an overview of the DNP scholarly practice project and were offered the opportunity to participate. Large envelopes with the required project paperwork and surveys were distributed to each person consenting to participate in the project. This packet included an *Information Sheet* (See Appendix B) about the project, a *Continuing Interprofessional Education Baseline/Demographic Survey* (See Appendix C), and two copies of the *Modified Interprofessional Attitudes Scale (IPAS)* (See Appendices D and E) for pre- and post-CIPE assessment (Norris et al., 2015). These data collection tools be described in the following section.

The envelopes and all forms were numbered with randomly selected numbers prior to the workshop to prevent an unintentional breach of confidentiality and to ensure paired data analysis. No personal identifier information was included on the forms. The *Information Sheet* was read by the DNP student to all workshop participants. Those who chose to participate in the scholarly project were given time to complete the *Continuing Interprofessional Education Baseline/Demographic Survey* and the pre-workshop

Modified IPAS survey. Participants were instructed to keep all data collection tools in their packets until the end of the second day.

The agenda was arranged by health systems content and included four opportunities for interactive unfolding case studies to allow assimilation of the materials taught (See Appendix F). Interactive, unfolding case studies were used so the participants could learn with and from each other while also applying the content they had just been taught (Owen & Schmidt, 2013; Strang Zook, Hulton, Dudding, Stewart, & Graham, 2018). The unfolding case study topics were selected based on the assessment systems taught. Participants were divided into two groups by the DNP student to ensure different professions were included at each table.

Four different unfolding case studies activities were facilitated by the DNP student before lunch and at the end of each day. For each case, four levels of questions were provided in envelopes using a SOAP (subjective, objective, assessment, plan) format. All cases included opportunities for group collaboration and discussion. Health promotion and management were highlighted for each case. Case study topics and systems reviewed are outlined in Figure 3 and included in Appendix G.

Case Study	Problem	Content Included
Case # 1: "Patrick" 23-year-old male complaining of a rash, headache, and fever	Tick-borne illness	Health history Skin
Case # 2: "Susan" 44-year-old woman with headache, runny nose, and cough	Sinus infection Stress	Eyes and ears Nose, mouth, throat, head, & neck
Case # 3: "Kenneth" 45-year-old complaining of heartburn and pressure on his chest	Acute coronary syndrome or myocardial infarction	Respiratory Cardiovascular
Case # 4: "Hazel" 87-year-old female with confusion and weakness	Delirium Poly-pharmacy	Abdomen Musculoskeletal Neurological

Figure 3. Unfolding Case Study Scenarios for Adult Physical Assessment CIPE

To assess that sharing of interprofessional knowledge occurred, the DNP student recorded observations of the group interactions during the case studies and collected data from informal interviews. The Interprofessional Education Collaborative IPEC® Core Competencies were used to structure the *CIPE Observational Data* collection form (See Appendix H) (IPEC, 2016). After the workshop, participants completed the Modified IPAS as a post-assessment to determine any changes in attitudes. All forms were returned to the individual envelopes and handed back in to the DNP student at the end of the workshop.

Following the education intervention, the participants were sent an email with a link for an online confidential SurveyMonkey® evaluation. This is the standard process for Charlotte AHEC to assess for participants' satisfaction, the knowledge gained, and any plans for change in practice. Another electronic survey was sent out around one

month after the workshop to determine if participants made any changes toward collaborative practice after the workshop.

3.6 Outcome Measures

This scholarly project included the use of four data collection tools for quantitative and qualitative data: Demographics and background survey, pre- and post-intervention assessment with the Modified Interprofessional Attitudes Scale (IPAS), an online post-workshop evaluation survey, and an online follow-up evaluation survey. Qualitative data tools included the CIPE Observational Data and informal interview questions. The use of the different data collection techniques enabled triangulation and strengthened the data collected (Bonnel & Smith, 2014). All data collection measures are outlined in Figure 4.

Data Collection Point	Type of Data	Source of Data
Pre-Workshop		
Baseline/Demographic Survey	Demographics Quantitative	Participants
Modified IPAS-Pre-Workshop Survey	Quantitative	Participants
During Workshop		
CIPE Observation Data (based on IPEC® Core Competencies)	Observational Qualitative	DNP Student
Informal Interview Questions	Qualitative	DNP Student Participants
Post-Workshop		
Modified IPAS – Post-Workshop Survey	Quantitative	Participants
SurveyMonkey® Evaluation Survey (around 48 hours)	Quantitative Qualitative Aggregate	Participants
SurveyMonkey® Follow-Up Survey (at one month)	Quantitative Qualitative Aggregate	Participants

Figure 4. CIPE Scholarly Project Data Collection

3.7 Demographics Survey & Baseline Data

The first data collection tool used was a short open-ended paper survey to obtain demographic and baseline information on the participants (See Appendix C). Demographic information collected prior to the workshop included gender, profession, specialty area, their previous experience with CIPE, and whether they currently participate in interprofessional education and collaborative practice. These criteria were chosen based on *Social Identity Theory* and because previous interprofessional interactions can impact the outcomes of CIPE initiatives (Hart, 2015; Owen et al., 2014; Sargeant, 2009).

3.8 Modified Interprofessional Attitudes Scale (IPAS)

Since negative perceptions of other healthcare roles can be a barrier to interprofessional education and collaboration, it is important to evaluate this component to determine barriers to change (Hart, 2015; Owen et al., 2014; Telford & Senior, 2017). To evaluate the impact of the CIPE workshop on the attitudes of participants, a modified version of the Interprofessional Attitudes Scale (IPAS) was used before and after the CIPE workshop. Developed in 2012 and published in 2015, the IPAS scale was based on the items from the *Readiness for Interprofessional Learning Scale* (RIPLS) and the extended RIPLS (Norris et al., 2015). The IPAS contains 27 questions that are structured around the Core Competencies of the Interprofessional Education Collaborative (IPEC) (IPEC, 2016; Norris et al., 2015). Participants are asked to rate each item on a five-point Likert scale ranging from strongly disagree to strongly agree. The authors of the scale estimate a timeframe of approximately ten minutes for participants to complete the tool (Norris et al., 2015).

The IPAS survey was tested at a university setting with over 700 health science students and was determined to be a valid and reliable instrument to measure interprofessional attitudes based on the IPEC® Core Curriculum (Cronbach's alpha was 0.62 – 0.92 using independently analyzed exploratory and confirmatory factor analyses-EFA and CFA) (Norris et al., 2015). While the tool was initially developed to evaluate the attitudes among health science students in academic settings, the authors recommended its use among training for interprofessional teams (Norris et al., 2015). Since the IPAS is a relatively new tool, it is not frequently seen in published studies. Despite this, reasons to use the IPAS tool with this scholarly project were compelling, especially considering the nature and goals of the project.

Permission to use the IPAS with minor modifications for this DNP scholarly project setting was received via email from the lead author of the study. The wording of some question items was changed from "health science students" to "health professionals". An additional item was added to assess the participant's understanding of interprofessional education. See Appendix D for the modified IPAS used with this scholarly project and Appendix E for the author's permission to use the scale with modification.

3.9 Post-Workshop Evaluation Survey

For all Charlotte AHEC continuing professional development events, post-workshop evaluations are collected by emailing a SurveyMonkey® online evaluation link to workshop participants. This standardized evaluation for Charlotte AHEC is intended to gather participant feedback on their satisfaction with the workshop setting (Kirkpatrick Level 1), the extent of knowledge or skills they learned (Kirkpatrick Level 2), their perception of the instructor(s), and suggestions for future workshops (Abdulghani et al., 2014). To evaluate at Kirkpatrick Level 3 (change in practice), participants were asked if they intend to change their practice based on the information from the workshop. This method of asking about intentions of change has been shown, through motivational interviewing studies, to be a valid method for determining if desired behavioral changes will truly be made (Miller & Rollnick, 2013; Perry & Butterworth, 2011). The inclusion of a one-month post-workshop online evaluation survey was also sent out to help determine if changes in practice were made toward collaborative care.

The SurveyMonkey® post-workshop online evaluation, as described in the paragraph above, was sent out within one week of the workshop (See Appendix I for

Charlotte AHEC Adult Physical Assessment Workshop for Healthcare Professionals Evaluation Survey). The time to complete the post-workshop survey was estimated by SurveyMonkey® to take seven minutes. Completion rates of the post-workshop evaluation surveys are generally very high, probably due to the inclusion of the continuing education contact hour certificate at the end of the SurveyMonkey® survey as an incentive for completion.

3.10 Follow-Up Evaluation Survey

To gain a better understanding of whether the participants made any changes in practice based on the information or skills learned in the workshop (Kirkpatrick Level 3), Charlotte AHEC routinely sends participants a second post-workshop SurveyMonkey® evaluation after three months. For brevity, this survey contains six questions and is estimated to take three minutes to complete (See Appendix J for Adult Physical Assessment Workshop for Healthcare Professionals Follow-Up Survey). For this DNP scholarly project, the follow-up survey was sent out to participants one month after the workshop.

Historically, the rate of completion for follow-up surveys at Charlotte AHEC has been very low and variable depending on the workshop. A performance improvement initiative is currently underway at Charlotte AHEC to improve completion rate of follow-up surveys. For this scholarly project, participants were told of the need for the follow-up survey at beginning and end of the workshop. A reminder was also included in the post-workshop survey about the upcoming follow-up survey. Finally, an option for individual phone calls to participants for verbal survey responses was made available as a measure to get higher response rates. Participants were asked at the beginning of the

workshop if they would like to have a phone call rather than another email sent for the follow-up survey.

3.11 Data Collection

Prior to the CIPE workshop, packets were assembled containing all the paper data collection tools needed for the workshop. The data collection paper forms were numbered with identical numbers for accurate comparison of variables. All forms were placed in a large numbered envelope and distributed at the beginning of the workshop to participants who consented to participate in the study. The timing for completion of these forms was described in the Intervention section.

The DNP student remained in the CIPE workshop to facilitate the CIPE Case studies and to observe IPE interactions between participants. For the post-workshop survey and follow-up survey, the DNP student instructed participants of the reasons for these surveys and when they would receive the SurveyMonkey® links. Within a week of the workshop, participants were sent an email with the SurveyMonkey® link for the post-workshop evaluation survey. For the follow-up evaluation survey, the SurveyMonkey® link was sent via email to participants one month after the workshop. Per Charlotte AHEC policy, each survey remains open for participant completion for ten business days.

3.12 Data Storage and Confidentiality

Participants were assured their responses would remain confidential through several methods. First, the paper data collection tools were numbered but did not have any identifying information. These were returned to the envelopes and kept by the participants until the end of the workshop. Additionally, SurveyMonkey® allows for

anonymous entry of evaluation data. Though the participants entered their name at the end, this data is only used for the continuing education certificate. The use of the phone call option for the follow-up survey removes anonymity from this part of the process; however, in this situation, it was the participant's choice to revoke anonymity.

All collected paper tools were kept in a locked drawer in the DNP student's office. The Excel spreadsheet with aggregated data was only accessible by the DNP student using a password protected computer program. No other Charlotte AHEC staff member had access to the paper tools or the Excel data. Once the data analysis component was complete, all paper surveys and data tools were confidentially destroyed by use of a paper shredder.

3.13 Timeline

Establishing a timeline is an important way to maintain structure to a scholarly project (Bonnel & Smith, 2014). Figure 5 summarizes the steps from the implementation plan into a timeline for this scholarly project. The DNP student, instructor, participants, and the Charlotte AHEC Project Coordinator are included in the steps of the timeline.

Timeframe	Timeline Steps
Up to six months before the CIPE workshop	• CIPE workshop is advertised through Charlotte AHEC website, catalog, and email marketing. • Participants register to attend.
Two months to one week before the CIPE workshop	• DNP student prepares CIPE workshop paper consent form and data collection tools in plain large envelopes. • DNP student works with CIPE faculty instructor to prepare for CIPE activities.
At registration sign-in for CIPE workshop	• Participants sign in on registration roster for continuing education credit. • Participants verify their email address. • Participants are asked of their preferred method for follow- up evaluation. survey (online link or phone call).
At the opening of CIPE workshop	• DNP student explains scholarly project and data collection methods. • DNP student distributes numbered envelopes with informed consent, and numbered demographic/baseline survey, and pre- and post-workshop modified IPAS tools. • Participants complete informed consent, demographics and background survey, and pre-workshop modified IPAS tool and returns to envelope.
During CIPE workshop	• DNP student reviews components of interprofessional education and collaboration. • Faculty instructor provides adult physical assessment didactic content, allowing time for practice of assessment techniques. • DNP student facilitates CIPE health assessment case studies. • DNP student observes IPE interactions during workshop. • DNP student conducts informal interviews of participants during breaks.
Immediately after the CIPE workshop	• DNP student instructs participants to remove post-workshop modified IPAS from envelope for completion.

	• Participants complete the post-workshop modified IPAS and returns to the envelope other tools • DNP student collects all sealed envelopes from participants. • CIPE workshop is adjourned.
Within one week of the CIPE workshop	• Charlotte AHEC project coordinator sends all participants an email with the post-workshop SurveyMonkey® evaluation survey link.
Ten business days after post-workshop link was sent	• Participants complete the post-workshop evaluation survey • DNP student reviews data collected from paper surveys before and after CIPE workshop. • DNP student determines themes from observed and interview data.
One month after CIPE workshop	• Charlotte AEHC Project Coordinator sends all participants an email with the follow-up evaluation survey link for SurveyMonkey®. • DNP student adds data received from workshop paper surveys and observed/interview data to Excel spreadsheet for initial data analysis. • DNP student downloads data from post-workshop evaluation in SurveyMonkey®, downloaded to Excel spreadsheet for initial analysis. • Charlotte AHEC Project Coordinator shares post-workshop evaluation survey results with CIPE workshop instructor.
Within ten business days of receiving follow-up evaluation survey	• Participants complete follow-up survey questions. • DNP student calls those who chose to have follow-up surveys completed via phone calls.
After follow-up evaluation survey is completed by participants	• DNP student collects data from follow-up workshop evaluation in SurveyMonkey®, downloaded to Excel spreadsheet for initial analysis. • DNP student begins data analysis using SPSS.

Figure 5. CIPE Scholarly Project Procedural Timeline

3.14 Project Design Analysis

Strengths. There are many strengths related to this DNP scholarly project. First, even though a change in program development is needed to allow interactions and learning between two or more professionals, there is no need for extra supplies or different set-up expenses. As a part of the NC AHEC Program, Charlotte AHEC is affiliated with UNC-Chapel Hill School of Nursing who often provides nursing faculty as instructors for workshops. Therefore, costs and resources needed are minimal to none. As an established continuing professional development organization, Charlotte AHEC has the infrastructure in place to plan and support continuing education offerings with numerous continuing education credits. Finally, Charlotte AHEC is also affiliated with Atrium Health, sharing the goal of supporting the healthcare workforce to provide optimal patient outcomes.

Weaknesses. Charlotte AHEC staff members are encouraged to provide CIPE offerings, but few staff members have had formal training in faculty development. This can lead to a lack of understanding of how to structure and provide effective CIPE (IPEC, 2016). Additionally, the infrastructure within the Charlotte AHEC continuing professional development teams is divided according to the discipline served: the nursing education team develops programs for nurses, the medical education team develops programs for physicians, and so on. While this division helps to provide multiple types of continuing education credits, it can be a challenge to bring teams together to plan effective CIPE events.

Opportunities. The time is right for IPE in the continuing education setting. The North Carolina AHEC Program office, a part of the National AHEC Organization

(NAO), supports and encourages CIPE within the local AHEC branches (Brandt, 2014 Spring). Additionally, there is a strong national and international push toward interprofessional education and collaborative practice to enhance patient care outcomes (Uden-Holman, Curry, Benz, & Aquilino, 2015; WHO, 2010).

Threats. In the clinical arena, there are several possible factors that would may impede the success of CIPE events at Charlotte AHEC. First, there are few controlled studies showing the positive relationship between CIPE and enhanced patient outcomes (Reeves et al., 2017). Because of this, the value of IPE may be underestimated, and CIPE events not supported. Additionally, preconceived attitudes and social hierarchy may prevent some professionals from having a receptive attitude to learn from other professionals (Hart, 2015; Owen et al., 2014). Finally, a gap exists between academic preparation of healthcare professionals related to IPE and what actually exists in healthcare settings (Earnest & Brandt, 2014; Owen & Schmitt, 2013). This may lead to a dichotomy of professionals familiar and ready for IPE concepts and those who are not. However, this gap is further reason that a shift is needed toward IPE in the continuing education setting.

3.15 Ethical Considerations

This project was approved as exempt by the Atrium Health Nurse Science Advisory Council (NSAC) (Appendix K), the Atrium Health Internal Review Board (Appendix L), and the University of North Carolina at Charlotte Internal Review Board (Appendix M). Information about the project was provided to participants prior to the workshop. The participant Information Sheet included the purpose of the project, contact information of the DNP student, risks and benefits, voluntary nature of participation,

conflict of interests (none), and modalities to maintain confidentiality (See Appendix B). Signed consent was not required; however, participants were able to opt out of the project data collection at any time without consequence.

CHAPTER 4: RESULTS

4.1 Demographics

Ten people signed up for the Adult Physical Assessment Workshop for Healthcare Professionals, but one person cancelled before the first day. Of the nine people who attended, one person opted not to be included in the project study. Therefore, data from eight people were included in this project. Demographic data collected at the beginning of the workshop included gender, profession, years working in that profession, specialty, and previous interprofessional or collaborative experiences.

All eight participants identified as female. Two were pharmacists and six were nurses. All participants had over 5 years of experience in their profession, with an average of 16 years working in their field. Work specialties varied among the participants, including medical-surgical nursing, faith community nursing, critical care, oncology, education, and chronic care. One person indicated they were not currently working. Seven out of eight participants indicated that they had participated in interprofessional education (IPE) or collaboration in the past at least one or two times; four participants (50%) indicated they had participated in several IPE events. One participant indicated they were not sure if they had participated in IPE.

The open-ended question regarding previous IPE experience provided insight into the types of IPE and collaborative practices currently in place. Examples included interprofessional councils, daily team meetings with nurses and pharmacists, and collaborative care with physician groups. One person described the following: “We work in the community, so we utilize resources well- i.e. paramedic community program; flu shots at pharmacy. Collaboration is the only way to give people the care they need--

whole person care." This information helped to provide insight into the mindsets of participants regarding IPE. If participants already understood the importance and role of working interprofessionally, the survey results could be biased in a positive manner (Owen et al., 2014).

4.2 Observational Data

The participants' interactions were observed by the DNP student throughout both days of the workshop. Observational data was guided by the categories of the IPEC® Core Competencies -- values and ethics, roles and responsibilities, interprofessional communication, and teamwork (IPEC, 2016). The observational data was also used to help evaluate Kirkpatrick's first and second levels of evaluation (reaction and attitudes/knowledge) (Kirkpatrick & Kirkpatrick, 2012). Since participants' reactions were positive, team interactions were positive, and professionals were sharing knowledge with other professionals, Kirkpatrick Evaluation Levels 1 (Reaction), 2a (Attitudes and Perceptions), and 2b (Knowledge and Skills) were achieved. An overview of the observational findings is outlined in Figure 6.

IPEC® Core Competency	Observations
Values and ethics for interprofessional practice	Little interaction at first, but no negative or non-inclusive behaviors. Interaction between professionals increased over time. No observed discourse throughout event. *Achieved Kirkpatrick Level 1 (Reactions)*
Roles and responsibilities of each professional	Developed over time as teams got to know each other. Input from pharmacists was used more with each case study. *Achieved Kirkpatrick Level 2b (Knowledge & Skills)*
Interprofessional communication	Began with everyone stating their opinions. Over time, communication between team members increased and became more collaborative (i.e., "What do you think?") *Achieved Kirkpatrick Level 2a (Attitudes & Perceptions)*
Teams and teamwork	Teamwork was not observed in the first case study. However, by the last case study, team interactions were becoming more enhanced. *Achieved Kirkpatrick Level 2b (Knowledge & Skills)*

Figure 6. CIPE Observational Findings

(Interprofessional Education Collaborative [IPEC], 2016; Kirkpatrick & Kirkpatrick, 2012).

The workshop space was set up with tables in pod-formation, with three tables and 6 chairs per pod. Participants self-selected where they sat for the workshop. From their interactions, it was clear that some participants knew each other, either through work environment, through the RN Refresher program, or by having attended previous continuing professional development events. Two nurses from one facility sat together and verbalized that their director mandated that they attend the workshop. Though they

did not participate in any of the hands-on practice sessions, they did actively participate in the unfolding case studies. The two pharmacists sat together at one table and were very involved in all activities. The other four nurses sat at two tables near the front, three of them indicating they were RN Refresher students. Group interaction was limited to table discussions at the beginning of the workshop. These interactions supported the concepts of the Social Identity Theory of participants interacting most with those who work in their own fields of practice (Pecukonis, 2014).

To prepare for interprofessional discussion during the unfolding case studies, the DNP student divided participants so they would be placed in interprofessional groups. This resulted in two teams, each with one pharmacist and three or four nurses. To enhance the teamwork aspect of the IPEC® Core Competency, the participants were kept in the same groups for all four unfolding case studies. With each case study, interprofessional discussion and interaction increased for both groups. The two nurses who were initially not interactive became more verbal and collaborative as each case study progressed. By the end of the second day, all participants were collegially talkative, even outside of the case study groups.

The DNP student acted as CIPE facilitator to encourage team interactions and inclusion of all group members. For those who were less interactive than others, the DNP student provided leading questions to encourage interaction. For example, the pharmacists did not participate as much during the initial case studies. Leading questions, such as “Are there any medications that may be helpful for this patient?”, led to the group asking their pharmacy member for assistance. Overall, there were no negative interactions observed.

4.3 Informal Interview Data

While facilitating the CIPE case studies, the DNP student asked the participants if they had learned something new from another professional. All participants indicated that they had. One nurse described how it was nice to have the insight of the pharmacist on the poly-pharmacy case study (Case #4). While that nurse stated the medications seemed like too many for the patient, the pharmacist provided feedback about patients who often have many more medications than noted in this case. This difference in perspective is a key component to interprofessional collaboration and education (IPEC, 2016).

4.4 Modified IPAS Data

Each of the eight participants completed the Modified Interprofessional Attitudes Scale (IPAS) at the beginning of the workshop on the first day and at the end on the second day (pre- and post-workshop assessments). These forms were numbered to allow for paired testing of scores. An additional item was included in the survey to measure their perceived understanding of IPE concepts: "I fully understand the concept of interprofessional education and collaboration".

The data from each modified IPAS was entered in IBM SPSS Version 25 software for statistical analysis. The data was tested for normal distribution using the Shapiro-Wilk test for normality. Of the 28 pre- and post-modified IPAS responses tested, four items were considered normally distributed. These four items included:

- Item #0 (added item): "I fully understand the concept of interprofessional education and collaboration."

- Item #15: “Health professionals from other disciplines have prejudices or make assumptions about me because of my profession.”
- Item #16: “I have prejudices or make assumptions about health professionals from other disciplines.”
- Item #17: “Prejudices and assumptions about health professionals from other disciplines get in the way of delivery of health care.”

A comparison of means using a paired samples t-test was used to determine significant differences among the samples (See Table 1). There were two items that showed statistically significant differences in the means. For Item 15 (other disciplines have prejudices), the mean increased from 2.5 to 3.0 (t= -2.656; p= 0.033). On the IPAS survey, the Likert scale increased in agreement with increase in numbers (1 = strongly disagree; 5 = strongly agree); therefore, this increase in mean scores demonstrated an increased awareness of biases perceived in other professionals after the intervention. For Item 17 (prejudices interfere with care delivery), the mean score increased from 2.875 to 3.875 (t= -2.366; p= 0.05). This indicated that there was a positive and significant difference in participants’ awareness of how prejudices and assumptions from other health professionals can interfere with the delivery of care.

Item	Mean	*t*-test	Significance
Item 0: "I fully understand the concept of interprofessional education and collaboration."	Pre-Workshop: 4.25 Post-Workshop: 4.75	-1.871	0.104
Item 15: "Health professionals from other disciplines have prejudices or make assumptions about me because of my profession."	Pre-Workshop: 2.5 Post-Workshop: 3.0	-2.646	0.033
Item 16: "I have prejudices or make assumptions about health professionals from other disciplines."	Pre-Workshop: 2.75 Post-Workshop: 2.375	1.426	0.197
Item 17: "Prejudices and assumptions about health professionals from other disciplines get in the way of delivery of health care."	Pre-Workshop: 2.875 Post-Workshop: 3.875	-2.366	0.050

Table 1. Modified IPAS Paired t-test Results

4.5 Post-Workshop Evaluation Data

Survey Monkey® was used to gather aggregate data to further evaluate the participants' reactions and knowledge (Kirkpatrick Levels 1 and 2) gained from the workshop. It is standard protocol for Charlotte AHEC to send this type of survey to all workshop participants; therefore, all nine workshop participants were included in the survey distribution. However, only five out of nine people completed the survey after two weeks (55.6 percent completion rate). This attrition may be because several RN Refresher students attended the workshop. RN Refresher students may not need the continuing education certificate included in the survey and may not have been motived to take it.

An objective was added to the evaluation to include the interprofessional component of the workshop: "Identify benefits of working with other healthcare

professionals to enhance collaborative care practices." Two participants "strongly agreed" that this objective was met; two participants agreed that the objective was met; and one participant "strongly disagreed" that this objective was met. There were several comments about the content as "strictly nursing" and "geared toward NP students". However, this workshop included physical assessment content frequently taught to nurses across the state. Due to the confidential nature of the Survey Monkey® data, it cannot be determined if these statements were from nurses or pharmacists.

4.6 Follow-Up Evaluation Data

To measure Kirkpatrick Level 3 (change in behavior/practice), a follow-up SurveyMonkey® survey was sent to participants. Only four participants completed the survey (50%). Of these, no one indicated that they had changed their practice after the workshop. Barriers to implementing changes in practice were assessed on the survey. Responses included lack of administrative support, lack of opportunity, and lack of experience.

4.7 Interpretation

While observational and interview data indicated positive interprofessional attitudes and collaboration, the comments on the post-workshop evaluation survey did not support this perception. There may be several reasons for this. First, the evaluation survey was only completed by 55.6 percent of participants. This may skew the actual perception of the participants. Also, participants may have truly not grasped the concept of IPE. While an initial overview of IPE principles was included by the DNP student, it may take time and practice for these concepts to be understood (Pecukonis, 2014).

Preconceived notions of IPE and reasons for attending the workshop may have had an impact on the attitudes of participants. The description of the workshop on the Charlotte AHEC website included the CIPE component of the workshop. Though anecdotal, the professional experience of the DNP student has shown that participants who do not want to be at a continuing education event (or those who are mandated to attend) usually do not provide positive evaluation scores on the evaluation surveys.

The modified IPAS data did indicate some positive changes in awareness of interprofessional biases. As one of the IPEC® Core Competencies, interprofessional biases can directly impact the success of IPE and other collaborative practice efforts (IPEC, 2016). Though not statistically significant, the mean scores for the added item (understanding of IPE concepts) did increase for three out of 8 participants (37.5%) after the workshop. While the goal of changing behavior toward more collaborative care was not demonstrated, a positive impact was made on participants in the realms of knowledge and awareness.

CHAPTER 5: DISCUSSION

5.1 Summary

This scholarly project was designed to evaluate the effects of a including IPE activities in a continuing professional development workshop. The *Adult Physical Assessment* workshop had been targeted to nurses only for many years at Charlotte AHEC. However, other healthcare professionals, such as pharmacists, can benefit from the content. To fill this educational gap, it would be easy to provide a multidisciplinary workshop, including other professionals in the target audience and offering profession-specific continuing education credit. However, the inclusion of IPE activities helped to advance the workshop from multidisciplinary learning to an enriched, interprofessional education experience.

5.2 Strengths

This scholarly project included many strengths. The CIPE facilitator was educated in the concepts of IPE; faculty development for IPE is a key recommendation throughout the literature (NEXUSIPE, 2018; Willgerodt et al., 2015). Participants of the *Adult Physical Assessment* workshop were of two professions—nursing and pharmacy—which is the minimal requirement for interprofessional education (WHO, 2010). Additionally, the unfolding case studies proved to be an effective way to integrate the content of the workshop with interprofessional interaction. Finally, the use of the modified IPAS tool was an effective way to measure interprofessional attitudes. This tool was based on the *Readiness for Interprofessional Learning Scale* (RIPLS), a tool frequently used in IPE studies, and was based on the IPEC® Core Competencies (Norris et al., 2015).

5.3 Limitations

Limitations of this scholarly project were also noted. With a small sample size of only nine participants in the workshop, it is difficult to draw assumptions for other initiatives. Another limitation for this project was the nature for attendance for those participants who were mandated to attend the workshop. This required attendance may have hampered the interprofessional interactions and could have biased the results. Finally, the limited nature of the workshop over two days may have been a barrier for the development of a trusting relationship that is helpful in CIPE events.

5.4 Recommendations

This DNP scholarly project provided valuable lessons for planning of future CIPE events. First, developing trusting relationships is vital when expecting professionals to learn in interprofessional groups. The IPEC® Core Competency domain of Value and Ethics includes sub-competencies about developing trust with other team members, contributing to team-based care, and working cooperatively with other members of the team (IPEC, 2016). It may be unrealistic to expect participants in a time-limited workshop to trust each other enough to feel comfortable and confident with sharing their opinions and expertise. While observing the group interactions during the *Adult Physical Assessment* workshop, interactions developed over the two days. It stands to reason that trust would continue to develop over time or with groups who worked together on the same unit. More robust CIPE programs could be developed, such as with a workshop series, that allow the trust to build over time.

In addition to trust, the social identity of the group of professionals can play an important part in whether CIPE programs are effective. *Social Identity Theory* states that

professionals' self-concepts are closely linked to their professional group (Owen et al., 2014; Pecukonis, 2014; Sargeant, 2009). As Pecukonis described in his 2014 article, professional biases are important to understanding roles and responsibilities, but they can certainly interfere with interprofessional learning. Professional stereotypes are almost always present, whether from past experiences or from workplace culture (Pecukonis, 2014). These stereotypes can interfere with interprofessional learning.

When people are placed into interprofessional groups, anxiety frequently develops due to the perceived loss of autonomy and social identity (Pecukonis, 2014). During the *Adult Physical Assessment* workshop, participants' group interactions were initially based on their professional identity (nurses talked to nurses, pharmacists talked to each other). As the CIPE facilitator, the DNP student was able to enhance group interaction in a non-threatening manner. Therefore, it is recommended that CIPE educators and facilitators be trained in IPE and group dynamics to ensure the success of CIPE events.

Finally, participants must be engaged and ready to learn in an interprofessional setting. According to principles of adult learning, adults learn best when they are allowed to apply their past experiences in the learning process—a concept that fits perfectly with CIPE facilitation (Godshall, 2009). However, lack of motivation is a barrier to any learning situation. In the *Adult Physical Assessment* workshop, two participants were mandated to attend and stated that they did not feel they should be there. The DNP student tried to engage these participants in the CIPE case studies, but this type of external motivation is not always effective. Ensuring participants of CIPE activities are motivated to learn in an interprofessional manner is another important factor to the success of the event.

5.5 Conclusion

Developing meaningful interprofessional events in a continuing education environment can be a complex task. Care must be taken to ensure the instructors are trained as IPE facilitators; participants must be motivated to learn in a CIPE environment; event activities should be facilitated in a non-threatening and engaging way; and outcomes must be meaningfully measured to determine of the CIPE activity was effective in enhancing collaborative practice. Each new group of interprofessional participants will bring with them their own experiences, knowledge, biases, and anxieties. Therefore, what worked well in one CIPE activity may not work well in another. However, the lessons learned from this DNP scholarly project can be of benefit in the planning of future CIPE events, thus helping to continue the journey toward collaborative patient care.

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APPENDIX A: WORKSHOP POSTCARD

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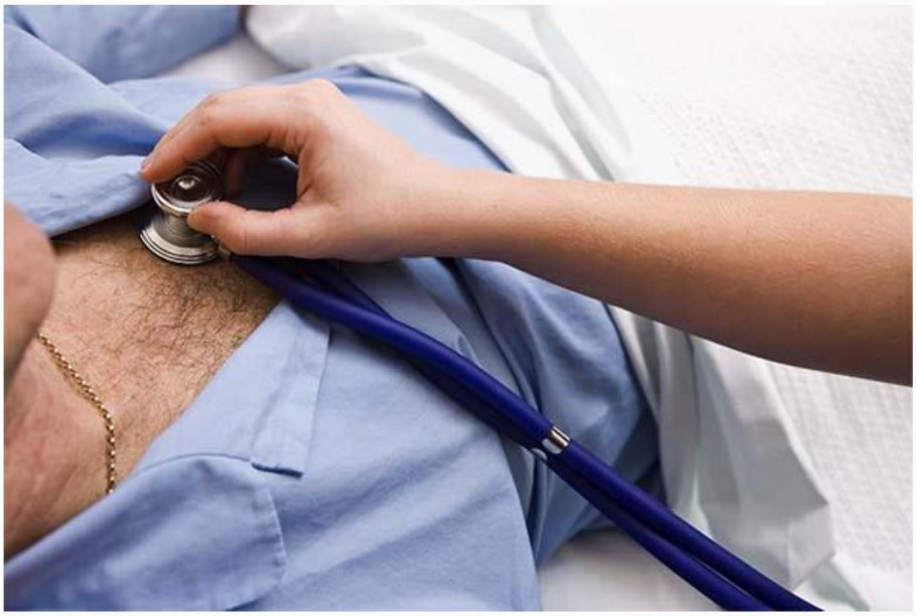
Interprofessional Education Event!

Adult Physical Assessment Workshop for Healthcare Professionals



November 5 & November 6, 2018 | 9 AM – 4:30 PM
Registration 8:30 AM
Charlotte AHEC, Center for Learning & Development

Register Now

Description

*This workshop is being offered in cooperation with UNC-Chapel Hill School of Nursing.

Healthcare professionals in the Adult Physical Assessment Workshop will expand upon their current knowledge and skills in order to more comfortably perform a basic physical assessment of the adult. Using an interprofessional learning format, participants will briefly review basic anatomy and physiology, observe and participate in a demonstration of physical examination techniques and then practice those techniques. Common health deviations will be reviewed.

Speakers

Jean A Davison, MSN, DNP, FNP-BC
Laura M Magennis, MSN, RNC-OB, RN-BC

Credit

12.0 contact hours / 1.2 CEUs

Pharmacists

The University of North Carolina Eshelman School Of Pharmacy is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. The program ACPE# 0046-9999-18-316-L04-P (Pharmacist)provides 12.00 contact hours of continuing pharmacy education credit. To receive CE credit, you must complete the CE attendance form and the evaluation of the program. Statement of credit can be viewed and printed in CPE Monitor. Statements of CE Credit will be processed in approximately 4 to 6 weeks. No partial credit will be available.

Nurses

12.0 Continuing Nursing Education (CNE) contact hours will be provided to those who attend at least 90% of the workshop. Partial credit is not provided.

Charlotte AHEC is an approved provider of continuing nursing education by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Physical Therapy

Charlotte AHEC, NC AHEC system, is an approved provider by the North Carolina Board of Physical Therapy Examiners with regard to activities directly related to physical therapy for continued competence.

Questions? Contact Sophia Moore-Dennis 704.512.6537
Sophia.Moore-Dennis@AtriumHealth.org

APPENDIX B: INFORMATION SHEET

Information Sheet

Evaluating the effects of a continuing interprofessional education (CIPE) workshop on participants' attitudes and collaborative practice behaviors

Purpose: The purpose of this project is to determine whether integrating continuing interprofessional education (CIPE) activities in a continuing education workshop makes a difference in the participants' attitudes about the roles and responsibilities of other healthcare professionals that may enhance collaborative practice.

Specifically, this study will seek to answer the following question: Do participants in a continuing education workshop on adult physical assessment using an IPE infrastructure indicate a change in attitudes related to roles and responsibilities of team members, leading to enhanced collaborative practice, as compared to pre-workshop assessments upon completion of the program?
The objectives of this project include: 1) professionals participating in the CIPE activities indicate a change in attitude toward other healthcare professionals; 2) those professionals will subsequently indicate a change in their practice to working more collaboratively after the CIPE event; and 3) insights from the data collected will help plan future CIPE initiatives.

To measure a change in interprofessional attitudes, the design of this education program will include a written pre-assessment to be taken before participation in the education program, and a written post-assessment to be taken upon completion of the program. Follow-up online evaluations will be sent via email one week and one month after the program to assess knowledge learned and change in practice. A demographic data form for you to complete is also included. This educational program will last two seven-hour days.

Investigator: This study is being conducted by Laura Magennis, MSN, RNC-OB, RN-BC who is a DNP student at the University of North Carolina at Charlotte's School of Nursing and an Education Specialist at Charlotte Area Health Education Center.

Contact Information: Laura.magennis@atriumhealth.org lnixon@uncc.edu
Office: 704-512-6204; Cell: 704-853-9613

Risks and Benefits: This education program is conducted in the providing insight on the attitudes that individuals have toward other professionals after an interactive educational activity. Participants may feel uncomfortable in group discussion settings.

Voluntary Participation: Your participation in this project in completely voluntary. You may withdraw at any time without any negative consequences.

Conflict of Interest: The investigator has not conflict of interest to report.

Confidentiality: To protect your privacy, numerical coding will be used to match the pre- and post-assessments and demographic data. The data obtained will be non-identifiable. Results from this project will be recorded as aggregate data.

APPENDIX C: DEMOGRAPHICS AND BACKGROUND SURVEY

Number _____

Continuing Interprofessional Education Baseline/Demographic Survey

Thank you for agreeing to participate in the scholarly project to determine the effect of continuing interprofessional education on participants in a continuing professional development workshop.

Please complete the following demographic questions:

1. What is your gender?
   _____
2. What is your profession?
   _____
3. How many years have you been working in this profession?
   _____
4. Please describe your specialty area (i.e. obstetrics, critical care, etc.)
   _____
5. How many interprofessional education offerings have you previously participated in?
   - ☐ I'm not sure
   - ☐ None
   - ☐ One or two
   - ☐ Several
   - ☐ Too many to count
6. Does your unit or department encourage interprofessional education and collaborative care?
   _____
   _____

   If yes, please describe:
   _____
   _____
   _____

APPENDIX D: MODIFIED IPAS

Number _____ ☐ Pre-Workshop ☐ Post-Workshop

Modified Interprofessional Attitudes Scale (IPAS)

Please answer the following statements based on the level of your agreement. All answers will be kept confidential.

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	1 Strongly Disagree --- 5 Strongly Agree
I fully understand the concept of interprofessional education and collaboration.	1☐ 2☐ 3☐ 4☐ 5☐
Teamwork, Roles, and Responsibilities	
1. Shared learning will help me become a better team worker.	1☐ 2☐ 3☐ 4☐ 5☐
2. Shared learning will help me think positively about other professionals.	1☐ 2☐ 3☐ 4☐ 5☐
3. Learning with other professionals will help me become a more effective member of a health care team.	1☐ 2☐ 3☐ 4☐ 5☐
4. Shared learning with other health professionals will increase my ability to understand clinical problems.	1☐ 2☐ 3☐ 4☐ 5☐
5. Patients would ultimately benefit if health professionals worked together to solve patient problems.	1☐ 2☐ 3☐ 4☐ 5☐
6. Shared learning with other health professionals will help me communicate better with patients and other professionals.	1☐ 2☐ 3☐ 4☐ 5☐
7. I would welcome the opportunity to work on small-group projects with other health professionals.	1☐ 2☐ 3☐ 4☐ 5☐
8. It is not necessary for health professionals to learn together.	1☐ 2☐ 3☐ 4☐ 5☐
9. Shared learning will help me understand my own limitations.	1☐ 2☐ 3☐ 4☐ 5☐
Patient-Centeredness	
10. Establishing trust with my patients is important to me.	1☐ 2☐ 3☐ 4☐ 5☐
11. It is important for me to communicate compassion to my patients.	1☐ 2☐ 3☐ 4☐ 5☐
12. Thinking about the patient as a person is important in getting treatment right.	1☐ 2☐ 3☐ 4☐ 5☐
13. In my profession, one needs skills in interacting and co-operating with patients.	1☐ 2☐ 3☐ 4☐ 5☐
14. It is important for me to understand the patient's side of the problem.	1☐ 2☐ 3☐ 4☐ 5☐
Interprofessional Biases	
15. Health professionals from other disciplines have prejudices or make assumptions about me because of my profession.	1☐ 2☐ 3☐ 4☐ 5☐
16. I have prejudices or make assumptions about health professionals from other disciplines.	1☐ 2☐ 3☐ 4☐ 5☐
17. Prejudices and assumptions about health professionals from other disciplines get in the way of delivery of health care.	1☐ 2☐ 3☐ 4☐ 5☐

Diversity & Ethics **It is important for health professionals to:**	
18. Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions.	1☐ 2☐ 3☐ 4☐ 5☐
19. Understand what it takes to effectively communicate across cultures.	1☐ 2☐ 3☐ 4☐ 5☐
20. Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.	1☐ 2☐ 3☐ 4☐ 5☐
21. Provide excellent treatment to patients regardless of their background (e.g. race, ethnicity, gender, sexual orientation, religion, class, national origin, immigration status, or ability).	1☐ 2☐ 3☐ 4☐ 5☐
Community-Centeredness **It is important for health professionals to:**	
22. Work with public health administrators and policy makers to improve delivery of health care.	1☐ 2☐ 3☐ 4☐ 5☐
23. Work on projects to promote community and public health.	1☐ 2☐ 3☐ 4☐ 5☐
24. Work with legislators to develop laws, regulations, and policies that improve health care.	1☐ 2☐ 3☐ 4☐ 5☐
25. Work with non-clinicians to deliver more effective health care.	1☐ 2☐ 3☐ 4☐ 5☐
26. Focus on populations and communities, in addition to individual patients, to deliver effective health care.	1☐ 2☐ 3☐ 4☐ 5☐
27. Be advocates for the health of patients and communities.	1☐ 2☐ 3☐ 4☐ 5☐

Citation:

Norris, J., Lassche, M., Joan, C., Eaton, J., Guo, J., Pett, M., & Blumenthal, D. (2015). The Development and Validation of the Interprofessional Attitudes Scale: Assessing the Interprofessional Attitudes of Students in the Health Professions. Academic Medicine. 2015 Oct; 90:1394-1400. PMID 25993280. http://www.ncbi.nlm.nih.gov/pubmed/25993280.

APPENDIX E: IPAS PERMISSION FROM AUTHOR

UNC CHARLOTTE

Laura Magennis <lnixon@uncc.edu>

Use of the IPAS scale for Scholarly Project

Jeffrey Norris <jeffrey@norrisfamily.onmicrosoft.com> Fri, Mar 30, 2018 at 11:49 PM
To: Laura Magennis <lnixon@uncc.edu>
Cc: "jeffreynorris@gmail.com" <jeffreynorris@gmail.com>

Absolutely. How many folks will you likely administer the secret to?

On Mar 30, 2018, at 9:31 AM, Laura Magennis <lnixon@uncc.edu> wrote:

> Hello Mr. Norris,
>
> I am currently working on my Doctorate in Nursing Practice degree at the University of North Carolina, Charlotte. The focus of my scholarly project is on interprofessional education in continuing education settings, and will include the implementation of an interprofessional component to a health assessment workshop normally taught to nurses only. The IPAS scale would be helpful to assess attitudes before and after the workshop.
>
> May I have permission to use the IPAS scale with minor modifications of changing the wording from health science students to health professionals?
>
> Please let me know if you have any questions or concerns.
> Thank you!
>
> -Laura Magennis, MSN, RNC-OB, RN-BC
> 704-853-9613

APPENDIX F: WORKSHOP AGENDA

Adult Physical Assessment Workshop for Healthcare Professionals

Jean A. Davison, DNP, MSN, FNP-BC

November 5 & 6, 2018

Agenda

Day One

8:30 am – 9:00 am	Registration & Refreshments
9:00 am - 9:10 am	Welcome & Introductions
9:10 am – 9:20 am	Review IPE Concepts; Compete survey
9:20 am – 10:30 am	**Module 1: Taking a Complete Health History**
10:30 am – 10:45 am	Break
10:45 am – 11:15 am	**History Practice**
11:15 am – 11:45 am	**Module 2: Examining the Skin**
11:45 am – 12:00 pm	**Case Study 1- IPE Groups** Facilitator: Laura Magennis, MSN, RNC-OB, RN-BC
12:00 pm – 12:45 pm	Lunch
12:45 pm – 1:45 pm	**Module 3: Examining Nose, Mouth, Throat, Head, & Neck**
1:45 pm – 2:45 pm	**Module 4: Examining the Ears**
2:45 pm – 3:00 pm	Break
3:00 pm – 4:10 pm	**Module 5: Examining the Eyes**
4:10 pm - 4:30 pm	**Case Study 2 - IPE Groups** Facilitator: Laura Magennis, MSN, RNC-OB, RN-BC
4:30 pm	Adjourn

Day Two

8:30 am – 9:00 am	Registration & Refreshments
9:00 am – 10:15 am	**Module 6: Examining the Respiratory System**
10:15 am – 10:30 am	Break
10:30 am – 11:40 am	**Module 7: Examining the Cardiovascular System**
11:40 am – 12:00 pm	**Case Study 3 - IPE Groups** Facilitator: Laura Magennis, MSN, RNC-OB, RN-BC
12:00 pm – 12:45 pm	Lunch
12:45 pm – 2:00 pm	**Module 8: Examining the Abdomen**
2:00 pm – 2:15 pm	Break
2:15 pm – 2:45 pm	**Module 9: Musculoskeletal Screening Exam**
2:45 pm – 3:25 pm	**Module 10: Neurological Screening Exam**
3:25 pm – 3:50 pm	**Case Study 4 - IPE Groups** Facilitator: Laura Magennis, MSN, RNC-OB, RN-BC

3:50 pm – 4:20 pm	**Module 11: Putting It All Together: A Review of Full Exam**
4:20 p.m.	Adjourn

Adult Physical Assessment Workshop for Healthcare Professionals

Jean A. Davison, DNP, MSN, FNP-BC
Laura Magennis, MSN, RN-BC (IPE Facilitator)

Disclosures

- This workshop is provided in cooperation with UNC-Chapel Hill School of Nursing.
- Planners and presenters have declared that they have no conflict of interest and no financial relationships which would influence the planning of this activity.
- No commercial or sponsorship support has influenced the planning, implementation, or evaluation of the content of this activity.

Continuing Education Information

To receive credit, you must sign in on the event roster and attend at least 90 % of this workshop.

- 12.0 Contact Hours/ 1.2 CEUS will be provided.
- **Nursing**
  12.0 Continuing Nursing Education (CNE) contact hours will be provided.
  Charlotte AHEC is an approved provider of continuing nursing education by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.
- **Physical Therapy**
  Charlotte AHEC, NC AHEC system, is an approved provider by the North Carolina Board of Physical Therapy Examiners with regard to activities directly related to physical therapy for continued competence.
- **Pharmacy**
  The University of North Carolina Eshelman School Of Pharmacy is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. The program ACPE# 0046-9999-18-316-L04-P (Pharmacist)provides 12.00 contact hours of continuing pharmacy education credit.
  To receive CE credit, you must complete the CE attendance form and the evaluation of the program. Statement of credit can be viewed and printed in CPE Monitor. Statements of CE Credit will be processed in approximately 4 to 6 weeks. No partial credit will be available.

- After this workshop, an **email will be sent** to the email address you provided.
  - This email will include a link to a website where you can **complete a workshop evaluation.**
  - Please complete and submit the evaluation and any comments about the workshop through this link within the next two weeks. ***We greatly value your feedback and suggestions for future CE programs.***
- At the **end of the online evaluation,** you will receive directions on **completing and printing your continuing education certificate.**

  - **This will be the only certificate you receive**.
  - Should you have problems with completing the evaluation or printing the certificate, please let us know as soon as possible.
- You will also receive a **follow-up survey at 3 months.** We would appreciate your feedback regarding any practice changes you made as a result of this educational opportunity.

You may view your completed AHEC continuing education programs through the North Carolina AHEC website, www.myahec.org. *Create your free MyAHEC Account today!*

Thank you for choosing Charlotte AHEC for your continuing education needs!

APPENDIX G: UNFOLDING CASE STUDIES

Adult Physical Assessment Case # 1

Envelope 1

Patrick is a 23-year-old male who has arrived at your clinic complaining of a rash, headache and fever. He states he thinks he has the flu.

Subjective History and Assessment

What questions would you ask about the HPI (history of presenting illness)?

What medical history, family history, and risk factors would you assess?

Envelope 2

Subjective History and Assessment

- Location—Headache- hurts all over; having some muscle aches; points to rash on abdomen
- Onset—Started yesterday, about the same time the rash started on his abdomen
- Character—Rash is red, raised, and circular; muscle aches are like he worked out too much
- Severity—Headache is 5 on pain scale; Fever was 101.4 F last night
- Timing—This all started almost a week after his hiking trip in the mountains
- Aggravating/ Alleviating Factors—Tylenol helps with the fever
- Associated Symptoms—Some nausea
- Meaning of Symptoms to Patient—Thinks he has the flu

Medical history, family history, and risk factors

Patrick is single with a supportive family. States he has lots of friends, loves the outdoors.

No medications; no known allergies; no significant medical history; mother has hypertension, no other family history

States no exposure to anyone with flu that he knows of. States he is very healthy and just took a 2-week hiking trip in the mountains with his friends.

States he had a few bug bites during his trip. He states that he found a tick attached to his skin under his waistband about 6 days ago. He removed it easily and cleaned the skin with soap and water.

Objective Physical Assessment

What body system would you examine?

Envelope 3

Objective Physical Assessment

- VS: Temp – oral 100.8, HR = 98, RR = 20, BP = 112/68
- General – alert and oriented in NAD
- Skin- Warm and dry. Noted 5 cm red, raised, bull's eye spreading appearance - round rash at anterior waistline.

https://www.cdc.gov/stari/symptoms/index.html

- EENT- Within normal limits
- Neck – supple, lymph nodes tender & swollen
- Lung and heart sounds- Normal heart RRR S1S2 without MRG. Lungs CTA bilaterally.
- Abdomen – BS present, soft, nontender, No HSM.
- Neuro – CN 2-12 intact, gait normal, muscle strength 5/5, DTR 2/4

Assessment /Diagnosis

Signs and Symptoms of tick-borne disease (HA, rash, fever, muscle aches following tick bite). The tick bite maybe causing the "Southern Tick-Associated Rash Illness" or STARI. It is most likely not Lyme disease since the tick was from the southern region, the lesion is small and singular, and the time for onset was less than a week.

Plan/ Management/ Health Promotion

What health education, health promotion/disease prevention should you give Patrick?

Envelope 4

Plan/ Management/ Health Promotion

Patrick was prescribed an antibiotic (doxycycline) by the medical provider and instructed to come back if symptoms do not resolve within one week, if headache gets worse, or if rash appears in other locations.

Patrick is not contagious. Rest, fluids, and medication adherence should be encouraged.

Health promotion should include precautions to prevent tick bites (treating clothing and skin with insect repellent, checking frequently for ticks, avoiding thick woods and brush, checking and showering after being in the woods).

CDC. (2018). Southern tick-associated rash illness. Retrieved from https://www.cdc.gov/stari/index.html

Adult Physical Assessment Case # 2

Envelope 1

Susan is a 44-year-old woman who is being seen in your clinic for a headache, runny nose, and cough. She thinks she has a sinus infection.

Subjective History and Assessment

What questions would you ask about the HPI (history of presenting illness)?

What medical history, family history, and risk factors would you assess?

Envelope 2

Subjective History and Assessment

- Location— Points to maxillary and frontal sinus areas – worse on right —above eyebrows and under eyes.
- Onset—Headache started 3 days ago, but runny nose and cough have been going on for a week– "started with a cold"
- Character—Mucous is clear to yellow; bad taste in mouth
- Severity— Headache is level 6 on pain scale
- Timing— Headache is constant; cough and runny nose are intermittent
- Aggravating/ Alleviating Factors— Symptoms of pain and pressure are worse with bending over, notices sore throat from post-nasal drip in the morning. Hot showers and Tylenol/ibuprofen help some. Some relief with anti-histamine and decongestants/Allergy medicine
- Associated Symptoms— Some nausea and sore throat, especially with increased mucous production and postnasal drip. Maybe low-grade fever but "hasn't taken temperature" – "I am tired and not sleeping well".
- Meaning of Symptoms to Patient— States she gets a sinus infection every time she gets a cold and wanted to go ahead and get antibiotics started.

Medical history, family history, and risk factors

Hx of 1ppd tobacco use x 10 years. Susan is a Type 2 diabetic, states well controlled on oral medication – metformin. She has had a history of depression which has been treated with duloxetine and has a negative PQS 9 screen today. She is divorced with two school-aged children and is "too busy to be sick". There is no significant family history. She states she gets at least one sinus infection a year.

Objective Physical Assessment

What body system(s) would you examine?

Envelope 3

Objective Physical Assessment

- VS: Oral temp= 98.8 F/ HR = 86 / RR = 16 BP 132/88
- Heart & Lungs: Within normal limits; heart RRR S1S2 without MRG. Lungs CTA bilaterally.
- Eyes: Watery, bloodshot (conjunctiva injected)
- Ears: Fluid noted, displaced cone of light, TMs dull
- Nose: Visible drainage, yellow; skin reddened at nares, minor nasal septal deviation to right.
- Throat: Reddened, post-nasal drainage noted – cobblestone appearance
- Sinuses: Tender to palpation – frontal and maxillary sinus areas with right side > left.
- Skin: Within normal limits – warm and dry without rashes.

Assessment /Diagnosis

1. Sinus tenderness with hx of symptoms x 10 days.
2. Tobacco use
3. Hx of Diabetes and depression – controlled and managed by PCP

Plan/ Management/ Health Promotion

What health education, health promotion/disease prevention should you give?

Envelope 4

Plan/ Management/ Health Promotion

Most cases of sinusitis are viral and do not need antibiotics. Susan will need education on best practices to reduce inflammation and congestion. Symptom relief includes rest, hydration, cool mist vaporizer, acetaminophen, and saline nose sprays. She should return if symptoms continue for greater than 10 days, or if she gets a fever.

Tobacco use – Use the 5As system with every encounter:

Ask – Identify/ document tobacco use status for every patient at every visit.
Advise – to quit smoking
Assess – willingness to quit
Assist - For the patient willing to make a quit attempt, provide counseling/ resources such as 1 -800- Quit Now
Arrange - Schedule follow-up contact/appoint within a week of quit date

Depression, stress management, diabetes management, and health promotion measures should also be discussed.

Sources:

AHRQ. (2012). Five major steps to intervention (The "5 A's"). Retrieved from https://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/5steps.html

CDC. (2018). Sinus infection. Retrieved from https://www.cdc.gov/antibiotic-use/community/for-patients/common-illnesses/sinus-infection.html

Adult Physical Assessment Case # 3

Envelope 1

Kenneth is a 45-year-old man who presents to your clinic complaining of heartburn and pressure on his chest.

Subjective History and Assessment

What questions would you ask about the HPI (history of presenting illness)?

What medical history, family history, and risk factors would you assess?

Envelope 2

Subjective History and Assessment

- Location— heavy pressure on the center of his chest, radiates his right arm.
- Onset— Intermittent since yesterday. Has been taking antacids to for heartburn
- Character— heavy pressure, burning heartburn
- Severity— 8 out of 10 on pain scale
- Timing— was intermittent (once an hour or so) until this morning. Became constant when he arrived at the clinic
- Aggravating/ Alleviating Factors— He thought the antacids helped, but now feels that they are not working
- Associated Symptoms— diaphoretic, clammy skin; radiating pain down right arm, nausea
- Meaning of Symptoms to Patient— He thought it was heartburn at first but now is worried that he "might be having a heart attack."

Medical history, family history, and risk factors

History of hypercholesterolemia which is controlled with atorvastatin 20 mg. States he sometimes eats a low-fat diet, but not often. Rarely exercises.

History of hypertension which is controlled with lisinopril HCTZ 10/12.5 mg. Does not follow a low-sodium diet. No other medical history.

He's married and has 3 teenage children. Stressful job as an accountant; states he "works all the time". His father died at the age of 50 from a "heart attack". His mother is still living.

Objective Physical Assessment

What body systems would you examine?

Envelope 3

Objective Physical Assessment

- VS: Oral temp 97.8 F/ HR = 106; RR = 28; BP = 178/106 in both arms
- Weight = 234; Height = 5'11"; BMI = 32.6
- Respirations: Clear, labored
- Heart: Regular rhythm, rapid
- Pulses: Equal and bounding x 4
- Abdomen: Non-tender, non-distended
- Skin: Diaphoretic, cool; Pale but pink oral mucosa; capillary refill <3 sec.
- Affect: Anxious, unable to stay still

Assessment /Diagnosis

Chest pain and difficulty breathing related to probably acute coronary syndrome or myocardial infarction.

Plan/ Management/ Health Promotion

What health education, health promotion/disease prevention should you give?

Envelope 4

Plan/ Management/ Health Promotion

This is an emergent situation; 911 needs to be called for emergency transport.

Keep patient calm. Provide oxygen, aspirin, and start IV access as ordered. Ensure AED or emergency cart is present until EMTs arrive. Notify significant other of impending transport as applicable.

Prepare patient medical history for report to emergency personnel.

At follow-up appointment (when patient is stable), patient education on nutrition (low-salt, low-fat diet), stress management, and exercise is needed.

Source:

Amsterdam, E. A., Wenger, N. K., et al. (2014). 2014 AHA/ACC guideline for the management of patients with non–ST-elevation acute coronary syndromes. *Journal of the American College of Cardiology, 64*(24), pp. e139-e228.

Adult Physical Assessment Case # 4

Envelope 1

Hazel is an 87-year-old female who is brought to your clinic by her daughter for confusion and weakness.

Subjective History and Assessment

What questions would you ask about the HPI (history of presenting illness)?

What medical history, family history, and risk factors would you assess?

Envelope 2

Subjective History and Assessment

- Location— Hazel is not having any pain or dizziness; she had a Mohs surgical procedure for removal of squamous cell carcinoma from her left cheek 3 days ago. Dressing is intact over left cheek.
- Onset— Hazel's daughter states that she has been confused and weak for 2 days. She was fine just after the procedure then began getting confused the next day
- Character—She is suddenly forgetful, easily distracted, often forgets where she was going when walking in the house. Seems to fluctuate between being "lost" and being agitated, worse at "sundown". Tires easily and requires frequent naps
- Severity— States no pain.
- Timing— Started 2 days ago, a day after seeing her dermatologist for Mohs procedure.
- Aggravating/ Alleviating Factors— Confusion fluctuates throughout the day
- Associated Symptoms— Flat affect in the office, little eye contact, daughter states mother also feels "a little warm".
- Meaning of Symptoms to Patient— Hazel did not talk, but daughter is concerned and worried her mother may be having a stroke.

Medical history, family history, and risk factors

History of chronic back pain after motor vehicle accident 20 years ago. History of hypertension, urinary incontinence, insomnia and recent dx of skin cancer. Current medications include:

- Hydrocodone 10/325 mg PRN TID for chronic back
- Carvedilol 12.5 mg for hypertension
- Amitriptyline 25 mg for difficulty sleeping
- Gabapentin 600 mg TID for nerve pain
- Aspirin 81 mg for cardiovascular prophylaxis
- Atorvastatin 20 mg for hypercholesterolemia
- Mirabegron 25 mg for urinary incontinence
- Azithromycin 500 mg x 1, then 250 mg x 4 for surgical site infection prophylaxis

Objective Physical Assessment

What body systems would you examine?

Envelope 3

Objective Physical Assessment

- VS: Oral temp 99.8 F/ HR = 98; RR =24; BP = 100/68
- Weight = 143; Height = 5'3" BMI = 25.3
- Respirations: Shallow, clear, equal
- Heart: Regular rhythm, faint
- EENT: Pupils equal and reactive, nose & throat clear, ears within normal limits
- Neuro: Slow gait, Equal grips, no arm drift, no facial droop, speech without slurring but uses incorrect words in confusion (called her daughter her mother)
- Pulses: Equal and weak
- Abdomen: Non-tender, non-distended
- Skin: Cool, dry
- Affect: Quiet, non-engaged but responds to directions

Assessment /Diagnosis

Confusion related to possible delirium, secondary to recent surgical procedure, multiple medications, and possible fever related to recent invasive surgical procedure/infection.

Plan/ Management/ Health Promotion

What health education, health promotion/disease prevention should you give?

Envelope 4

Plan/ Management/ Health Promotion

Review medication list with provider to discuss removal of medications that are no longer needed.

Possible or change of pain medication.

May need inpatient admission until delirium resolves to rule out other causes of acute confusion

Sources:

Grover, S., & Avasthi, A. (2018). Clinical practice guidelines for management of delirium in elderly. *Indian Journal of Psychiatry, 60*(Suppl 3), pp. S329-S340.

Maher, R. L., Hanlon, J., & Hajjar, E. R. (2013). Clinical consequences of polypharmacy in elderly. *Expert Opinion on Drug Safety, 13*(1), pp. 57-65.

APPENDIX H: OBSERVATIONAL DATA COLLECTION FORM

CIPE Observational Data
Case #: 1 2 3 4
Observer: Laura Magennis
Observed findings based on the IPEC Core Competencies:

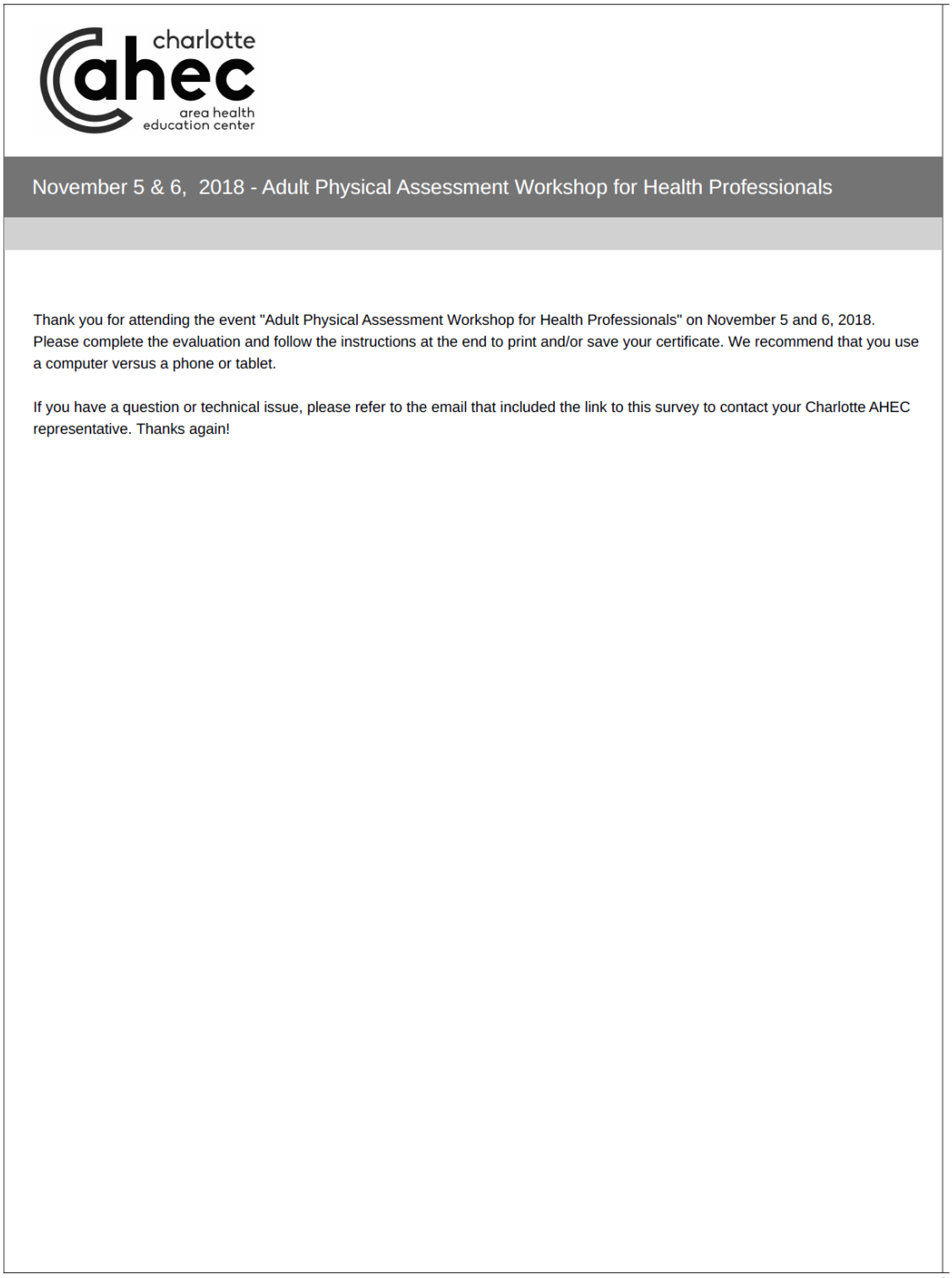
1. Values/Ethics for Interprofessional Practice

2. Roles/Responsibilities

3. Interprofessional Communication

4. Teams and Teamwork

APPENDIX I: POST-WORKSHOP EVALUATION SURVEY



charlotte ahec area health education center

November 5 & 6, 2018 - Adult Physical Assessment Workshop for Health Professionals

Thank you for attending the event "Adult Physical Assessment Workshop for Health Professionals" on November 5 and 6, 2018. Please complete the evaluation and follow the instructions at the end to print and/or save your certificate. We recommend that you use a computer versus a phone or tablet.

If you have a question or technical issue, please refer to the email that included the link to this survey to contact your Charlotte AHEC representative. Thanks again!

1

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November 5 & 6, 2018 - Adult Physical Assessment Workshop for Health Professionals

* 1. How did you learn about this event?

Other (please specify):

* 2. What is your Speciality/Profession?

Other (please specify):

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November 5 & 6, 2018 - Adult Physical Assessment Workshop for Health Professionals

* 3. Please rate the following questions based on your educational experience.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
The event content was pertinent to my educational needs.	○	○	○	○	○	○
The event updated my knowledge and/or skills.	○	○	○	○	○	○
Sufficient time was provided during the event for learning, Q & A, discussion and feedback.	○	○	○	○	○	○
The content of this CE program was useful in helping to meet my personal objectives to enhance my professional capabilities.	○	○	○	○	○	○

If you selected "Neutral", "Disagree" or "Strongly Disagree", please explain:

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November 5 & 6, 2018 - Adult Physical Assessment Workshop for Health Professionals

* 4. Please answer the following questions based on your personal educational experience.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
The event content was presented in an impartial and unbiased manner.	◯	◯	◯	◯	◯	◯
My customer service expectations were met.	◯	◯	◯	◯	◯	◯
My expectations of the event were met.	◯	◯	◯	◯	◯	◯

If you selected "Neutral", "Disagree" or "Strongly Disagree", please explain:

If you selected "Neutral", "Disagree" or "Strongly Disagree", please explain:

If you selected "Neutral", "Disagree" or "Strongly Disagree", please explain:

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November 5 & 6, 2018 - Adult Physical Assessment Workshop for Health Professionals

* 5. Please rate whether the following objectives of this event were met.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Describe significant components of the normal anatomy and physiology (A&P) of skin, ear, nose, throat, head, neck, heart, lungs, abdomen, musculoskeletal and neurological systems.	○	○	○	○	○	○
Identify and carry out the 6 elements that are a part of an adult's health history.	○	○	○	○	○	○
Based upon knowledge from anatomy and physiology, identify the techniques that are a part of an adult's health assessment.	○	○	○	○	○	○
Accurately perform those techniques to fully assess the skin, ears, eyes, nose, throat, head, neck, heart, lungs, and abdomen.	○	○	○	○	○	○
Carry out screening examinations of the musculoskeletal and neurological systems.	○	○	○	○	○	○
Distinguish between normal and common abnormal findings.	○	○	○	○	○	○
Identify benefits of working with other healthcare professionals to enhance collaborative care practices.	○	○	○	○	○	○

* 6. Did the speaker(s) provide an effective presentation based on the following: specific content, teaching methods, usefulness and consistency with event objectives.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N/A
Jean A. Davison , RN, DNP, FNP-BC	○	○	○	○	○	○

Speaker-Related Comments:

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* 7. Please answer the following questions based on your personal educational experience.

	Yes	No
Speaker used effective teaching and learning methods, including active learning.	○	○
Learning assessment activities were appropriate for the event.	○	○
The instructor provided feedback on learning objectives to the learners/participants.	○	○

If you selected "No", please explain:

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* 8. What information did you gain from attending this event that you can/will implement into practice?

* 9. Please list any recommendations for future topics, clinical knowledge or information that would contribute to your learning.

10. Please provide any additional comments you feel would improve the quality of this event.

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Personal Attendance Contract

* 11. In order to receive Continuing Education credit for this training, you must have attended the entire event from 9:00 am to 4:30pm on both days.

By checking "YES" you are indicating that you attended this event in its entirety and that you attended the full day from 9:00 am to 4:30 pm on both days with no extended break periods.

- ◯ Yes
- ◯ No

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* 12. Your feedback and comments are important to us. In order for Charlotte AHEC to provide you with Continuing Education credit, enter your full name in the space below.

Once you have entered your name, click "Next" to print your certificate!

Name:

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November 5 & 6, 2018 - Adult Physical Assessment Workshop for Health Professionals

Print Your Certificate

The below link will generate your certificate of credit. Please type your full name on the certificate. Then, you can save and/or print this certificate for your continuing education records. If you choose not to print or save the original certificate included with this evaluation, there will be a $15 charge for any duplicate/additional certificate copies requested. If desired, approximately 14 business days from this event, you may also print a free CE record from www.myahec.net.

THIS IS THE ONLY CERTIFICATE YOU WILL RECEIVE FOR THIS EVENT.

Thank you for participating in the survey, your feedback is very important to us.
You will be receiving a follow-up survey in about a month to help us determine if you made any changes to practice as a result of this workshop. Your feedback is very important to us!
If you have any further questions, please contact the Charlotte AHEC Nursing team.

APPENDIX J: FOLLOW-UP EVALUATION SURVEY

Adult Physical Assessment for Healthcare Professionals Follow-Up Survey

Charlotte AHEC Values Your Opinion!

Thank for attending the *Adult Physical Assessment Workshop for Healthcare Professionals* on November 5 & 6, 2018. Please take a moment to tell us about your learning experience by completing this 6-question survey.

We value your opinion, as they will ensure continuing course relevance and quality. Thank you for your assistance.

Adult Physical Assessment for Healthcare Professionals Follow-Up Survey

Follow-Up Survey

* 1. I would rank my knowledge of the material covered PRIOR to this workshop as:

- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair
- ◯ Poor

* 2. I would rank my knowledge of the material covered AFTER this workshop as:

- ◯ Excellent
- ◯ Very Good
- ◯ Good
- ◯ Fair
- ◯ Poor

* 3. I applied what I learned in this workshop to my practice in the following way(s):

4. Please identify any barrier(s) you encountered when implementing the new information, techniques, strategies or tools in your practice:

- [ ] Cost
- [ ] Lack of administrative support
- [ ] Lack of consensus or professional guidelines
- [ ] Lack of experience
- [ ] Lack of opportunity (patients/clients)
- [ ] Lack of resources (equipment)
- [ ] Lack of time to assess/council patients or clients
- [ ] Patient/Client compliance issues
- [ ] Social biases preventing collaboration
- [ ] Lack of communication between healthcare professionals
- [ ] No Barriers Identified

Other (please specify)

* 5. How did the activity content play a role in influencing your patient outcomes?

6. What professional practice and/or quality gaps (current research, new guidelines, additional skills, daily obstacles, practice barriers, etc) related to this area would you like addressed in future educational activities?

Adult Physical Assessment for Healthcare Professionals Follow-Up Survey

Thank you!

Thank you for your time and for your support of Charlotte AHEC!

APPENDIX K: NSAC APPROVAL

Nursing Scientific Advisory Committee (NSAC)

Name: Laura Magennis MSN, RNC-OB
Date: 10/08/18
Department: AHEC

RE: Protocol: #57-18

Dear Laura

The Nursing Scientific Advisory Committee has considered your protocol: **Evaluating the Effects of a Continuing Interprofessional Education (CIPE) Workshop on Participant's Attitudes and Collaborative Practice** and elected to give your study *full approval*. You may initiate your project pending sanction by the IRB or IACUC, as required, and supportive funding. If you will be utilizing the lab, radiology or pharmacy for your research please contact the following (Lab: Pat O'Rourke 355-5596; Radiology: Jeff Aho 355-3612; Pharmacy: Ryan Bender 355-5142). If at anytime you wish to revise your protocol, please submit the revision for our review.

Best of luck with your investigation. Please refer to the research policy dealing with research conduct (**ADM 240.01**) located in the CHS/Atrium Policy and Procedure & Procedure Manual. Should you have any questions or concerns, please contact Maureen Fogle at (704)304-5497 or **Maureen.fogle@atriumhealth.org**

Sincerely

Dr. Maureen Fogle

Maureen Fogle EdD, RN, NE-BC
Chair, Nursing Scientific Advisory Committee

cc: IRB – Jon Schwaiger
Co-Investigators
NSAC File

APPENDIX L: ATRIUM HEALTH IRB APPROVAL

Carolinas HealthCare System

October 24, 2018

Laura Magennis, RN, MSN
Charlotte AHEC
108 Daniel Efird Drive
Mount Holly, NC 28120

RE: Evaluating the Effects of Continuing Interprofessional Education Workshop on Participant's Attitudes and Collaborative Practice

THIS LETTER REPLACES A PREVIOUS VERSION
IRB File #10-18-22EX

Dear Ms. Magennis:

Your protocol and information sheet were approved for use within the facilities of Carolinas HealthCare System. Waiver of consent documentation was granted. Your study meets the criteria for exempt status set forth in Code of Federal Regulations Title 45 Part 46 § 101(b), **Category 1: Research conducted in established or commonly accepted educational settings.**

The following materials were approved for use within this study:
-Modified Interprofessional Attitudes Scale (IPAS)

Compliance with these guidelines requires that confidentiality be protected by recording information in a manner that does not allow subjects to be identified directly or through identifiers linked to subjects. Necessary identifying information must be kept in a secure manner.

Any changes to the research study must be presented to the IRB for approval prior to implementation. If we can be of further assistance, feel free to contact the IRB Office, 704-355-3158.

Sincerely,

Michael Runyon, MD
Chair, CHS IRB
jdt

Note: The IRB complies with the requirements found in Part 56 of the 21 Code of Federal Regulations and Part 46 of the 45 Code of Federal Regulations. Federal-Wide Assurance # 00000387. The Registration Number is IORG 0000740. The Carolinas HealthCare System Institutional Review Board follows the ICH GCP guidelines with regard to the rights of human subjects.

APPENDIX M: UNC-CHARLOTTE IRB APPROVAL

Laura Magennis <lnixon@uncc.edu>

IRB Notice - 18-0485

IRB <uncc-irb@uncc.edu> Wed, Oct 31, 2018 at 11:06 AM
To: ksjorda1@uncc.edu, lnixon@uncc.edu
Cc: uncc-irbis@uncc.edu

To: Laura Magennis

From: Office of Research Compliance

Date: 10/31/2018
RE: Notice of Approval of Exemption with No End Date
Exemption Category: 1.Educational setting
Study #: 18-0485

Study Title: Evaluating the effects of a continuing interprofessional education (CIPE) workshop on participants' attitudes and collaborative practice behaviors

This submission has been reviewed by the Office of Research Compliance and was determined to meet the Exempt category cited above under 45 CFR 46.101(b). This determination has no expiration or end date and is not subject to an annual continuing review. **However, you are required to obtain IRB approval for all changes to any aspect of this study before they can be implemented.**

The Investigator Responsibilities listed below applies to this study only. Carefully review the Investigator Responsibilities.

Study Description:

The goal of this project is to determine whether integrating continuing interprofessional education activities in a multidisciplinary continuing education workshop impacts the participants' attitudes about the roles of other healthcare professionals and enhances collaborative practice. The PICOT question is: Do participants (P) in a continuing education workshop on adult physical assessment using an IPE infrastructure (I) indicate a change in attitudes related to roles and responsibilities of team members, leading to enhanced collaborative practice (O), compared to pre-workshop assessment (C) upon completion of the program (T)? Before and after assessments will be completed using the modified "Interprofessional Attitudes Scale (IPAS)".

Your approved consent forms (if applicable) and other documents are available online at http://uncc.myresearchonline.org/irb/index.cfm?event=home.dashboard.irbStudyManagement&irb_id=18-0485.

Investigator's Responsibilities:

The above-cited determination has no expiration or end date and is not subject to annual continuing review.

However, the Principal Investigator needs to comply with the following responsibilities:

1. Modifications **must** be submitted for review and approval before implementing the modification. This includes changes to study procedures, study materials, personnel, etc.
2. Data security procedures must follow procedures as approved in the protocol and in accordance with ITS Guidelines for Data Handling.
3. Promptly notify the IRB (uncc-irb@uncc.edu) of any adverse events or unanticipated risks to participants or others.
4. Complete the Closure eform via IRBIS once the study is complete.
5. Be aware that this study is now included in the Office of Research Compliance (ORC) **Post-Approval Monitoring program** and may be selected for post-review monitoring at some point in the future.
6. Reply to ORC post-review monitoring and administrative check-ins that will be conducted periodically to update ORC as to the status of the study.
7. Three years (3) following this Exemption determination, ORC will request a study status update (active/not active).

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records).