Institutional Collaboration to Accelerate Interprofessional Education

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Abstract
Evidence has been generated and synthesized to support enhanced outcomes in healthcare environments supportive of interprofessional practice. Despite the preponderance of evidence, many health professions education programs do not prepare their students for interprofessional practice. Multiple factors influence the integration of interprofessional education into a program's curricular offerings including availability of potential partnering professions, conflicting schedules, lack of curricular alignment, and logistical challenges. This manuscript describes initiatives and innovations used to replace health profession and institutional silos with interprofessional and cross-institutional collaboration in Fort Worth, Texas, USA. While the initial point of connection involved the administrators and faculty members from Texas Christian University and the University of North Texas Health Science Center collaborating to create interprofessional training opportunities for health professions students, this collaboration continues to generate new innovations and cooperative initiatives. These initiatives include research projects supported by significant external funding awards and a decision by the leaders of the two institutions to collaborate to develop a new medical school.

Keywords
Interprofessional education, collaboration, IPE leadership
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Recognition of Opportunity

Evidence has been generated and synthesized to support enhanced outcomes in healthcare environments supportive of interprofessional practice (Brandt, Lutfiyya, King, & Chioreso, 2014; Interprofessional Education Collaborative [IPEC], 2016; Interprofessional Education Collaborative Expert Panel [IPEC Expert Panel], 2011; World Health Organization [WHO], 2010). Despite the preponderance of evidence, many health professions education programs do not prepare their students for interprofessional practice (Gilligan, Outram, & Levett-Jones, 2014). Multiple factors influence the integration of interprofessional education into a program’s curricular offerings (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011). These factors might include the availability of potential partnering professions, conflicting schedules, lack of curricular alignment, and logistical barriers. Collaborative practice competencies are often inadequately covered in health professions curricula (Nelson, White, Hodges, & Tassone, 2016); however, the knowledge, attitudes, and behaviors necessary for effective teamwork such as team dynamics, leadership, communication, and conflict resolution are essential. These collaborative practice competencies are not innate, and must be taught and reinforced across a student’s health professions education and training (Gilligan et al., 2014).

The overarching purpose of interprofessional education is to prepare health professions students for interprofessional collaborative practice by teaching collaborative practice competencies within the context of an interprofessional team (Bridges et al., 2011). Interprofessional education must focus on collaborative practice competency development, and
culminate in opportunities to apply or practice these competencies with students from other disciplines (Gilligan et al., 2014).

The integration of interprofessional education and practice competencies across health professions training surfaced as institutional initiatives for the University of North Texas Health Science Center (UNTHSC) and Texas Christian University (TCU) in 2012. A unique collaboration between a state and private institution has allowed creation and implementation of initiatives and innovations to replace health profession and institutional silos with interprofessional and cross-institutional collaboration in Fort Worth, Texas, USA. While the initial point of connection involved administrators and faculty members from TCU and the UNTHSC collaborating to create interprofessional training opportunities for health professions students, this collaboration continues to generate new innovations and cooperative initiatives. These initiatives include research projects supported by significant external funding awards and a decision by the leaders of the two institutions to collaborate to develop a new medical school.

Strategies implemented that helped accelerate the successful implementation of interprofessional education and practice within and between UNTHSC and TCU have been identified. Institutions attempting to accelerate the development of their interprofessional education initiatives may benefit from the strategies implemented in this cross-institutional interprofessional education implementation approach.

**Silos**

The idea of professional and institutional silos is not new (Gilligan et al., 2014; Glossenger, Bennett, Ferren, & Sageser, 2016). Health disciplines have traditionally educated their students in classrooms filled with students studying the same discipline. Although students might encounter students of other health professions during their clinical training, the interaction
between professions might be minimal (Nelson et al., 2016). As a result, students often adopt stereotypical beliefs about other disciplines (Gilligan et al., 2014). The silo approach to health professions education has often been promulgated by regulatory and/or accreditation requirements that mandate the qualifications of faculty members, thereby lessening the likelihood of meaningful interaction between students of one discipline and experienced experts representing a different health discipline (Thistlethwaite, 2015). To meet course content demands, faculty from a different health discipline may deliver specific content to students; however, these faculty members have not historically focused on informing students about their own profession or ways multiple disciplines might work together in the care of a patient (Nelson et al., 2016).

The result of the silo approach to health professions education has often been evident in the clinical environment where insular thinking may be modeled (Nelson et al., 2016). Issues of status and control that may be rooted in traditional healthcare hierarchies further perpetuate the silo approach (Gilligan et al., 2014). Regardless of the health discipline, the desire to protect one’s status and professional turf may be evident in behaviors that do not show respect for members of other professions. The lack of understanding of the value of the differences and similarities of each profession result in care that is not fully optimized (Farrell, 2016).

Planning

The UNTHSC is a public graduate level institution, while TCU is a private undergraduate and graduate institution consisting of multiple colleges and schools, with health professions programs within the Harris College of Nursing and Health Sciences and the College of Science and Engineering. There is no duplication of health professions programs between UNTHSC and TCU, thereby creating a complimentary versus competitive relationship. Located about five
miles apart in Fort Worth, Texas, these universities had occasionally partnered for previous educational and research projects.

The variety of health professions represented in the two universities was an accelerating force in the collaboration. The two institutions represent a wide variety of disciplines, without overlapping programs. Health profession education programs at UNTHSC include Biomedical Science, Osteopathic Medicine, Pharmacy, Physical Therapy, Physician Assistant and Public Health. Health profession educational programs at TCU include Athletic Training, Habilitation of the Deaf and Hard of Hearing, Kinesiology, Nursing, Nurse Anesthesia, Social Work, Speech Language Pathology and Sport Psychology.

Structure of collaboration. Early in the partnership, it was determined that a formal memorandum of understanding between the two universities would be valuable. Senior administrators of each university were queried to identify possible options for the desired agreement. During this process, an existing agreement between the UNTHSC School of Public Health and the TCU School of Business was discovered. This existing agreement was used as a template for the interprofessional education (IPE) agreement. The use of an existing agreement as a template allowed an accelerated pace of agreement negotiation. Complex issues, such as navigating differing tuition structures and rates, were much easier to negotiate since those issues had already been resolved at the executive level of each university for the existing public health/business affiliation agreement. Joint adjunct appointments of the two IPE leaders were initiated. Through the development of the IPE structure and processes, a strong foundation of trust developed between the two leaders. The other faculty and staff members involved in the various IPE initiatives sensed the value of the collaboration, and soon adopted a similar approach of trust and respect for their inter-institutional colleagues. The structure of designated time for
interaction, frequent communication, a commitment to trial various initiatives, and the continuous refinement of pilot endeavors allowed the partnership to solidify.

**Leadership.** Interest in IPE and a history of previous collaborations across programs at UNTHSC and TCU fostered early informal dialogues about the potential for collaborative IPE initiatives across institutions. The need for a developed structure of leadership for IPE within each institution and a process for cross-institutional collaboration was identified. The internal institutional structure of leadership for interprofessional education was developed unique to each institution. TCU added IPE initiatives to the responsibilities of an Associate Dean within the Harris College of Nursing and Health Sciences. UNTHSC created an Institutional Department of Interprofessional Education and Practice with a department director charged with leading implementation of IPE initiatives. The TCU Associate Dean leading IPE initiatives was invited by the UNTHSC Associate Provost to participate in the interview process to select the UNTHSC inaugural IPE Director, thereby giving administrative endorsement to the significance of the developing relationship between the two universities.

With the IPE leader for each university identified, planning began to not only develop leadership strategies within each university, but to also develop cross-university avenues for collaboration. An IPE advisory board was established at UNTHSC. The advisory board included a Dean representative from both UNTHSC and TCU to help guide the institutional and cross-institutional IPE programs. In a similar timeframe, TCU established an Interprofessional Research, Education and Practice (IPREP) committee comprised of representatives from each of its health professions programs as well as representation from UNTHSC to guide TCU in their IPE institutional and cross-institutional initiatives. The IPE leader for each university was asked to sit on the IPE leadership group at the other university.
It was quickly identified that there was a need to create a venue through which each health profession could be represented to explore opportunities around IPE collaboration. An IPE curriculum committee was hosted at UNTHSC that included Dean-appointed representatives from each of the health professions programs at UNTHSC and TCU. The synergy generated by having representatives from each health profession together allowed for identification of IPE needs across programs, opportunities for shared IPE experiences, and creative solutions to overcome existing barriers to collaboration. This overall structure of internal IPE leadership and shared cross-institutional collaboration has allowed each IPE leader to keep an eye on the big picture of cross-institutional collaboration opportunities, in addition to facilitating the activities insular to their own university.

**Leadership Characteristics.** The importance of the professional relationship of the UNTHSC Director of Interprofessional Education and Practice and the Associate Dean of the Harris College of Nursing and Health Sciences who were responsible for leading each institutions’ initial interprofessional education initiatives cannot be overemphasized. It was through their careful attention to the burgeoning partnership that a respectful and mutually beneficial collaboration was fostered. A commitment to robust open communication was imperative. This included frequent face-to-face meetings as well as communication through electronic and telephonic means. When issues arose that appeared to put the two universities in opposing or competitive positions, the two leaders were diligent to identify common ground to achieve shared goals. At points of apparent impasse, the solution-defining questions became, “What is right for our students?” and, “What will have the greatest likelihood of educating our students to be true interprofessional practitioners?” The relationship was deliberately nurtured to be that of collaborating competitors rather than competing collaborators.
As we began to examine the aspects of the collaboration that led to success, we recognized leadership characteristics that were aligned with the success we experienced. We balanced our curiosity and desire to innovate with tried and true project management skills. While each university’s IPE leader was committed to the collaboration, it was acknowledged and accepted that at times they would need to prioritize the interests of their own university. Keeping an eye on the overall goal of improving patient outcomes by educating health professionals in an interprofessional manner allowed all involved to stay focused on the greater purpose of their actions. We were quick to acknowledge strategies that were not effective, and were able to use prior setbacks as a platform to launch future success. Characteristics believed to be essential to the progress included an interdisciplinary focus, accountability, taking action based on evidence, keeping the goal of patient-centered care at the center, and remaining passionate to educate students committed to improving their future practice at the point of care.

Curriculum. An Institutional IPE Curriculum Committee was established at UNTHSC with Dean-appointed representatives from each of the UNTHSC colleges and schools. This group also included representatives from each of the TCU health professions programs. This committee was charged with developing the curriculum for all institutional and cross-institutional IPE activities, and with developing a common IPE schedule across all programs participating in the institutional and cross-institutional IPE events. The TCU IPREP committee continued to guide TCU in their IPE institutional and cross-institutional initiatives.

IPE curricular offerings were leveled as Initial, Intermediate, or Advanced based on student and program readiness. Widely adopted core IPE competencies for health professionals (Interprofessional Education Collaborative Expert Panel, 2011) and a model of competency development (Miller, 1990) were utilized to aid in development of IPE objectives and the
assessment of learning outcomes. A Social Constructivist Learning Theory Approach (Palincsar, 1998) was adopted with a modified small team learning format through which small interprofessional teams of students have the opportunity to learn about, from, and with each other through a set sequence of designed IPE activities.

Although assessment and modifications are ongoing, the foundation that was developed has allowed the cross-institutional IPE activities to continue. Interprofessional teams of 10 – 12 students facilitated by an interprofessional faculty member, work together around IPE core competencies in initial and intermediate institutional IPE workshops. Faculty facilitators are drawn from each of the professions participating in the IPE workshop. Students are prepared for these IPE workshops through common pre-reading, online learning modules, educational videos, and/or didactic large group sessions prior to the IPE team sessions. Debriefing for students and faculty occur at the completion of each workshop. Students are assessed for learning outcomes and ongoing program evaluation is conducted. After each IPE workshop, IPE curriculum committee members from UNTHSC and TCU debrief and develop action plans for process improvement.

**Faculty development.** A natural outgrowth of this IPE partnership has been collaborative faculty training. Faculty teams from TCU and UNTHSC have attended IPE training opportunities together, and participated in the Interprofessional Education Collaborative (IPEC) faculty development institutes since 2012. Teams returning from IPEC training institutes have provided Grand Rounds presentations to disseminate the training received as well as new opportunities for collaboration around interprofessional education. Shared faculty teams have participated in TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient
Safety) master training, and both institutions are providing TeamSTEPPS training to their health professions students.

Cross institutional IPE activities and events involve both TCU and UNTHSC faculty and administrators serving as small team facilitators. In order to coordinate and standardize faculty participation across student teams, faculty members from both institutions train together for these events. All participating faculty from both institutions are required to participate in training for each unique IPE activity. New faculty members are paired with experienced faculty during their first IPE activity to help with orientation to the facilitation process.

Leadership at both institutions has recognized the vital role of faculty development in creation of a culture of collaborative practice. The UNTHSC Department of Interprofessional Education and Practice, in collaboration with the UNTHSC Department of Innovative Learning, developed online faculty training modules to help prepare faculty members in the following areas: knowledge of the roles and responsibilities of healthcare professionals; history, definition, and rationale for interprofessional education and practice; facilitation skills for working with interprofessional student teams; and best practices and innovative approaches to integrating IPE competencies into course curricula. These online IPE faculty development modules are shared between institutions, and faculty members participating in IPE are encouraged to utilize them.

Joint efforts in continuing education for practicing professionals on topics of interprofessional collaborative practice have been an additional outgrowth of this partnership. In collaboration with the UNTHSC Office of Professional and Continuing Education, health professions faculty members from both institutions work to help integrate collaborative practice competencies and opportunities for interprofessional interactions into continuing education offerings to practicing health professionals. An annual IPE symposium is also utilized to bring
together the academic and practice communities along with supporting institutions around IPE and collaborative practice themes.

**Implementation**

A common calendar for Initial and Intermediate IPE team sessions has been established for both institutions through collaboration within the IPE curriculum committee. This allows all programs to plan for participation in these activities and to schedule faculty members to participate as facilitators. All Initial and Intermediate IPE team sessions are posted prior to the beginning of the academic year on each program's student schedule. All programs connect the Initial and Intermediate IPE team sessions to a particular course. Attendance is tracked and reported back to each program.

Each of the collaborative interprofessional activities that have been planned and implemented have been embedded into existing courses within the curricula of the various health disciplines. Future manuscripts will provide details on many of the specific activities, but to help the reader understand the breadth of action that has resulted from this collaboration the lists of activities below are provided to show examples of collaborative interprofessional activities that have been offered.
Examples of interprofessional activities being offered each fall and spring semester include:

1. Initial, Intermediate, and Advanced level IPE team workshops: Students work together to complete a case study in an interprofessional manner. Each of the disciplines listed above have been involved in one or more of these events.

2. Code simulation: Small interprofessional groups respond to a cardiac arrest including the management of challenging family dynamics (nursing, pharmacy, medicine, chaplaincy residents).

3. SAGE (Seniors Assisting in Geriatric Education): Interprofessional teams visit older adults in their homes and complete team tasks such as a safety assessment, medication reconciliation, etc. (pharmacy, physical therapy, nursing, medicine, physician assistant, social work, dietetics).

4. TeamSTEPPS training: Sessions have been held for students, faculty members, clinical practitioners, and other groups. All of the disciplines listed above, as well as clinical practice staff members, have participated.

5. Mobile health unit: Interprofessional teams provide health care in the community in a state-of-the-art mobile health unit (medicine, dietetics, public health).

6. Health screenings at local elementary schools (medicine, nursing, oral hygienists, speech language pathology).
Examples of interprofessional activities being offered on a yearly basis include:

7. Culinary medicine: Students work together to learn about and prepare healthy meals (dietetics, medicine, physician assistant, pharmacy).

8. Pediatric clinic dietetic internship (medicine, physician assistant, dietetics).

9. Geriatric Skills Fair (nursing, medicine, pharmacy, physician assistant, physical therapy, social work, dietetics).

10. Primary care summit (all of the listed disciplines).

11. Online virtual geriatric case study: A longitudinal unfolding case scenario, including care transition challenges, initially done in collaboration with Virginia Commonwealth University (physical therapy, pharmacy, nursing, medicine, social work, physician assistant).

12. Research planning seminar: Nurse anesthesia and biomedical science graduate students work together to identify research questions for future research projects on topics such as breast cancer reconstruction surgery.

13. Public health disaster scenario (public health, nursing).

14. Shared speakers focused on topics such as patient safety, healthcare error transparency, ethics, and IPE structures, facilitators, and barriers (all disciplines).
Evaluation

Despite the success we have seen with the activities already implemented, we know there are more opportunities to be developed, as well as ways to refine the initiatives in progress. We see a potential to create interprofessional credit-bearing courses that are shared between the disciplines and the universities. Possible course topics include a survey of health professions, ethics, communication, and team-based practice. While many of our faculty have engaged in facilitator training specifically focused on IPE, we see additional opportunities for faculty education. A process to award a certificate to faculty members who have engaged in significant IPE education might be an option in the future. Well-designed, purposeful, health-focused service learning projects may provide significant opportunities for co-curricular IPE experiences in both local and international settings.

Program evaluation data have been collected for most of the activities that have been implemented, and future manuscripts are being planned to critically analyze the successes, challenges, and opportunities for improvement that have been identified from the evaluation processes. We believe there are also opportunities for collaborative research on the outcomes of the interprofessional activities. Over time, longitudinal data will also be collected and analyzed to evaluate the impact of early IPE activities on the career patterns and practice behaviors of our graduates.

As we reflect on our journey to develop and sustain an inter-institutional interprofessional collaboration, we recognize many lessons we have learned. These include:

1. With clear goals and purpose, collaboration challenges can be overcome.
2. An effective collaboration should create a “win” for all parties.
3. Strong institutional commitment resulting in the dedication of resources is a key component to create success.

4. It is all about the relationships. No one wants to collaborate with someone they do not trust and respect.

5. Communication loops must be consistently initiated and persistently pursued until closed.

6. Facilitator training is vital. Without faculty and staff who have been empowered with sufficient knowledge and expert skills to facilitate IPE experiences, students will not see the value of IPE opportunities.

7. Each institution must have an identified individual nurturing the collaboration. Others may be enlisted to coordinate efforts and facilitate various events, but there must be an identified leader who is accountable to sustain the collaborative relationship.

8. Collaboration involves taking calculated risks. Your partner institution will come to know you and your organization well enough to identify your faults.

9. Adaptability and flexibility are skills that must be quickly demonstrated on a frequent basis.

10. No collaboration is perfect. Refinement of the nature, structure, and function of the collaboration must occur over time.

11. True IPE, particularly one of an inter-institutional collaborative nature, requires the commitment of significant institutional time and resources.

12. Food is a powerful motivator. If you feed them, they will come!

13. Have fun! No collaboration is perfect, but with a lot of hard work and a little bit of luck, collaborative success can be achieved.
**Conclusion**

Faced with the growing need to teach and assess interprofessional team-based practice skills, an innovative collaboration was developed to promote cross-institutional interprofessional faculty development, curriculum planning, and shared IPE activities. This cross-institutional collaboration has allowed for the development of integrated health care student teams broadening the interprofessional experiences for students of both institutions. The sharing of faculty, facilities, and resources enhanced student IPE experiences. New and expanded IPE opportunities developed as interprofessional cross-institutional faculty teams invested in their professional relationships through shared faculty development and working together to plan and implement student IPE activities. The success that has been realized by the two institutions collaborating around IPE has led to an expanded menu of options for future collaboration between the two institutions, including significant external funding and plans to develop a new collaborative medical school. One never knows where a burgeoning and flourishing collaboration may lead!

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References


