INSTRUCTIONAL DESIGN AND ASSESSMENT

Transformation of an Online Multidisciplinary Course into a Live Interprofessional Experience

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Objective. To design, implement, and assess an interprofessional education (IPE) course in the first professional year of students enrolled in eight different health professions programs.

Design. An interprofessional faculty committee created a 1-credit hour required IPE course to not only teach students about the roles and responsibilities of each discipline and how they may contribute to an interprofessional team, but to also improve collaboration and team-based communication skills among health care professions students. Students were placed in interprofessional groups and met weekly to participate in didactic lectures, discussion sessions, and a standardized patient encounter.

Assessment. Seven hundred and eighty-three health professions students were enrolled in the course, of which 130 students completed questionnaires at all three time points. Students were neutral about the course and found it moderately valuable (Mean 6.23 [on a scale from 1 to 10], interesting (Mean 5.61), and enjoyable (Mean 5.57). Written feedback from the course indicated that the majority of students enjoyed the standardized patient encounter and thought the course provided a valuable opportunity to interact with other students in other health professions programs.

Conclusion. This required course served as an introductory interprofessional approach in preparing health professions students to learn from each other about their various roles and responsibilities and how each can contribute to the health care team.

Keywords: interprofessional education, course design, course implementation, collaboration

INTRODUCTION

In May 2011, a report representing collaboration among six health professional education organizations (ie, Association of American Medical Colleges, American Association of Colleges of Nursing, American Association of Colleges of Pharmacy, American Dental Education Association, Association of Schools of Public Health, and the American Association of Colleges of Osteopathic Medicine) was publicly released. The document, *Core Competencies for Interprofessional Collaborative Practice*, serves as a foundational document from which interprofessional education (IPE) and practice experiences may be designed.[1] The expert panel identified four general competency domains to guide preparation for interprofessional collaboration: values and ethics for interprofessional practice, roles and responsibilities, interprofessional communication, and teams and teamwork.

In addition, The National Academy of Medicine conducted a workshop on Interprofessional Education for Collaboration: Learning How to Improve Health from Interprofessional Models Across the Continuum of Education to Practice. This workshop highlighted the need for enhanced collaboration among health care disciplines to improve patient care, improve patient outcomes, and achieve more efficiency and affordability within health care systems.[2]

The emphasis of the aforementioned competencies and increasing promotion of patient-centered care with improved outcomes has made IPE a requirement in the

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accreditation standards for many health profession colleges such as pharmacy, osteopathic medicine, dental medicine, occupational therapy, physical therapy, and physician assistant programs.[3-8] The standards require programs to build opportunities for students to "learn with, from, and about each other to improve collaboration and the quality of care." Programs have developed different approaches to introduce IPE within their curricula.[9-15] Practice models vary significantly, including service learning opportunities with home visitation programs,[9,14,15] combination courses with classroom and clinical site experiences,[13] and clinical site experiences as part of advanced training opportunities.[10] Despite different curricular design, all programs include active learning utilizing an interprofessional team as part of their experience regardless if it is part of a clinical site experience[10,13] or part of simulation exercises within a classroom.[11] Curricular IPE programs also vary significantly in size from small cohorts of 29 students[13] to large programs including more than 500 students.[9] Variation in the published literature is beneficial because health professions colleges seeking to incorporate IPE differ, and their resources and ability to foster this curricular endeavor vary.

Midwestern University developed an interprofessional committee of faculty to develop and implement interprofessional content and learning activities across the different colleges to prepare health professions students to provide integrated, high-quality patient care within the evolving health care system. This committee included representatives from all of the colleges on campus. In this manuscript, we will describe how we transformed an online interdisciplinary course into an interprofessional experience, and highlight activities such as video sessions and standardized patient encounters that were used to deliver teamwork training. Students were then assessed for knowledge, skills, attitudes, and self-perceived behaviors regarding interprofessional collaboration.

DESIGN

Midwestern University Downers Grove campus is a private academic institution with four colleges: osteopathic medicine, pharmacy, dental medicine, and the health sciences. Within the College of Health Sciences, we have programs that include physician assistant studies, physical therapy, occupational therapy, biomedical sciences, clinical psychology, and speech-language pathology. Approximately 3,000 students are enrolled in the four colleges.

In 2012, the deans of all of the colleges supported an interprofessional faculty committee to attend the Interprofessional Education Collaborative (IPEC) Institute in Herndon, Virginia, with the goal of creating a plan to implement an IPE course on our campus. The institute provided our team with a framework to discuss our IPE goals, strengths that existed on our campus, and the barriers to implementing IPE at our institution. IPE goals, surrounding the ideas of teamwork, collaboration, and communication were created to guide the development of IPE at Midwestern University. The involvement of the IPE committee to develop and implement such a large and substantial course was extensive. The planning for this course began in 2012 after the committee returned from the IPEC Institute. Implementation of the new course began fall quarter 2014 after monthly meetings and discussions surrounding the creation and implementation of the course, and then receiving course approval from all college curriculum committees.

Interprofessional Education Course

The university had an existing CORE health care issues course, which was offered entirely online to all first professional year students on campus. The goal was to revise the course and make it a live, interprofessional course that would include interprofessional groups of students working together in the classroom and in the clinical skills and simulation center (CSC). Students would participate in the development of communication, collaboration, and teamwork skills through course lectures, videos, and group discussions as well as interviewing standardized patients in the CSC. In doing so, the CORE health care issues course was renamed Interprofessional Education I. The revised course and course learning objectives provided students from different health professions the opportunity to interact with patients in a team-based environment; facilitated student understanding of the complexities and limitations of navigation within the health care system through a patient's perspective; instructed students on the role and responsibilities of the various health care disciplines; prepared students to effectively work as an interprofessional team to achieve optimal patient outcomes; and encouraged students to utilize clinical decision-making skills that are ethically and culturally sensitive. The course and course learning objectives were designed to correspond with the university's IPE goals and helped guide the development of the course.

The newly revised course is required for all first professional year and was offered to 783 students enrolled in the following programs: pharmacy (n=212), osteopathic medicine (n=190), dental medicine (n=130), physician assistant (n=83), physical therapy (n=55), occupational therapy (n=50), speech and language pathology (n=41), and clinical psychology (n=22). Students were taught using a variety of methods such as lectures, small group

discussions using videos, and a clinical experiential activity using a standardized patient in our CSC.

For the first half of the 10-week quarter, lectures were delivered to the entire class in a large auditorium lecture hall. The lecture topics were varied and included introductory information on the value of IPE and interprofessional communication. The students were exposed to the different health care roles and responsibilities via a live panel of faculty from all the different professions available at our institution. The panelists highlighted their role in the interprofessional health care team and how this approach has affected his or her practice. Students were exposed to ethical dilemmas in interprofessional practice and practical steps to approach these situations. Finally, a guest speaker who is a health care professional, was invited to speak to the entire class about his experience and perspective as an oncology patient in the health care system.

For the second half of the quarter, students were divided into five sections of approximately 160 students in each section (Sections A-E). Sections were further subdivided into small teams of five for the video sessions and the standardized patient encounter in the CSC. The teams were assigned to ensure a mix of disciplines was represented in each team. For example, each team had at least one pharmacy and medical student and then a mixture of students from the other programs. The course schedule (Appendix 1) depicts how activities rotated on a weekly basis.

The students worked closely with their assigned interprofessional team during the second half of the quarter to complete video sessions and the standardized patient encounter. During the video sessions, students would watch a brief video with their large section (160 students) and then break into their smaller teams (five students) to answer reflection questions about the video. There were three different video sessions that each section had to attend. Video topics included cultural and interprofessional competence, health disparities, and communication within the health care system. The sessions were designed so that the students would have enough time to view and complete the reflection assignment during the 50-minute class period.

During the standardized patient encounters, the assigned small team (five students) had 25 minutes to interview a patient as a group in the CSC. The standardized patient also provided verbal feedback and completed a checklist about the team's interpersonal skills and group dynamics. After the interview, the small teams worked together to answer a series of questions that focused on the different roles each profession played when taking care of the patient.

This course was 1-credit hour and was scheduled at the end of the day to ensure there was no conflict with any other college courses. All lectures and video sessions were scheduled as 50-minute class periods. However, given the space restrictions with the CSC and availability of standardized patients for the teams to interview, a 2.5-hour class session had to be scheduled for the days CSC interviews were to occur. Students were still only required to be present for approximately 50 minutes (25 minutes for the patient interview and 25 minutes to complete the post-encounter assignment); however, they could be scheduled at any time during the 2.5-hour class section.

The development of this IPE course required significant time commitment and resources in order to successfully execute a class as large as this one. It also needed the support of faculty and administration for such an endeavor. Resources needed to create, implement, and then deliver such a large, interactive course may be found in Table 1.

EVALUATION AND ASSESSMENT

The primary aim of the revision of this course was to make it a truly interprofessional collaboration among students to learn about their respective professions and to begin to communicate with one another as professionals. A secondary aim was to gather quantitative and qualitative feedback about the course. As the course was developed, we prospectively planned to examine the impact of this course on the knowledge, skills, attitudes, and self-perceived behaviors of first professional year students. Items were generated in an attempt to assess four distinct but related aspects of education tied to interprofessionalism (ie, self-perceived knowledge, skills, importance, and frequency of action). Reliability was established using Cronbach's alpha, with all items producing a value of .95. Alpha levels for the individual subscales (eg, roles and responsibilities of various health care professionals, interaction with other health care professionals, etc.) ranged from .67 to .93. This quantitative data was collected via a paper-based survey (Appendix 2) administered to all consenting first-year professional students at three specific points in time: immediately pre-course (Time 1), immediately post-course (Time 2), and at the end of the first professional year (Time 3). Qualitative data was assessed using video session and standardized patient encounter assignments (Appendix 3). Approval was obtained from the university's Institutional Review Board. Students were informed about the study verbally and via a cover letter when paper surveys were distributed. Students who completed the survey were viewed as having given consent.

Table 1. Workload Assessment of Faculty and Staff

Development				
IPE Committee (10 total)		Approximately monthly-bimonthly meetings since 2012		
Faculty (2 total)		Creation of one SP activity = 15 hrs SP training = 2 hrs		
Implementation				
Participants	Lecture/Workshop Hours	Grading Hours	Scantron/Grade Entry Hours	Total Hours (10 weeks)
Faculty (9 total)	Weekly basis: 3 faculty/video session = 1 hr per faculty 2 faculty/SP encounter = 2.5 hrs per faculty	Weekly basis: 1 faculty/96 video assignments = 2 hrs per faculty 2 faculty/25 SP assignments = 3 hrs per faculty	NA	~85
Administrative Teaching Assistants (3 total)	Weekly basis: 3 TAs per each session set-up = 1 hr per TA	NA	Weekly basis: 1 per ~800 entries = 3-4 hrs per TA	~40-50

Of the 783 students enrolled in the course, 130 students completed all three time points of the survey. The proportion of students from each program is represented in Table 2. Quantitatively, students were neutral about the course and found it moderately valuable (M = 6.23 [on a scale from 1 to 10], s = 2.4), interesting (M = 5.61, s = 2.6), and enjoyable (M = 5.57, s = 2.6). Written feedback from the course indicated that the majority of students thoroughly enjoyed the standardized patient encounter and thought the course provided a valuable opportunity to interact with other students in other colleges. They also valued learning about the roles and responsibilities of the other disciplines.

Assessments from the video session and standardized patient assignments were obtained. In addition to assessment criteria for each specific assignment, student groups also were evaluated by the standardized patient on items such as communication, nonverbal skills, discussion content, roles of their respective profession, and group dynamics. Qualitative observation from the assignments revealed a strong interprofessional team collaboration, communication, and patient advocacy. Participants were asked to report their perceptions of: interprofessional education, providing high-quality patient care, roles and responsibilities of various health care professionals, effectively interacting with other health care professionals, interprofessional communication, interprofessional team-based approach in assessing patient care issues, interprofessional team-based approach in treatment planning of patient care issues, and ethics for interprofessional practice. Specifically, they were asked to indicate how knowledgeable they were about these practices, how skillful they were in demonstrating these practices, how important these practices were to them, and how often they demonstrated these practices. Participants also were asked to indicate the likelihood that they would engage in future interprofessional practice, initiate future interprofessional practice, facilitate their collaborative practice with other health care providers, and that interprofessional practice would improve their patients' health care outcomes. An initial Repeated Measures MANOVA was used to determine whether there were any overall significant changes in these factors across the duration

Table 2. Proportion of Students From Each Program Who Completed the Survey

Program	Number of Students
Chicago College of Osteopathic Medicine	26
Chicago College of Pharmacy	31
College of Dental Medicine Illinois	13
College of Health Sciences – Physical Therapy	17
College of Health Sciences – Physician Assistant	25
College of Health Sciences – Occupational Therapy	7
College of Health Sciences – Behavioral Medicine	5
College of Health Sciences – Speech Language Pathology	5
College of Health Sciences – Biomedical Sciences	1

Table 3. Pattern 1: Variables Demonstrating a Significant Initial Increase That Was Maintained at Follow-up

Variable	Time 1 Mean	Time 2 Mean[a]	Time 3 Mean[b]
Importance of engaging in interprofessional education	8.2	9.1	8.8
Importance of understanding roles and responsibilities of various health care perspectives	8.6	9.1	9.1
Knowledge of effectively communicating with other health care professionals	6.7	8.3	7.9
Knowledge of using an interprofessional team-based approach to treatment planning of patient care issues	5.8	8.8	7.5
Knowledge of providing high quality patient care	6.4	7.8	7.5

[a]All post-hoc comparisons between Time 1 and Time 2 resulted in p values less than .05
[b]All post-hoc comparisons between Time 2 and Time 3 resulted in p values greater than .05

of the study. For any significant findings, univariate post hoc tests were used to clarify the specific patterns of these changes. Specifically, individual comparisons between all three assessment periods were performed to determine exactly in what way scores were changing over time. These analyses revealed five specific patterns of findings, each one corresponding to a unique pattern of change.

Pattern 1 (Table 3) was observed when scores showed an initial significant increase between Time 1 and Time 2, with no subsequent significant change between Time 2 and Time 3. This suggests that, for variables demonstrating this pattern such as engaging in interprofessional education and understanding the roles and responsibilities of various health care professionals, the course was effective at producing a gain that was observed in the short term, and maintained over the longer term (ie, scores increased and "leveled off").

Pattern 2 (Table 4) was observed when scores showed an initial significant increase between Time 1 and Time 2, followed by a significant decrease to baseline between Time 2 and Time 3. This suggests that for the variable, frequently interacting with other health care professionals, the course was effective at producing a gain that was observed in the short term, but not maintained over the longer term (ie, scores increased and then decreased by the same amount).

Pattern 3 (Table 5) was observed when scores showed no significant change between Time 1 and Time 2, but a significant decrease between Time 2 and Time 3. The means for these variables, such as the likelihood of engaging in future interprofessional practice and the likelihood that it would improve patient outcomes, were higher at Time 1 and Time 2, and despite showing a significant decrease from Time 2 to Time 3 were still rather high at Time 3 and not significantly different from Time 1.

Pattern 4 (Table 6) was observed when scores showed no significant change over time at all. One interpretation of this finding is that for variables such as the importance of providing high-quality patient care or effective interprofessional communication, the course was not effective at producing any change whatsoever. Alternatively, an examination of these means suggest that scores were already rather high at Time 1, and that no change was observed because of a ceiling effect.

Pattern 5 (Table 7) was observed when scores showed an initial significant increase between Time 1 and Time 2, followed by a significant decrease between Time 2 and Time 3 which was still significantly higher than scores at Time 1. This suggests that for variables such as the knowledge, skills, and frequency of engaging in interprofessional education, the course was effective at producing a gain that was observed in the short term, and maintained to a lesser degree over the longer term. For these variables, booster sessions or additional IPE courses may assist in maintaining the magnitude of the change initially observed.

DISCUSSION

This course allowed students, who are very early in their professional endeavors, to gain an appreciation for the importance of various roles in health care and how they can all significantly contribute to patient care when working collaboratively. The activities throughout this

Table 4. Pattern 2: Variables Demonstrating a Significant Initial Increase With a Subsequent Return to Baseline

Variable	Time 1 Mean	Time 2 Mean[a]	Time 3 Mean[a,b]
Frequency of effectively interacting with other health care professionals	5.6	7.1	5.9

[a]All post-hoc comparisons between Time 1 and Time 2 resulted in p values less than .05
[b]All post-hoc comparisons between Time 1 and Time 3 resulted in p greater less than .05

Table 5. Pattern 3: Variables Demonstrating Significant Differences Between Times 2 and 3, But Not Times 1 and 2 or Times 1 and 3

Variable	Time 1 Mean	Time 2 Mean[a]	Time 3 Mean[b,c]
Likelihood of engaging in future interprofessional practice	9.1	9.3	8.9
Likelihood of initiating future interprofessional practice	8.8	8.9	8.5
Likelihood of interprofessional practice improving patient health care outcomes	9.2	9.3	8.9

[a]All post-hoc comparisons between Time 1 and Time 2 resulted in p values greater than .05
[b]All post-hoc comparisons between Time 2 and Time 3 resulted in p values less than .05
[c]All post-hoc comparisons between Time 1 and Time 3 resulted in p values greater than .05

course gave students the foundation to begin conversations with each other and with a standardized patient, contributing to significant changes in their attitudes toward IPE and patient care. Consistent with the results of this study, some of these changes were maintained over time in areas that the course emphasized, such as identifying the roles and responsibilities of different health professionals. These experiences are similar to other universities that have demonstrated best practice models of interprofessional education for health care students.[9] Rosalind Franklin University of Medicine and Science offers a course with a didactic component similar to ours with approximately 500 students who are divided into 16-member interprofessional teams. Similar to our results, students valued a team-based approach to quality patient care and appreciated the focus on learning about each other's disciplines and beginning to develop interprofessional communication skills.[9]

However, in our study where students reported a decrease in the frequency of interacting with other health care professionals (ie, Pattern 2, Table 4), this may be a result of minimal curricular activities after the course where students have the opportunity to engage in IPE. This same logic could be applied to those variables that showed a significant increase between Time 1 and Time 2, but a significant decrease between Time 2 and Time 3 (ie, Pattern 5, Table 7). For example, between Time 2 and Time 3, students reported a decrease in how skillful they were in engaging in IPE. This could be secondary again to a lack of exposure or opportunity to engage in IPE learning activities after completion of the course.

Furthermore, in Pattern 3, where results did not identify a significant change between Time 1 and Time 2, but instead, a significant decrease between Time 2 and Time 3, an examination of the means for these variables indicate a possible explanation for this otherwise counterintuitive pattern. Specifically, there might have been a ceiling effect that potentially masked significant increases from Time 1 to Time 2 in this area. Further, as academic and clinical demands placed on students generally increase between Time 1 and Time 3, it may be that students perceive that they have less time to participate in interprofessional activities, and thus are less likely to seek out additional opportunities for increased interprofessional interaction (both as students in academic and clinical settings, as well as professional settings). Similar changes also have been identified in other studies, where students reported negative shifts toward interprofessional

Table 6. Pattern 4: Variables Demonstrating No Significant Change at All Times

Variable	Time 1 Mean	Time 2 Mean	Time 3 Mean
Importance of providing high quality patient care	9.5	9.4	9.5
Importance of effectively interacting with other health care professionals	9.1	9.2	9.3
Importance of effective interpersonal communication	9.1	9.1	9.3
Importance of using an interprofessional team-based approach in assessing patient care issues	8.8	9.1	9.1
Importance of using an interprofessional team-based approach in treatment planning of patient care issues	8.8	9.1	8.9
Importance of demonstrating ethical interprofessional practice	9.2	9.2	9.3
Likelihood of interprofessional education facilitating collaborative practice with other health care providers improving patient health care providers	8.8	8.9	8.5

Table 7. Pattern 5: Variables Demonstrating a Significant Initial Increase, With a Subsequent Significant Decrease to a Value Significantly Higher Than Baseline

Variable	Time 1 Mean	Time 2 Mean[a]	Time 3 Mean[b,c]
Knowledge of interprofessional education	6.4	8.1	7.7
Skillful in engaging in interprofessional education	6.4	8.0	7.5
Frequency of engaging in interprofessional education	5.0	6.8	5.8
Skillful in providing high quality patient care	5.7	7.4	6.9
Frequency of providing high quality patient care	5.3	6.8	6.0
Knowledge of the roles and responsibilities of various health care professionals	6.3	8.1	7.6
Skillful in identifying the roles and responsibilities of various health care professionals	6.1	7.8	7.3
Frequency of recognizing the roles and responsibilities of various health care professionals	6.2	7.4	6.7
Knowledge of interacting with other health care professionals	6.6	8.3	7.8
Skillful in interacting with other health care professionals	6.3	8.0	7.4
Skillful in effectively communicating with other health care providers	6.3	8.1	7.4
Frequency of effectively communicating with other health care providers	5.4	7.1	6.0
Knowledge of using interprofessional team-based approach in assessing patient care issues	6.2	8.2	7.6
Skillful in using interprofessional team-based approach in assessing patient care issues	5.8	7.9	7.1
Frequency of using interprofessional team-based approach in assessing patient care issues	4.8	6.7	5.4
Skillful in using an interprofessional team-based approach in treatment planning of patient care issues	5.4	7.7	6.9
Frequency of using an interprofessional team-based approach in treatment planning of patient care issues	4.6	6.5	5.4
Knowledge of the ethics of interprofessional practice	6.7	8.3	7.9
Skillful in demonstrating the ethics of interprofessional practice	6.4	8.1	7.7
Frequency of demonstrating the ethics of interprofessional practice	5.7	7.3	6.6

[a]All post-hoc comparisons between Time 1 and Time 2 resulted in p values less than .05
[b]All post-hoc comparisons between Time 2 and Time 3 resulted in p values less than .05
[c]All post-hoc comparisons between Time 1 and Time 3 resulted in p values less than .05

learning and interactions after longitudinal IPE curricula.[16,17] As McFadyen and colleagues indicate, this negative shift may be a result of attitudes that were initially more "idealistic" rather than "realistic."[16]

Our course offered different types of teaching methods that included lectures, breakout sessions, and a standardized patient encounter. In a study that measured the knowledge, skills, and attitudes of interprofessional teamwork of 438 medical students and nursing students, there was no difference in the educational method used to teach IPE.[18] However, feedback from our students indicated breakout sessions and standardized patient encounters were preferred over didactic lectures.

Based on student feedback from course evaluations, students valued interprofessional education. The most positive feedback was the ability to meet students from other disciplines and learn more about what each profession can contribute to patient care. The biggest criticism about the newly revised course was the time that the course was offered. Because it was held in the late afternoon after all other courses had taken place, the timing caused long hours on campus and heavy traffic delays when all students were exiting campus at once. Students also requested more breakout sessions for discussions and the creation of more complex patient scenarios.

There were hurdles to the design and implementation of this IPE course. The first to mention was the time intensity and faculty workload necessary to develop and implement such a large course. It took more than a year to schedule meetings, create the course, gain curricular approval for all colleges, and then implement the course. Scheduling common course time across the colleges was

a challenge resulting in an evening time that was not well-received by students.

Because the course was offered to first-year students in the first quarter of their professional career, the topics discussed during class could not be applied to patient disease states, so applicability was limited. Also, because of the large class size, the number of standardized patient encounters also was restricted. These limitations also were noted by students in their course feedback.

Survey response rates were small. We only reviewed results from students who completed all three time points of the survey. The limited response was most likely due to the surveys being distributed over the course of their entire first professional year.

Based on the limitations noted above and student feedback, some proposed changes were implemented, and this course was offered for the second time in the fall quarter of 2015. The course was moved to the middle of the day, and some activities were reformatted to increase opportunities for teams to collaborate. A second standardized patient encounter was added, and the video sessions were replaced with breakout sessions. Additionally, the number of large class lectures decreased with one topic reformatted as a breakout session that covered the topic of ethics. One Health,[19] an initiative that links human, animal, and environmental health in an interprofessional approach, also was added to this course as an introductory lecture and breakout discussion session. Aspects of One Health also were added to the second standardized patient encounter.

Our institution is focused on IPE and better care for the patients these students serve and will continue to serve beyond graduation. As a result, our committee is working on a second interprofessional course to be delivered later in the curriculum. It is in the planning stages of development to include therapeutic disease state management while continuing to emphasize collaboration and communication skills. By expanding this IPE curriculum, students will have additional opportunities to engage with students enrolled in other health professions programs. These additional IPE interactions potentially could reinforce and maintain certain attitudes that were seen in this study to have had a negative shift over time (eg, skillfulness in engaging in IPE).

SUMMARY

Interprofessional education is an integral part of many health sciences professions' accreditation standards and curricula. Understanding the role of each discipline in the health care team is the initial step in creating a dynamic team that values shared decision-making. This course provided health professional students an opportunity in which they were able to accomplish this initial step. However, to ensure students grow in their ability to engage in future interprofessional collaborative practice, additional IPE interactions throughout the curriculum are necessary.

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Appendix 1. Course Schedule

Week	Time	Students	Topic
1	5:10-6:00	All	Course Introduction
			Introduction to Interprofessional Education
2	5:10-6:00	All	Roles/Responsibilities of Various Health Care Professionals
3	5:10-6:00	All	Interprofessional Communication
4	5:10-6:00	All	Ethics for Interprofessional Practice
5	5:10-6:00	All	Standardized Patient Encounter Information
			Experiencing Medicine Through the Eyes of Patients
6	5:10-7:30	Section A	Video 1: Cultural and Interprofessional Competence
		Section B	Video 2: Health Disparities
		Section C	Video 3: Communication within the Health Care System
		Section D	Standardized Patient Encounter
		Section E	Law Room Modules: HIPAA, Harassment/Discrimination, Sexual Misconduct
7	5:10-7:30	Section E	Video 1: Cultural and Interprofessional Competence
		Section A	Video 2: Health Disparities
		Section B	Video 3: Communication within the Health Care System
		Section C	Standardized Patient Encounter
		Section D	Law Room Modules: HIPAA, Harassment/Discrimination, Sexual Misconduct
8	5:10-7:30	Section D	Video 1: Cultural and Interprofessional Competence
		Section E	Video 2: Health Disparities
		Section A	Video 3: Communication within the Health Care System
		Section B	Standardized Patient Encounter
		Section C	Law Room Modules: HIPAA, Harassment/Discrimination, Sexual Misconduct
9	5:10-7:30	Section C	Video 1: Cultural and Interprofessional Competence
		Section D	Video 2: Health Disparities
		Section E	Video 3: Communication within the Health Care System
		Section A	Standardized Patient Encounter
		Section B	Law Room Modules: HIPAA, Harassment/Discrimination, Sexual Misconduct
10	5:10-7:30	Section B	Video 1: Cultural and Interprofessional Competence
		Section C	Video 2: Health Disparities
		Section D	Video 3: Communication within the Health care System
		Section E	Standardized Patient Encounter
		Section A	Law Room Modules: HIPAA, Harassment/Discrimination, Sexual Misconduct

Appendix 2. Interprofessional Education Course Survey Questions

Interprofessional Education
- How **knowledgeable** do you feel about interprofessional education?
- How **skillful** do you feel about engaging in interprofessional education?
- How **important** is it for you to engage in interprofessional education?
- How **often** do you actually engage in interprofessional education?

Providing High Quality Patient Care
- How **knowledgeable** do you feel about providing high quality patient care?
- How **skillful** do you feel about providing high quality patient care?
- How **important** is it for you to provide high quality patient care?
- How **often** do you actually provide high quality patient care?

Roles and Responsibilities of Various Health Care Professionals
- How **knowledgeable** do you feel about the roles and responsibilities of various health care professionals?
- How **skillful** do you feel about identifying the roles and responsibilities of various health care professionals?
- How **important** is it for you to understand the roles and responsibilities of various health care professionals?
- How **often** do you actually recognize the roles and responsibilities of various health care professionals?

Effectively Interacting With Other Health Care Professionals
- How **knowledgeable** do you feel about effectively interacting with other health care professionals?
- How **skillful** do you feel regarding effectively interacting with other health care professionals?
- How **important** is it for you to effectively interact with other health care professionals?
- How **often** do you actually effectively interact with other health care professionals?

Interprofessional Communication
- How **knowledgeable** do you feel about effectively communicating with other health care professionals?
- How **skillful** do you feel regarding effectively communicating with other health care professionals?
- How **important** is it for you to effectively communicate with other health care professionals?
- How **often** do you actually effectively communicate with other health care professionals?

Interprofessional Team-based Approach in Assessing Patient Care Issues
- How **knowledgeable** do you feel about using an interprofessional team-based approach in assessing patient care issues?
- How **skillful** do you feel about using an interprofessional team-based approach in assessing patient care issues?
- How **important** is it for you to use an interprofessional team-based approach in assessing patient care issues?
- How **often** do you actually use an interprofessional team-based approach in assessing patient care issues?

Interprofessional Team-based Approach in Treatment Planning of Patient Care Issues
- How **knowledgeable** do you feel about using an interprofessional team-based approach in treatment planning of patient care issues?
- How **skillful** do you feel about using an interprofessional team-based approach in treatment planning of patient care issues?
- How **important** is it for you to use an interprofessional team-based approach in treatment planning of patient care issues?
- How **often** do you actually use an interprofessional team-based approach in treatment planning of patient care issues?

Ethics for Interprofessional Practice
- How **knowledgeable** do you feel about the ethics of interprofessional practice?
- How **skillful** do you feel about demonstrating ethical interprofessional practice?
- How **important** is it for you to demonstrate ethical interprofessional practice?
- How **often** do you actually demonstrate ethical interprofessional practice?

Future of Interprofessional Practice
- How **likely** is it that you will **engage** in future interprofessional practice?
- How **likely** is it that you will **initiate** future interprofessional practice?
- How **likely** is it that interprofessional education will facilitate your collaborative practice with other health care providers?

All questions were rated on a scale of 1=Not at all to 10=Extremely

Appendix 3. Video Session and Standardized Patient Encounter Assignment Questions

Method	Description	Questions Asked
Video	Health Disparities	What does health disparity mean to your group? List 2 examples of health disparities that may exist. List the disciplines in your group. Provide an example of how each discipline may contribute to decreasing health disparity. What types of programs or initiatives could your interprofessional group initiate to decrease health disparity?
Video	Cultural and Interprofessional Competence	What does cultural competence mean to your group? List the disciplines in your group. What are some of the stereotypes and assumptions made about each discipline represented in your group? What cultural competencies does your group need to learn to meet the health needs of patients and their families and participate in interprofessional practice? Describe two approaches on how your group plans to develop cultural and interprofessional competence during your academic career.
Video	Communications within the Health Care System	List the disciplines in your group. For each discipline represented, how could your discipline contribute to a scenario similar to the one shown in the video? Describe one positive aspect of different health care providers communicating on patient cases. List one barrier to effective interprofessional collaboration and provide a possible solution.
Standardized Patient Encounter	Elderly male with multiple medico-social issues and has a past medical history significant for numerous chronic illnesses. Hospitalized patient in need of rehabilitation but suited better for long-term care. Members of the interprofessional team must discuss recommendations for this patient.	What barriers exist that prevent the patient's wishes from being met? If your group was to assemble an interprofessional care team for this patient, what professions should be represented and what would be their roles? With respect to the patient's long-term care setting, what is your recommendation for this patient? What is your reasoning that supports this recommendation?