Original Research

Transformative Approach to Developing a Sustainable Interprofessional Education Program

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ABSTRACT

Background: The ability to offer and sustain interprofessional collaboration and education (IPE) in an academic setting could potentially serve as a training model for other academic institutions to implement programs that will increase the number of practice-ready, culturally competent healthcare professionals. We designed, implemented, and evaluated an Area Health Education Center (AHEC) Scholars Program to train culturally competent interdisciplinary students to provide quality, patient-centered healthcare in rural and underserved communities post-graduation.

Methods: Two cohorts of students (Cohort 1, n = 15, Cohort 2, n = 14) were recruited into a two-year longitudinal program with 80 hours of didactic learning and 40 community-based training. Core areas included: 1) interprofessional education and practice; 2) social determinants of health; 3) cultural competency; 4) behavioral health integration; 5) practice transformation; and 6) emerging health topics. Following completion of each content area, students participated in synchronous debriefing sessions and provided feedback via surveys. Wilcoxon ranks test assessed differences in pre- and post-scores in intention, perceived knowledge, and perceived skills for each content area.

Results: Students' intention, perceived knowledge, and perceived skills significantly changed from pre- to post-program in all core areas ($p < .05$). The greatest change from pre- to post-program was perceived knowledge in interprofessional education ($D = 1.75$). Interactive activities were most useful for keeping students engaged.

Conclusions: The program resulted in significant changes for participating students in their intention, perceived knowledge, and perceived skills. Implications for this training program include guidance for academic institutions and AHECs to integrate IPE training.

Keywords: Interprofessional education, health education, collaborative, area health education center

INTRODUCTION

Eliminating disparities in the quality of care received throughout the United States is a critical barrier to achieving the objectives of Healthy People 2030 (DHHS, 2021). The focus on closing these disparities poses a need for innovative approaches to preparing healthcare workers who are trained to meet the multifaceted needs of diverse populations in changing healthcare environments. One well-known strategy for training practice-ready healthcare professionals is Interprofessional Education (IPE) and collaboration. IPE has been endorsed by the Institute of Medicine (2015), American Public Health Association (2008), National Academies of Practice (2015), Robert Wood Johnson Foundation (2014), and the World Health Organization (2010) (Buring et al., 2009). However, recent attention has emphasized the need to require IPE as a component of academic curriculum. For example, the Council on Education for Public Health now requires IPE as a component of Public Health degree requirements (CEPH, 2022). The challenge is determining efficient and effective models for engaging faculty and students across diverse disciplines to successfully accomplish IPE requirements.

Interprofessional education "occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (Bridges et al., 2011; WHO, 2010, p. 7). The primary focus of IPE in any profession is to develop competencies for providing effective and high-quality patient-centered care to produce positive outcomes (Olenick et al., 2010; Rogers et al., 2018). Students engaged in IPE are empowered to develop team-building skills and understand the roles and functions of other healthcare professionals (Bridges et al., 2011; Buring et al., 2009; Morrell et al., 2021; Pole et al., 2016). The collaborative environment enables the students to build trusting and respectful relationships with the other IPE team members.

Implementation of IPE in the academic settings provides an opportunity for faculty and students to immerse themselves in a cross-discipline environment with a focus on improving patient outcomes (Patel et al., 2017). Yet, there are few

models describing the process of developing, implementing, sustaining, and evaluating IPE programs in non-medical academic settings (Bridges et al., 2011; Darlow et al., 2015; Homeyer, et al., 2018; Thompson et al., 2020). The purpose of this project is to describe the development of an Area Health Education Center (AHEC) Scholars Program to recruit and train culturally competent, interdisciplinary students to provide quality, patient-centered healthcare in rural and underserved communities post-graduation. The ability to offer and sustain this collaborative effort in academic settings could potentially serve as a training model for other academic institutions to implement similar programs that will ultimately increase the number of practice-ready, culturally competent healthcare professionals to meet the needs of diverse populations and achieve the Healthy People 2030 goals.

Program Overview

Magnolia Coastlands Area Health Education Center (MCAHEC) is a part of a statewide network of Georgia AHECs (MCAHEC, 2022). Its mission is to support the recruitment, education, training, and retention of a diverse health professions workforce in our regions and especially within our rural and underserved communities. Georgia Southern University (GSU) partnered with MCAHEC to offer an AHEC Scholars Program (ASP) as part of a five-year HRSA grant. Within the partnership, MCAHEC provided the administrative leadership, program resources, marketing, program delivery and financial support. GSU faculty from different disciplines assisted with program planning, delivery and evaluation, IPE curriculum review and revisions, student recruitment, topic debriefings, and mentorship.

Our program is uniquely designed to provide an IPE foundation that nurtures the students with didactic knowledge and experiences in rural and underserved communities over a two-year period. Students from each profession are immersed in a curriculum that encompasses didactic learning and interactive experiences to produce future professionals who effectively collaborate within a healthcare environment. The mission for curriculum design centers on learning activities that direct students to approach the module topics collaboratively and also share perspectives from their individual disciplines as well. Core modules included introductions to: 1) interprofessional education and practice; 2) social determinants of health; 3) cultural competency; 4) behavioral health integration; 5) practice transformation; and 6) selected emerging health topics relevant to rural populations.

In the last four years since the inception of the ASP, GSU students were recruited from four disciplines: undergraduate students from Nursing, Nutrition and Food Science, and Health Informatics, and graduate students from Public Health. The disciplines were selected based on suggestions from university leadership as well as identified faculty that had a passion for teaching IPE. The disciplines must have a clinical lead and be able to work together logically and realistically as in a real work setting. Due to this requirement, leadership from the College of Public Health determined that the best fit for this program was students from the master's disciplines. The annual goal is to recruit at least 15 students across disciplines each year. Recruitment efforts include flyers, classroom presentations, and video testimonials of ASP graduates.

The ASP provides approximately 120 hours of innovative instruction and experiential learning during the two-year term of the program. This includes 40 hours of didactic learning in Year 1 and 40 hours of didactic and 40 hours of community-based training in Year 2. Due to access limitations to the university's learning management system for non-faculty facilitators, a Google Classroom course is created, and sectioned into 6 modules based on the program competencies. Assignments and student responses to discussion questions are posted in this virtual class space. In the Fall semester, the entering cohort participates in a half-day kick-off orientation meeting to allow students and faculty to get to know one another, introduce the course set-up in Google Classroom, outline the program schedule, and provide a curriculum overview. For each module, didactic content is completed independently by students culminating in a virtual debrief of the topic facilitated by faculty. Experiential activities, the Mental Health First Aid Training certificate course, and the capstone project are interprofessional team-based activities. See Table 1 for each core module's specific competencies, objectives, and curriculum activities.

Several experiential learning opportunities placed students in real-world settings where they could view the community's needs through a holistic lens and work as teams to address the needs of their target population. For example, in partnership with a rural hospital's community women's wellness center, students had opportunities to deliver health screenings and education services to women and their family members. Students also hosted a health fair at a free health clinic for the uninsured. For this event, students provided blood pressure screening, nutrition education, self-management of asthma triggers, and provided information on using cell phone apps to self-manage their health.

The ASP also increases student awareness of the challenges a low-income family might face as they struggle to manage their basic needs through an annual MCAHEC sponsored Community Action Poverty Simulation. The objective of this experience is to sensitize students to the day-to-day realities of life faced by people with low incomes and, to motivate students, as future health professionals, to become involved in activities that help reduce poverty in their communities.

The final capstone project requires students to work in interprofessional teams to design a program/service utilizing their four disciplines' IPE knowledge and experience to address a health need in the rural population. Cohort 1 focused on the needs of the aging population in a rural community. Cohort 2 selected their choice of a specific rural population and were challenged to design a program

centering on the application of telehealth to address an identified need of that population during the COVID-19 pandemic.

Survey (Evaluation Tool) Development

The National AHEC Organization (NAO) convened a taskforce to review the literature for competency frameworks and evidence-based evaluation tools related to each of the core topic areas. More than 25 frameworks and tools were reviewed and compiled. The task force also reviewed current evaluation measures utilized by several ASPs. The objective was to develop a tool that would fit within the scope of the different majors and be discipline-neutral, and inclusive of both undergraduate and graduate students? The result was a 12- question, retrospective tool that asks each graduating IPE Scholar to self-assess what they have learned, comparing what they knew before joining the ASP to what they know after completing the program. The evaluation tool is indifferent to the duration of AHEC Scholars Programs, as it is a one-time evaluation after each Scholar's participation. The tool was built on a 5-point Likert scale. This information allowed each local AHEC to compile its own results. The NAO Committee on Research and Evaluation (CORE) collects and summarizes the data annually, allowing each AHEC to compare its results to national results.

MEASURES

With guidance from the NAO, we assessed three categories for content areas, intention (I), perceived knowledge (K), and perceived skills (S). Within each category, there were six content areas: 1) interprofessional education; 2) social determinants of health; 3) cultural competency; 4) behavioral health; 5) practice transformation; and 6) and emerging health issues. In Year 1, interprofessional education, social determinants of health, and cultural competency were assessed. In Year 2, behavioral health, practice transformation, and emerging health issues were assessed. Except for cultural competency and behavioral health, all measures were assessed using three statements of agreement on a five-point Likert-type scale with the categories given as Strongly Agree (5), Agree (4), Somewhat Agree (3), Disagree (2), and Strongly Disagree (1). Cultural competency and behavioral health were assessed using four statements of agreement.

Year 1 Measures

Interprofessional education statements were: 1) I plan to work collaboratively with other health professionals, healthcare providers, and community agencies to serve vulnerable populations (I); 2) I am knowledgeable about the benefits of participating on an interprofessional team (K); 3) I have the skills necessary to participate in an interprofessional team (S). Social determinants statements were: 1) I can and will use common public health topics and programs for preventing and addressing a health issue in vulnerable populations/this population of focus (I); 2) I am knowledgeable about social determinants of health (K); 3) I can describe how socioeconomic, cultural, policy, behavioral and environmental factors contribute to individual and population health outcomes (S). Cultural Competency statements were: 1) I plan to adapt practice for culturally and linguistically diverse patient populations (I); 2) I am aware of, and reflect on, personal reactions to people with the particular health issues of focus (I); 3) I am knowledgeable of the social determinants of health for vulnerable populations/this population of focus (K); 4) I can identify elements of a community-based health intervention that addresses major issues faced by the target population/community (S).

Year 2 Measures

Behavioral health statements were: 1) I plan to integrate behavioral health and primary care (I); 2) I am knowledgeable of how a patient's behavioral/mental health needs may affect their care (K); 3) I am aware of the importance of integrating behavioral health and primary care (I); 4) I have the skills necessary to integrate behavioral health and primary care (S).

Practice transformation statements were: 1) Self-care is an important addition to the former Triple Aim in healthcare (I); 2) I know the key elements of the patient-centered medical home (PCMH) (K); 3) I understand the elements of practice culture and its impact on patient care (S). Emerging health issues statements were: 1) I plan to implement strategies to respond to approved emerging healthcare issues (I); 2) I am aware of the strategies for responding to emerging healthcare issues (K); 3) I have the skills to respond to emerging healthcare issues (S).

Reliability of Measures

Reliability for the three-item measures of interprofessional education and practice transformation were moderate (Cronbach's α = .75 and .69, respectively). Reliability for the three-item measures of social determinants of health, cultural competency, and emerging health issues were high (Cronbach's α = .87, .82, and .86, respectively). Reliability for the four-item measure of cultural competency was high (Cronbach's α = .82) and behavioral health was moderate (Cronbach's α = .79). After review of Cronbach's α, if items were deleted, no items were deleted.

Qualitative Feedback

Following each module, students also had an opportunity to offer qualitative feedback. Questions asked were: 1) What worked well in this module with regards to activities, assignments, readings or other features; and 2) What improvements do you suggest for this module with regards to activities, assignments, readings or other features? There was also a space for students to provide additional comments.

Analysis

Version 25 of the IBM Statistical Package for the Social Sciences (SPSS) was used to analyze the data. Frequencies were used to describe student demographics. Wilcoxon ranks test was used to assess differences in pre- and post-scores in intention, perceived knowledge, and perceived skills for six content areas: 1) interprofessional education; 2) social determinants of health; 3) cultural competency; 4) behavioral health; 5) practice transformation; and 6) and emerging health issues. Due to the transition to virtual education during COVID-19 for Cohort 2, we also conducted Mann Whitney U tests to assess for differences in scores between cohorts. Alpha level was set at $p < 0.05$.

For qualitative responses, MCAHEC leadership and faculty independently reviewed all to identify student perspectives of strengths of the program and areas for improvement. They then met to discuss responses and reconciled any differences in findings.

RESULTS

There was a total of 35 students in Cohorts 1 and 2. The majority of Cohort 1 students were female (87.5%), African American (50.0%) or Caucasian (37.5%), and Public Health or Nursing students (68.7%). The majority of Cohort 2 students were African American (31.6%) or Caucasian (47.4%), Public Health or Nursing students (68.5%). There were no male participants in Cohort 2.

Intention, Knowledge, and Skills

Students' intention scores significantly improved ($p<.001$) from pre to post for all six areas assessed (See Table 3): interprofessional education (PreM = 3.97, SD = .79; PostM = 4.89, SD = .32); social determinants of health (PreM = 3.30, SD = 1.10; PostM = 4.42, SD = .71). cultural competency (PreM = 3.97, SD = .77; PostM = 4.79, SD = .60); behavioral health (PreM = 3.78, SD = .98; PostM = 4.87, SD = .37); practice transformation (PreM = 3.35, SD = 1.14; PostM = 4.68, SD = .60); and emerging health issues (PreM = 3.30, SD = .79; PostM = 4.63, SD = .56). The greatest changes from pre to post intention were in practice transformation and behavioral health (Δ = 1.33, respectively).

Students' perceived knowledge scores significantly improved ($p<.001$) from pre to post in all six areas of assessment (See Table 3): interprofessional education (PreM = 3.11, SD = .96; PostM = 4.86, SD = .36); social determinants of health (PreM = 3.21, SD = .96; PostM = 4.73, SD = .52); cultural competency (PreM = 3.58, SD = .97; PostM = 4.73, SD = .52); behavioral health (PreM = 3.47 SD = .76; PostM = 4.81, SD = .40); practice transformation (PreM = 2.71, SD = .90; PostM = 4.39, SD = .62); and emerging health issues (PreM = 3.23, SD = .73; PostM = 4.60, SD = .50). The greatest change from pre to post perceived knowledge was in interprofessional education (Δ = 1.75).

Students' perceived skills scores significantly improved ($p<.001$) from pre to post for all six areas assessed (See Table 3): interprofessional education (PreM = 3.11, SD = .96; PostM = 4.51, SD = .66); social determinants of health (PreM = 3.24, SD = 1.03; PostM = 4.48, SD = .83); cultural competency (PreM = 3.09, SD = .95; PostM = 4.42, SD = .61); behavioral health (PreM = 2.94, SD = .80; PostM = 4.44, SD = .72); practice transformation (PreM = 3.32, SD = .95; PostM = 4.61, SD = .67); and emerging health issues (PreM = 3.0, SD = .98; PostM = 4.40, SD = .62). The greatest change from pre to post perceived skills was in behavioral health (Δ = 1.50).

We also assessed differences in intention, perceived knowledge, and perceived skills in all content areas between cohorts. There were no statistically significant results (results not shown), indicating that the virtual learning environment did not quantitatively impact student outcomes.

Qualitative Responses

Students provided qualitative feedback at the end of each learning module. This feedback was on characteristics that worked well and areas for improvement. Overall, students expressed positive experiences with the learning modules, including learning from the assigned readings, videos (e.g., Maria Garcia Series) (IPE E-learning Resources, 2021) and interactive activities (e.g., poverty simulation and migrant farmworker clinic). Students also offered suggestions for improving the learning modules. These included opportunities for self-reflection after the module, more group interaction, increased practical experience, and a need for more real-world application focused on rural health needs. It was also noted that many of the students' comments on the needs for practical and real-world experiences were reflected after Year 1 learning modules. Since Year 1 of the ASP focuses on didactic learning, this was expected, but also an area for ASPs to consider incorporating hands-on activities.

DISCUSSION

Several strategies are necessary to equip allied-health students with interprofessional skills (Bridges et al., 201; Lairamore et al., 2018; Mèche et al., 2015; Rogers et al., 2018; Zeien et al., 2022). We developed and successfully implemented an IPE training program focused on interprofessional education, social determinants of health, cultural competency, behavioral health, practice transformation, and emerging health issues among interdisciplinary students from allied and non-allied health disciplines. The program resulted in significant changes for participating students in their intention and perceived knowledge skills.

Several studies have described the implementation of ASPs in other states. Similar to our initiative, these programs successfully promoted knowledge, competence, and performance of IPE activities (Hanyok et al., 2013; Huebner et al., 2021; Imafuku et al., 2018; Mèche et al., 2015). The greatest impact of our initiative was in knowledge of interprofessional education. Despite having a great deal of interest in the ASP, the students began with a baseline of lower understanding of the purpose and concepts of IPE. This may be a result of recruiting students outside of the applied sciences. Many of our students come from non-allied health disciplines (nutrition, public health) that collaborate with health sciences (e.g., medicine, nursing).

One area in which our program contributes to the literature is the broad disciplines in which we focused. Nursing is a common discipline in IPE programs across the country. Our initiative incorporated health informatics, nursing, nutrition, and public health. This is an important distinction from other programs. The successful integration of non-allied health disciplines serves as a model for other AHEC and academic partnerships to expand IPE to students from disciplines that are indirectly associated with patient care since many of these disciplines support medical leadership and teamwork. Regarding Public Health, IPE training is now a requirement for public health schools' accreditation (CEPH, 2021). Thus, colleges and schools of public health may benefit from adopting this ASP model.

Our initiative received the greatest feedback on interactive activities. While this was a challenge during the COVID-19 pandemic, this finding is similar to that of other ASPs (Patel et al., 2017). One program, implemented among high school students, found that interactive activities with video incorporation, hands-on experiences, and group discussions led to high program ratings. Although the sample was not among college students, understanding program interests of younger adults is useful to determine the types of activities that will appeal to younger college students.

Lessons Learned

Throughout the ASP, AHEC leadership, faculty, and students debriefed on the challenges of developing, implementing, and evaluating the program. A comprehensive list of lessons learned, including challenges and recommendations, are found in Table 4. Through various components of the ASP, and especially during the capstone experience, students, faculty, and leadership learned to work through the group development process of "forming, storming, norming and performing." (Tuckman, 1965). This is natural to facilitate group dynamics and invaluable for students to gain experience of how to conduct brainstorming, resolve conflict, and generate ideas and solutions for successful program completion (Tuckman, 1965). Students felt their capstone projects were greatly enhanced through the team process and by the knowledge, perspectives, and training of their team members. The resulting sense of pride and enthusiasm enhanced the students' confidence in their future career work. Additionally, students developed knowledge and cultural competencies in issues faced by rural communities and telehealth. They also developed program-related skills including budgeting, staffing, program justification, community needs assessment, and project evaluation, thereby strengthening their skills vital for future healthcare career goals. Overall, the ASP and team-based projects enhanced the students' job application process, interviewing and job placement, and prepared them well to enter the field of contemporary healthcare needed in today's environment.

Limitations and Strengths

Our study is not without limitations. Program participation limitations resulted in small sizes for each cohort. These findings have limited generalizability outside of the study since data are based on one university system and one AHEC. Additionally, the program is not designed to assess IPE application in the workforce. Therefore, we are unable to determine if lessons learned within lead to increase of application of IPE concepts in the field. However, this study can serve as a useful model in providing implications for academicians and AHECs to collaboratively develop multi-year interprofessional education training programs. Lessons learned from implementing this pilot project can be used to develop successful IPE projects with multi-disciplinary cohorts in college settings.

There were several strengths to this two-year longitudinal program. One major strength encompasses leading a diverse group of students through multifaceted learning experiences grounded in a strong didactic and experiential curriculum. A program such as ours provides multiple contact points for students with the faculty and the community, which makes for efficient and effective delivery of IPE dissemination. This program also addresses a big gap in IPE education by providing close interaction with students who graduate from their academic program at the end of the IPE experience and step into the real work world. They are now equipped with IPE knowledge and skills that allows them to be better prepared to provide healthcare services in rural and underserved communities after graduation.

Conclusion and Implications for Interprofessional Practice

Interprofessional collaboration is a complex phenomenon that requires practice and intention to create effective healthcare teams. The positive impact of healthcare professionals trained in IPE is enhanced collaborative care through improved communication and a better understanding of individual roles within a team. Such collaboration has become critically important today in healthcare delivery with an aging demographic and diverse population with multiple health conditions. IPE training and experience for students prior to entry into the professional healthcare system are essential for improved patient and community health outcomes.

The ASP is a viable IPE initiative that can be replicated within academia and among multiple health profession disciplines, whether in-person, as a virtual or hybrid experience. Implementing it as a virtual experience decreases the geographic challenges for universities that have multiple campuses. The curriculum could be integrated into multiple courses across disciplines because it is module-based, which mitigates the barrier of recruiting thereby making it easier to replicate the program. The use of technological platforms such as Google Classrooms helps to overcome the challenges created by the lack of Learning Management Systems (LMS) on some campuses and reduces associated costs. Addressing these technological, economic, and transferability of the curriculum associated factors promotes sustainability and leads to long-term positive outcomes. The program provides a strong foundation for IPE pedagogy for students as they enter their careers in healthcare and will hopefully promote more systems-based thinking as they grow in their careers. Additionally, esprit de corps develops among faculty within the institution that potentially could lead to other collaborative work including grant writing, scholarship, and classroom and program initiatives. The intentional recruitment of diverse faculty and students leads to inclusivity and equity with the intention of providing a more culturally competent healthcare workforce in a contemporary healthcare environment. IPE with multiple faculty members, from diverse disciplines at multiple campuses led in partnership with a regional AHEC creates a cohesive movement within an academic institution that in turn produces well-equipped future healthcare professionals ready to serve their communities.

Ultimately, these students complete the ASP better prepared to assist and collaborate with physicians, nurse practitioners, physician assistants and other healthcare professionals in leadership roles who are seeking to enhance patient and community health through team-based care. It also creates awareness for students to recognize the value of team-based care within the entire healthcare system as opposed to knowing just their unique job roles. Interprofessional collaboration in both academic and professional environments are driven by competencies, accreditation requirements, and successful healthcare outcomes, all leading to the critical importance of sustaining programs with a multi-disciplinary approach to educating the future health workforce.

Table 1

Program Competencies

Year	Module	Objectives	Curriculum Activities
Year 1	1. Interprofessional Education and Practice: ● CC: Respect, value, and communicate effectively with individuals of other professions to promote and advance the health of individuals and populations	1. Understand the roles, ethics, and professional obligations of each of the healthcare professions. 2. Engage in team-based learning to develop effective interprofessional communication techniques. 3. Demonstrate an understanding of effective leadership, team development, and team effectiveness practices that promote interprofessional collaboration.	● Maria Garcia series - e-learning modules review core concepts relating to communicating with patients, families, communities, and other healthcare providers in a responsible manner that supports a patient-centered, team-based approach to the maintenance of health and the treatment of disease. ● LESSONS FROM THE FIELD: Promising Interprofessional Collaboration Practices – article highlighting foundational ideas that capture what might be thought of as "guiding principles," required to create an environment in which interprofessional collaboration can thrive.
	2. Social Determinants of Health: ● CC: Define, assess, and report on how social determinants of health impact population health outcomes	1. To help people who work in (or are concerned with) rural health learn more about the concept of social determinants of health. 2. To enable rural health leaders and care teams to act to improve health outcomes in their communities by addressing factors that contribute to the social determinants of health.	● Required readings with discussion questions. ● Exploring the Intersection between housing and healthcare ● Social Determinants of Health: Transforming the Buzz Phrase to a Rural Action Item ● Understanding the Social Determinants of Health – 5 part self-guided learning module Watch Ted Talk – What makes us get sick?
	3. Cultural Competency: ● CC: Evaluate the responsibility and impact of culturally competent care within the healthcare system	1. Describe the impact of culturally- competent care on health equity. 2. Discuss and understand power dynamics 3. Discuss how culture influences personal experience within the healthcare system. 4. Discuss culturally appropriate behaviors, and taboos.	● Read - Nonverbal communication: do you really say what you mean? ● Watch Ted Talk – How culture drives behavior ● Participate in Community Health Fair and Windshield Tour of a Migrant Farm Camp ● Attend Poverty Simulation and debriefing
Year 2	4. Behavioral Health Integration: ● CC: Identify, assess, and address behavioral health needs in a practice-based setting	1. Understand the intersection of physical and behavioral health. 2. Identify and assess behavioral health needs within a primary care practice.	● Attend full day Mental Health First Aid Training and read Manual
	5. Practice Transformation: ● CC: Understand the transformation of clinical practice in response to a rapidly changing healthcare environment	1. Describe the components of the quadruple aim. 2. Understand the key elements of the Patient-Centered Medical Home (PCMH) and its impact on transforming providers' roles in healthcare. 3. Describe models of care coordination across complex healthcare systems.	● Read the Quadruple Aim and articles around Patient-Centered Medical Home ● Volume to Value in Healthcare discussion and debriefing ● Complete a self-care assessment and debriefing session ● Complete 2 telehealth certificates through Hometown Health: The Clinical Presenter; The Remote Community Health Worker followed by discussion and debriefing

6. Emerging health Topics: ● CC: Demonstrate an understanding of the impact emerging health issues have on populations, and discuss strategies to better address these issues in the healthcare setting	1. Describe how the healthcare system at large responds to emerging health issues. 2. Identify three strategies for responding to emerging healthcare issues. 3. Describe Georgia's response to an approved emerging healthcare issue.	● Read articles pertaining to Emerging Health Topic ● As a Capstone Experience, interdisciplinary teams create a project and poster addressing an Emerging Health Topic and present during a judged competition

Table 2

Demographic Characteristics, N = 3

Characteristic		Cohort 1, N = 16 n (%)	Cohort 2, N = 19 n (%)
Gender	Male	2 (12.5)	0 (0.0)
	Female	14 (87.5)	19 (100.0)
Race	Hispanic	1 (6.3)	1 (5.2)
	African American	8 (50.0)	6 (31.6)
	Caucasian	6 (37.5)	9 (47.4)
	Other	1 (6.3)	3 (15.8)
Discipline	Public Health	6 (37.5)	9 (47.4)
	Nursing	5 (31.2)	4 (21.1)
	Health Informatics	3 (18.7)	2 (10.5)
	Nutrition	2 (12.5)	4 (21.1)

Table 3

Wilcoxon Signed Rank Tes

		Intention				Perceived Knowledge				Perceived Skills				
	N	Post		Pre		Post		Pre		Post		Pre		*p-value*
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
Interprofessional education	35	4.89	.323	3.97	.785	4.86	.355	3.11	.963	4.51	.658	3.11	.963	.000
Cultural competency	33	4.79	.600	3.97	.770	4.73	.517	3.58	.969	4.42	.614	3.09	.947	.000
Practice transformation	31	4.68	.599	3.35	1.142	4.39	.615	2.71	.902	4.61	.667	3.32	.945	.000
Behavioral health	32	4.87	.336	3.78	.975	4.81	.397	3.47	.761	4.44	.716	2.94	.801	.000
Emerging issues	30	4.63	.556	3.30	.794	4.60	.498	3.23	.73	4.40	.621	3.0	.983	.000
Social determinants of health	33	4.42	.708	3.30	1.104	4.73	.517	3.21	.960	4.48	.834	3.24	1.032	.000

Table 4

Lessons Learned

Category	Challenges Encountered	Recommendations
	Program Level Challenges	
Programmatic challenges describe issues which occurred during the development process and implementation of the AHEC[a] Scholars Program	• Student Recruitment 1. Recruitment materials to capture the interest of students and help recruit high-achieving students 2. Exposure of the program across the campus by marketing • Program Curriculum Planning 1. Maintaining a balanced IPE curriculum that proportionately covers all the disciplines represented in the cohort 2. Choosing curriculum content and activities that are current and relevant to all the disciplines 3. Keeping the activities highly interactive to motivate and sustain interest among the study cohort • Logistical Issues in Program Planning 1. Two-year program with four disciplines on two campuses impacting: a. Scheduling meetings/programs on two campuses located an hour apart - rotated key programs and activities between the campuses to provide a balance 2. Development of activities to promote interprofessional education and teamwork	• Recruit IPE[b] faculty program champions or faculty interested in the topic area through senior leadership and department chairs • Select a discipline with a clinical background to ensure that there is a clinical lead for the IPE teamwork activities, e.g., nursing • Establish administrative, leadership and financial support from the beginning as part of the infrastructure to ensure program success and longevity • Establish a program planning workgroup to determine IPE clinical and case-based learnings, didactic and community IPE activities • Provide course credit for the IPE longitudinal program as opposed to no credit • Provide a blend of in-person and virtual programming to reduce the amount of travel and time between campuses and to accommodate those students and faculty who have tight schedules and students who may have jobs

Faculty Level Challenges		
Faculty challenges represent concerns among faculty preceptors during the implementation phase of the AHEC Scholars Program	• Time and Work Commitment for Faculty 1. Balance between ASP requirements and academic responsibilities 2. Promoting commitment and sustained interest to IPE among students 3. Dealing with students who lack motivation to provide quality work • Staying Engaged with Students Across Cohorts 1. Recruiting students early on 2. Motivating students throughout the two-year program 3. Promoting and participating in experiential learning 4. Retention of students when schedules and work get overwhelming	• Be transparent in informing faculty of time expectations since this program can be demanding in terms of time and effort • Be efficient with faculty meetings to provide for program planning, troubleshooting and communication • Provide opportunities for professional development with faculty, and with CE credit when possible • Provide stipends for faculty and students • Include faculty interviews for students in their health profession to determine if there is a match with the program criteria and requirements along with student motivation for program and student success • Establish a web-based blog where IPE students and faculty can post their ongoing questions and with receiving timely responses
Student Level Challenges		
Challenges were expressed by students throughout the program anecdotally to faculty preceptors and documented in program evaluations.	• Learning Adjustments 1. Limited in-person engagement during COVID pandemic • Collaboration 1. Learning to work collaboratively with their peers in other disciplines 2. Group work project where all members do not contribute equally • Scheduling 1. Challenge of balancing schoolwork and the ASP non-credit work 2. Nursing students have clinicals a. Clinical rotations impose severe demands on time.	• Offer incentives to motivate students such as, yearly stipends paced throughout the longitudinal program, travel stipends to pay for food and gas for extended travel to rural areas for IPE community-based experiences • Provide an interactive IPE orientation for each cohort of students early in the program and to establish relationships for future team projects and activities which would include trust and respect for various health professions • Pace the IPE activities and requirements around student and faculty schedules for

	ease of participating, particularly during the academic year ● Provide appropriate make-up assignments for when students need to miss particular IPE program events due to conflicts; record programming whenever possible for future use and events

Note. [a]AHEC = Area Health Education Center, [a]IPE = Interprofessional Education

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