Framing the Future:

*Exploring Inter-Professional
Education and Practice in
an Undergraduate Course*

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A pilot course was developed to expose undergraduate students who plan to pursue a health profession to an inter-professional team-based care approach. By engaging students in discussions with healthcare professionals, thought-provoking and skills-building exercises, shadowing experiences, and opportunities for reflection, we demonstrated that a group of undergraduate students interested in health careers could gain valuable knowledge, skills, and values around inter-professionalism and the importance of healthcare teams in shaping the future of healthcare.

This course is consistent with the recommendations of the Framing the Future Task Force and serves as a model for others interested in engaging young pre-health professionals at the undergraduate level.

Editor's Note: A student asks whether she should choose a career based on a short month of shadowing a doctor. Would it enable her to “find her voice”? The result: a life-changing course for students, and a recommitment to medicine for her. Here, we present her article on the experience, co-authored with her university's Dean of Public Health, who was the chair of a major re-envisioning of public health curriculum called “*Framing the Future*.”

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► Introduction

Framing the Future: The Second Hundred Years of Education in Public Health brought together scholars and professionals from across the spectrum of public health to envision new educational models that would more intentionally prepare professionals for the changing world of healthcare and community health improvement. The task force considered educational opportunities in public health at the two- and four-year undergraduate level through the professional masters and doctorate; the group further addressed work-force development and population health curricula across all professions that directly or indirectly affect the health of the public. The task force used a series of expert panels to conduct its work; all of the reports are available on the web site.¹ The primary focus of the task force was on education in public health. Public health has always been a multidisciplinary enterprise, and the group fully embraced recent calls to increase inter-professional education in the health professions, including public health. Inspired by these conversations, the College of Public Health and the Honors College at the UNIVERSITY OF SOUTH FLORIDA partnered to provide undergraduate pre-health majors an opportunity to explore and experience the notion of inter-professionalism in healthcare as they considered their own professional journeys. This paper describes the genesis of the course, its development, and initial evaluation results.

The ASSOCIATION OF SCHOOLS AND PROGRAMS OF PUBLIC HEALTH (ASPPH) established the Framing the Future Task Force to prepare graduates better for success in a changing world and global marketplace. This initiative to advance public health education coincided with the 100-year anniversary of the seminal Welch–Rose report of 1915.¹

► Background

According to the WORLD HEALTH ORGANIZATION (WHO), “inter-professional education occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes. Once students understand how to work inter-professionally, they are ready to enter the workplace as members of the collaborative practice team. This is a key step in moving health systems from fragmentation to a position of strength.”² In the United States, an Inter-Professional Education Collaborative (IPEC) was formed in 2009, representing the professional education associations of allopathic and osteopathic medicine, dentistry, nursing, pharmacy, and public health to promote a more consistent approach to inter-professional education (IPE) and improve population health outcomes.³ The IPEC was instrumental in articulating values and goals and encouraging more deliberate efforts to engage students across health professions, but its focus has been on students already enrolled in professional degree programs.

The Framing the Future expert panel report on undergraduate education encouraged the development of undergraduate degree programs not only to prepare professionals for public health but also as an alternative to the more typical premed pathway to clinical career paths. This recommendation coupled with those contained in the expert panel report on *Population Health Across All Professions* suggested a gap in the preparation of prehealth professionals seeking entry into graduate health professional programs and a need for an introduction to inter-professionalism and inter-professional health-care practice. We hypothesized that a course for prehealth Honors College students designed around an inter-professional theme would add value to their educational preparation and perhaps help them develop a positive notion about IPE and inter-professional practice, even before they enter their chosen health profession education program. In addition, having the course taught from a public health perspective should enhance their appreciation of the importance of population health in their eventual clinical work and enable them to be both more effective members of healthcare teams and more engaged participants in efforts to improve population health.

The idea for this project came from a premed Honors College student who designed and developed the course under the guidance of the Dean of the College of Public Health. Though the Dean was the instructor of record, the student was responsible for all aspects of course design and delivery.

► Methods

A one-credit hour special topics course was developed for prehealth students in the USF Honors College. Learning objectives were framed as follows:

By the end of this course, students will be able to:

- explain the roles and responsibilities of various health practitioners within an inter-professional team
- describe the importance of communication and collaboration within the healthcare field

- identify the inter-professional team approach to healthcare
- utilize teamwork management skills, and
- promote awareness of healthcare models through a multidisciplinary lens.

Enrollment was limited to 15 students; 11 enrolled in the pilot class, which met over a 15-week semester, once each week for 50 minutes. Class time was used for lectures and presentations and for small group activities. Students also engaged in fieldwork outside of class, which consisted of shadowing clinical sites, selected specifically because they practiced inter-professional team care. All students were required to complete HIPAA training before they could schedule the shadowing experiences.

In order to provide a context for the course, students were asked to write a brief paper—without doing any research—describing what they believed “inter-professionalism” meant. Students worked through an exercise designed to illustrate the importance of communication and how easily communication could break down. The Dean used a full group discussion format to “draw” a picture of the U.S. healthcare system on the board, asking students to suggest elements in the system and then eliciting, through directed questions, other elements that they hadn’t identified. Faculty leaders from the health professional schools at USF met with the students to describe their own career trajectories and what inter-professionalism meant to them. These included nursing, physical therapy, public health, pharmacy, athletic training, and medicine. The director of the Biomedical Ethics and Humanities program in the College of Medicine used examples from the arts to illustrate the importance of perspective and how appreciating different points of view and varied life experiences in patient care could improve the care process and ultimately result in better outcomes.

To highlight and promote teamwork skills, group assignments were added to the syllabus. A case simulation was used from the Office of Inter-Professional Health Education and Research of WESTERN

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UNIVERSITY ONTARIO.⁴ The case study consisted of a fictional patient's history, symptoms, and assessment information. The students identified, reenacted, and outlined unique and shared roles for the patient in the case. Students organized into small groups and were then directed to find articles in the general media or the healthcare literature that illustrated failures in biomedical ethics or healthcare errors that resulted in negative health outcomes for the patients involved, and to develop a presentation for the class that discussed how an inter-professional approach might have prevented the situation or suggested alternative approaches to the treatment plan.

Students were presented with the professional codes of ethics for nursing, public health, physical therapy, pharmacy, medicine, and social work, and were asked to look for similarities and differences among the different ethics codes. Following a full group discussion of their findings, the students collectively created an inter-professional code of ethics (see Table 1).

Table 1. Student-created inter-professional code of ethics

Inter-Professional Code of Ethics

- I. Respect all professional fields involved and the patient.
- II. Every opinion must be considered in a fair manner.
- III. The focus should be centered around the patient's well-being and wishes.
- IV. All members of the healthcare team should comply with all applicable laws and regulations and institutional policies and procedure in rendering care to the patient.
- V. Consistent communication between team members.
- VI. All members of the healthcare team must ensure other members are providing competent medical care.
- VII. Every team member must act with honesty and integrity.
- VIII. Collaboration with other health professionals and populations locally and globally as well as other institutions.
- IX. All members should strive to expand each other's knowledge and advance knowledge collectively.
- X. Team members should empower each other to be active in the care of the patient.
- XI. Every team member will respect the confidentiality of the patient in all aspects.

According to the NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION, "Inter-professional collaborative practice has been defined as a process which includes communication and decision-making, enabling a synergistic influence of grouped knowledge and skills."⁵ The shadowing component of the course was critical in enabling the students to see, in real

time, the theory of IPE and practice. The carefully selected sites included the county tuberculosis clinic, an inner-city clinic targeting homeless youth and young persons with HIV, a healthy weight clinic, the local teaching hospital (where the students rounded with a pharmacist), and a student volunteer-run clinic for local indigent patients. In addition, students were allowed to participate in IPE sessions at the USF HEALTH CENTER FOR ADVANCED CLINICAL LEARNING, together with students from all of the health professions programs on campus. Following the shadowing rounds, students were put into small groups to prepare presentations for the class on the sites they shadowed, what they observed and experienced at each site, any challenges they encountered or particular successes experienced, the knowledge they had gained, and any possible future applications.

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Finally, students were asked to write a reflection paper, considering how their understanding of inter-professionalism had changed and how such an appreciation might shape their career goals and future approaches to practice.

► Discussion

Framing the Future envisioned a new educational space, one less bound by traditional notions of documentation (credit hours, semesters, hours in and out of class), but rather shaped by new ideas about opportunities for learning and professional development over a life course. Healthcare is undergoing dramatic change, and health leaders and the general public are gaining a new appreciation for population approaches to health improvement, including greater emphasis on preventive and primary care, as well as low-cost alternatives to expensive interventions, often necessitated by failures to intervene earlier in the disease process. Closely related is the recognition that high-functioning healthcare teams can create efficiencies, reduce medical errors, and improve patient safety and outcomes. Just as a preventive approach to healthcare can improve health outcomes, so too can early exposure to ideas of inter-professionalism and population health improve the care practiced by those who would eventually become healthcare providers.

This initial pilot course was designed to address the lack of awareness of inter-professionalism among undergraduate students. It was predicted that along with achieving the objectives of the course, students would gain a better understanding of the healthcare field as seen through an inter-professional perspective and would appropriately distinguish their planned roles on the team in their chosen career path. It quickly became evident that knowledge of IPE and practice at an undergraduate level is beneficial in numerous ways. Students were humbled as they learned how overly complex the healthcare system is and how a lack of communication

and mutual respect compromises patient safety and leads to high rates of medical errors. They were stunned by how healthcare financing and business practices affect a clinician's ability to provide the kind of care they might like to. They were transformed by what they witnessed in settings where inter-professional care was

practiced, as it challenged their pre-existing notions about a healthcare hierarchy. They were inspired by the importance of the community in patient care as they encountered patients lacking insurance, housing, transportation, English-language skills, and health literacy, and witnessed first-hand the importance of a team approach to the care of these patients, including the critical roles of interpreters, social workers, epidemiologists, and health educators. In several cases, the experience resulted in students changing their career paths, having discovered a vocation more suited to their natural skills and their desires. This was unanticipated but important; helping pre-health professional students select the best career path can save time and resources, frustration and disappointment.

We also observed that students could gain valuable knowledge along with skills and values around inter-professionalism. The course illustrated that undergraduate students can and should be introduced to the concept of IPE and practice prior to entering graduate or professional degree programs.

► Sustainability

Students in the initial pilot course unanimously recommended continuing to offer the course in subsequent academic terms. The course is in its fourth offering, and several modifications have been made based on student feedback. We added a behavioral health specialist to the panel of experts. We also added a presentation on the business of healthcare. Further, we added another clinic site, an inter-professional clinic focused on treating patients with ALS and other complicated neurological disorders. We streamlined the student presentations on the shadowing sessions to avoid repetition of facts about the sites and instead to emphasize the students' experiences. We are also designing a longitudinal follow-up evaluation study to track the students who have completed this course as they complete their undergraduate studies and enter their chosen health professional field. Ideally, we will track attitudes and experiences as they pursue their clinical or graduate degree to assess any long-term impact of this early exposure to inter-professionalism at later stages of their professional development. ■■■

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Finding Her Voice

Niharika Yerrapragada gives readers insight into her experience with IPE education and what led her to build an undergraduate course on the topic at the UNIVERSITY OF SOUTH FLORIDA.

Healthcare Transformation: What you did is remarkable for an undergraduate and farsighted for anyone interested in building teams and putting public health at the foundation of healthcare. How did you come to this? Tell us about yourself.

Niharika Yerrapragada: I was born in India, and I moved to America when I was six years old. I didn't know any English, so I basically learned everything once I got here. We moved around a lot, which gave me a different perspective on my future. It made me focus on the bigger picture. I knew I wanted to make an impact in the world, and I figured the best way was through education. I applied to the UNIVERSITY OF SOUTH FLORIDA and was accepted into the Honors College, which started my journey into healthcare.

HT: And then you started to think about your career?

Ms. Yerrapragada: I had the idea of going into medicine and becoming a doctor, but I still wanted to find my voice throughout it all. Therefore, I did what was required of any pre-medical student: I shadowed, volunteered, did research, and more. Then I was wondering if I was getting the proper insight that I should have in order to make this lifelong decision.

HT: Tell us about the process. How did you come up with the idea of a curriculum?

Ms. Yerrapragada: So it began with me questioning whether shadowing gives you the proper insight into wanting to become a health professional. And I thought maybe it's not enough, because you're actually seeing yourself roughly 20 years from now. It's very beneficial and necessary, but I thought it would be interesting for students to see the work behind the curtain, to see what happens backstage, and to learn from a range of people—from graduate students to established professionals in order to see how they interact with each other.

HT: You re-invented inter-professional education?

Ms. Yerrapragada: Before all of this even started, I had known that different medical professionals worked together, but I had no idea that there was actually a word for it. I think that's the case with most undergraduate students, though. Not a lot of them know about inter-professional practice in healthcare, let alone how important it is.

HT: Where did you start?

Ms. Yerrapragada: I started doing some research, and I came across an article by **Dr. Donna Petersen**. This article was on the future of learning at USF HEALTH, and I thought it correlated with my idea, even though I was focused more on the undergraduate studies. I then sent her an e-mail explaining that I had this idea I'd like to share with her, and she agreed to meet with me. She seemed very enthusiastic about the idea. Shortly after, we created a course that would expose undergraduates to IPE.

I was responsible for the drafting of the syllabus, you know, the delivery of the course basically. It involved organizing discussions, designing assignments, and arranging fieldwork for the course. I think I pitched this idea in June, and we had the course up and running in August of that year. Not a lot of time.

HT: That's amazing.

Ms. Yerrapragada: It was definitely exciting and scary. I wasn't really sure if anyone was going to sign up for this class.

HT: Now let me ask you to be an observer. As the semester went on, what took you by surprise? Did anything blow you away?

Ms. Yerrapragada: Yes, there were actually a lot of surprises throughout this process. Even though I was responsible for creating the course, I was still learning along with the students. I definitely gained a whole new level of respect for professors, first of all. It looks very simple on paper, but there's a lot of work that goes into it.

Another big surprise was how much the students actually enjoyed the course. You could tell that they were actively engaging through the

thought-provoking discussions. I think a lot of undergraduates, like me, have to be asked a couple of questions before we start sharing our thoughts in class, but that was not the case here. They were really excited about discussing inter-professional practice and education.

HT: Did you change anyone's plans?

Ms. Yerrapragada: Some of the students changed their career paths at the end of the course, which was incredible. It wasn't intended, but we had a student who went from wanting to become a surgeon to wanting to pursue public health instead. Then we had another student who wanted to go into pharmaceutical research, and then at the end of the course she decided that becoming a physician's assistant is the right path for her. That was a huge surprise; a pleasant surprise. It was eye-opening for the students, and for me. At the end of this, I wondered why inter-professional education was not introduced to undergraduates earlier.

HT: We worked with Donna Petersen on *Framing the Future*, and one of the sad things is that there isn't a public health curriculum in the K-12 system in this country. We believed if you taught public health early, you would prepare people for any kind of profession in healthcare.

Ms. Yerrapragada: Another thing I noticed is that public health is embedded underneath all of this. It plays a crucial role in understanding healthcare, and I think the students got a lot of exposure to public health throughout this course.

HT: If you were giving advice to somebody who was doing this, what would you tell them?

Ms. Yerrapragada: I would tell them to get this started as soon as possible because it definitely aids in framing the future of healthcare.

HT: That's fantastic. Congratulations and may you enjoy your career knowing you've given an incredible effort to understanding your own choices.