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Developing and Implementing an Interprofessional Course and Identifying Its Strengths and Challenges

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Abstract

An interprofessional course (IPC) was developed to provide basic guidance in developing essential knowledge, skills, attitudes, and values in order to function effectively in an interprofessional healthcare community. A total of 357 first-year students from seven professional programs: Dental Health Science, Masters of Healthcare Administration, Occupational Therapy, Physical Therapy, Physician Assistant Studies, Pharmacy, and Professional Psychology, were enrolled in the IPC. Sixteen faculty members from the above programs participated to deliver four didactic topics: teambuilding and communication, diversity, professionalism, and community resources. A fifth topic was assigned to summarize didactic and experiential experiences. Pre and post surveys were implemented to evaluate the effectiveness of the entire IPC. Our results indicated that students appreciated the value of an IPC for developing interprofessional skills and that an interprofessional course is a meaningful curricular activity to be offered to students. Steps taken to establish and implement the IPC and identify strengths and challenges are discussed.

Introduction

Trends in Interprofessional Healthcare Delivery

The World Health Organization in its 2010 report *Framework for action on interprofessional education & collaborative practice* stated that “It is no longer enough for health workers to be professional. In the current global climate, health workers also need to be inter-professional” (World Health Organization, 2010). The expert report *Core Competencies for Interprofessional Collaborative Practice* emphasized that interprofessional learning is imperative to “prepare all health professions students for deliberative working together with

a common goal of building a safer and better patient-centered and community/population-oriented U.S. healthcare system” (Interprofessional Education Collaborative Expert Panel, 2011). Effective patient care is positively influenced by a system that provides effective communication and interprofessional collaboration (Krogstad, Hofoss & Hjortdahl, 2002). There is growing evidence that interprofessional patient care is needed to improve institutional quality, effectiveness, and safety (Baker, et al., 2005a; Baker, et al., 2005b; King 2008). As Pronovost & Vohr (2010) pointed out, “We all have a moral obligation to work together to improve care for patients” (Pronovost & Vohr, 2010).

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Trends in Interprofessional Healthcare Education

In the first Institute of Medicine (IOM) conference, “Interrelationships of Educational Programs for Health Professionals,” and in its subsequent report “Educating for the Health Team” (IOM, 1972), 120 stakeholders from different health professions opened a national discussion about interprofessional education. One of the alarming trends noted was that “the existing educational system was not preparing health professionals for team work.” Thirty-one years later, the IOM stated in its report that “interdisciplinary education has yet to become the norm in health professions education” (IOM, 2003).

The effect of interprofessional training has been positively correlated with productive interprofessional collaboration in healthcare settings (Barker & Oandasan, 2005; Barr, et al., 2005; Karim & Ross, 2008). As Royeen et al. (2009a) pointed out, “working together as a community of health professionals to create a healthier society requires that we also begin learning together” (Royeen et al. 2009a). With today’s demand to provide effective patient care and services, it is essential to include interprofessional learning in health professions education (Anderson, Manek & Davidson, 2006; San Martin-Rodriguez, Beaulieu, D’Amour & Ferrada-Videla, 2005).

Interprofessional education has been defined as a team learning approach to understanding each other’s disciplines, collectively solving problems and making decisions to improve the quality of patient care (Health Council of Canada, 2005; Center for Advancement of Interprofessional Education). In addition, it has been suggested that interprofessionalism is an appropriate way to unify fragmented healthcare practices and to address patients’ numerous and complex healthcare needs (D’Amour & Oandasan, 2005). While there has been concern that health professionals have been prepared neither academically nor clinically to provide diverse team-based patient care (Institute of Medicine, 2000; Institute of Medicine, 2003), successful steps have been taken to incorporate interprofessional education for health professions students (Clark, 2006; Bridges, et al., 2011). However, interprofessional curricular activities have emerged at a slow pace nationally. It has been suggested that competition for scarce funds and resources have negatively influenced the pace, growth, and establishment of interprofessional curricula (Royeen, Jensen

& Harvan, 2009b).

It has been suggested that there are a few important elements such as responsibility, accountability, coordination, communication skills, cooperation, assertiveness, service learning, error cases and advocacy, professional ethics, public health, autonomy, and mutual trust and respect that a successful interprofessional education includes in its curriculum (Canadian Interprofessional Health Collaborative, 2010; Bridges et al, 2011; Buring et al, 2009). In order to train students to be effective team players in interprofessional settings, we organized an interprofessional course (IPC). Our model provided a didactic curriculum with a service learning experiential component. The following provides an overview of the strategies faculty used to address interprofessional education within a College of Health Professions (CHP). The CHP includes seven programs and, in order to enhance the interprofessionalism of our IPC, we required our course to be included in the curriculum of all seven programs. In a series of Pre-IPC didactic faculty meetings (Figure 1), essential interprofessional skills were identified through a literature review, examination of other programs curricular inclusions, and professional lived experiences. The health professions included in our educational strategy were Dental Health Science; Masters of Healthcare Administration; Occupational Therapy; Physical Therapy; Physician Assistant Studies; School of Pharmacy; and School of Professional Psychology.

The IPC was a joint curricular course between the programs listed above, required for all first-year students. The course was offered as two half-credit courses (didactic and experiential) across the fall and spring semesters. The overall goals of the IPC were to develop interprofessional skills in team communications, to appreciate the important roles that diversity and professionalism played in healthcare environments, and to familiarize students with community resources and services.

The goals of this report are to answer three questions:

1. How can one establish and implement an IPC?
2. What did students learn in the IPC?
3. What were the strengths and challenges of this IPC?

This report outlines how faculty and student teamwork was established, describes the framework utilized

to deliver didactic and experiential components, and summarizes the assessment plan used for evaluating the entire IPC in order to identify needs, strengths, and challenges in successfully implementing an IPC.

Methods

Faculty Teamwork

Interprofessional faculty teams are powerful role models for students in the implementation of an IPC (Weidman, Twale & Stein, 2001). It was considered critical to identify champion faculty members to lead the establishment of an IPC. In order to establish the didactic and experiential curricula, two faculty teams (Pre-IPC faculty teams) were established. Figure 1 demonstrates the structure of IPC's curricular events. Each Pre-IPC faculty team had six members (representatives from six

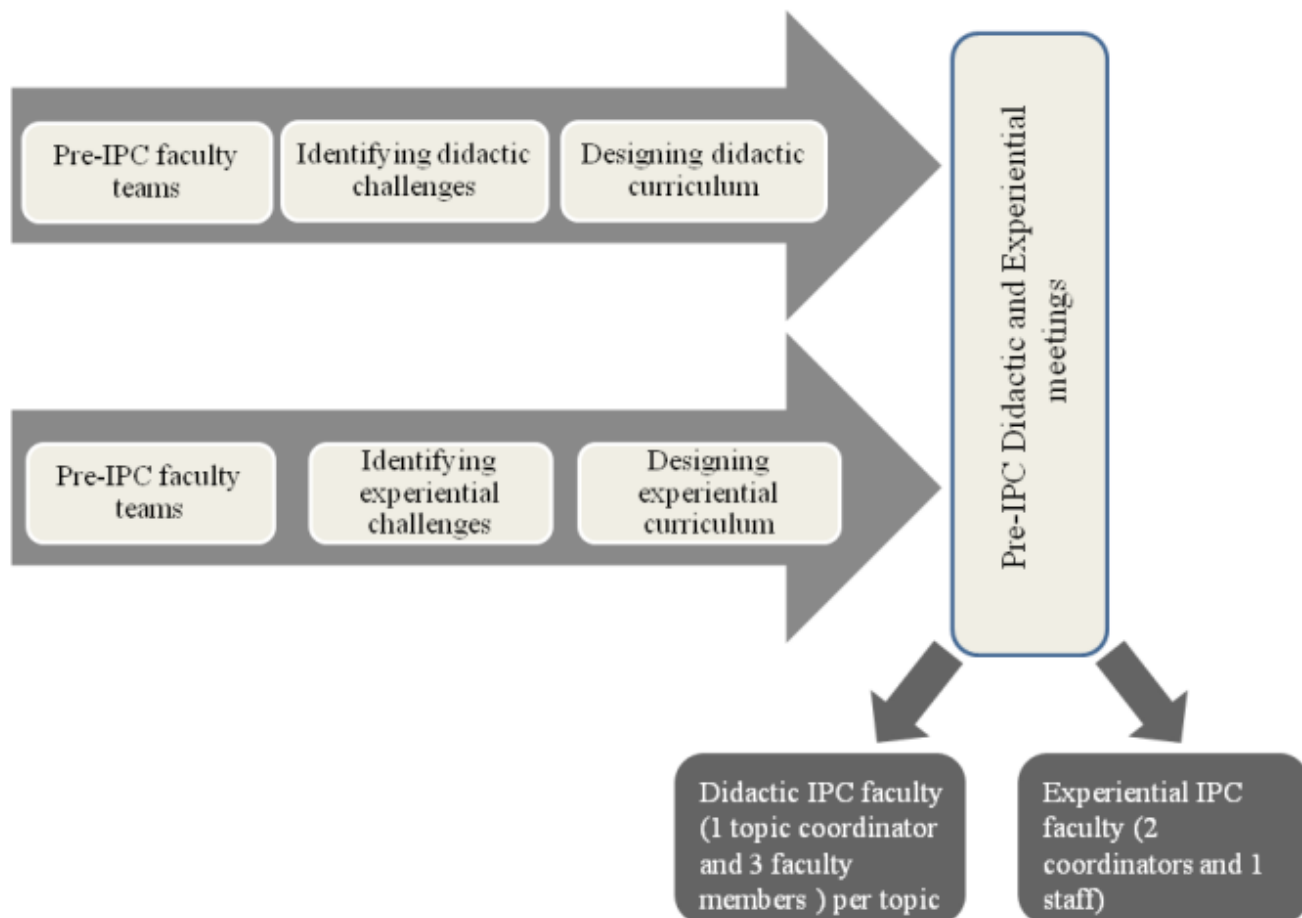
programs in the college), which included both didactic and clinical faculty members as well as administrators from different health professions. Pre-IPC team members were identified for inclusion in the team by their interest and desire for involvement in interprofessional education. Each team was led by a faculty member as chair. Both teams were charged with identifying challenges and solutions to implementation of the IPC. While these two faculty teams initially met separately, the final two Pre-IPC meetings included both teams so as to have collective discussions about curricular goals (Figure 1).

Didactic and Experiential Curricula

While the didactic coordinator was responsible for identifying topic coordinators and faculty members for

Figure 1

Structure of curricular events to establish IPC



the delivery of the didactic topics, the experiential coordinators identified community agencies and communicated the experiential requirements along with a list of available agencies to the student teams.

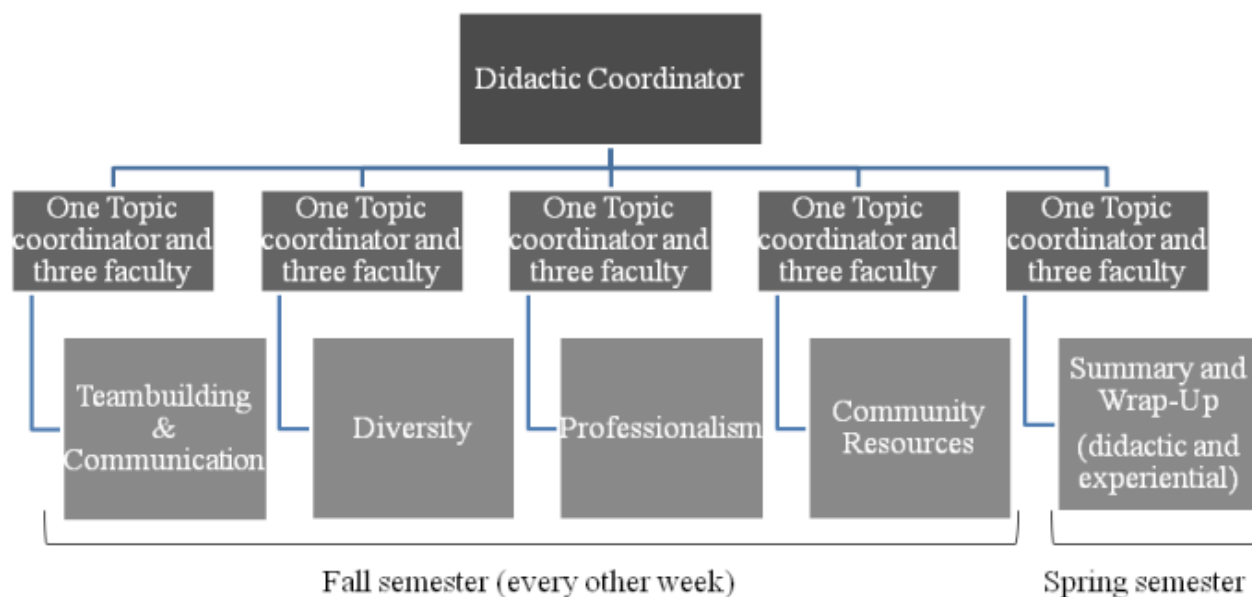
In the Pre-IPC development meetings it was agreed that successful interprofessional collaboration begins with teambuilding and effective communication among team members. Also, awareness of diversity is important in order to be effective team players as well as to meet diverse patient needs. Similarly, professionalism is an essential component of quality service for all health professions, since we must gain and maintain patient trust in our professional skills and judgment. While some of professionalism trends are similar, others vary among the health professions and, as a result, awareness of similarities and differences was considered important for students to acquire. Lastly, patient accessibility to community resources and healthcare provider awareness of these resources plays an important role in assisting patients to attain cost-effective therapeutic outcomes. Based on the above considerations, five didactic topics were chosen by faculty teams to be delivered in the following sequence: teambuilding and communication, diversity, professionalism, community resources, and a summary session to conclude student experiences in both didactic and experiential components (Figure 2). The coordinator for didactic

topics identified topic coordinators and three other faculty members to deliver each topic (Figure 1). Faculty members were chosen based on their commitment to and interest in interprofessional education. It was determined that four faculty members would provide sufficient supervision and direction for 120 students per evening and demonstrate interprofessional teamwork in the delivery of the didactic content. These four faculty members delivered the same topic during three nights.

The experiential sites were chosen based on identifying service opportunities for “at-risk” populations. In addition, because the experiential component was completed outside the classroom and most communication occurred via an online tool (Blackboard, Blackboard Inc., Washington, D.C.) or email, it was manageable to include two faculty members and one staff to oversee the experiential curriculum. The College provided a stipend for each faculty member who participated in delivery of the didactic and experiential curricula. Each didactic topic lasted two hours (5-7 p.m.) and was repeated three times during the same week, so that each session included 20 student teams (120 students or six students per team). We oversaw the formation of each student team to make sure that each team was represented by at least three different health professions. The members of each team remained the same throughout

Figure 2

An outline of the five didactic topics implemented in the fall and spring semesters of academic year 2010/2011



the didactic and experiential curricula. The level of mutual trust, collaborative discussions, responsibilities, and support among student team members indicated team cohesiveness during the didactic teamwork assignments and the final poster presentation.

Table 1 indicates the numbers of first-year students and faculty representatives from seven programs who participated in the IPC's didactic and experiential curricula. The topic coordinators (five faculty members) established a series of smaller meetings with their faculty representatives to develop student team assignments, generate class materials, and determine delivery techniques. In order to provide a similar delivery style across didactic topics, a clinical case was developed and expanded to include issues related to fall's four didactic topics; this was successively released to student teams just prior to each didactic topic. The online Blackboard tool was used to post most class materials and assignments.

The experiential coordinators and one staff member, selected for their knowledge of available community agencies and community networks, made arrange-

ments with 12 agencies for 60 service learning activities in which student teams participated during late fall and early spring. The experiential activities did not include any clinical activities per se but rather focused on providing service to at-risk populations within the community. The focus on service learning was determined by the fact that students were not yet far enough along in their clinical programs to administer healthcare services but would benefit from interaction with individuals at higher risk for need of healthcare services. Table 2 indicates the agencies and the types of experiential service learning that student teams participated in at the sites. Each team was directed to select an experiential service learning site of interest through the online Blackboard tool. Student teams then applied their didactic learning to the experiential assignments. Upon completion of the service learning experience, (which lasted 2-4 hours), student teams processed their participation and learning and prepared a team poster of their experiences. Guidelines and criteria to effectively generate and present posters were provided to students during the fall's last didactic topic. To successfully complete the entire IPC, students were required to complete both didactic and experiential components, attend the

Table 1

The number of student and faculty representatives from 7 health professional programs who participated in the IPC's didactic and experiential curricula

Health Professional Program	Student #	Faculty #
Dental Health Science	30	2
Masters of Healthcare Administration	12	2
Occupational Therapy	30	3
Physical Therapy	40	1
Physician Assistant Studies	43	2
School of Pharmacy	98	4
School of Professional Psychology	104	2

Table 2

A list of experiential agencies and assignments

Agency	Experiential Assignment
<i>Portland Homeless Family Solutions</i>	Provide dinner meal and activities for homeless families.
<i>Project Homeless Connect</i>	Participate in an annual event for the homeless. Options included information booth, childcare, serving food, and completing intake forms for the participants.
<i>Manna Ministries</i>	Cook and deliver dinner meals for community members in need. Engage with the community members during the meal.
<i>Family Bridge</i>	Provide meals and serve families of 10-14 people or serve as a child's host in leading activities and helping with homework.
<i>Washington County Family & Caregiver Program</i>	Conduct a client satisfaction survey to identify caregiver needs.
<i>Washington County Senior Volunteer Program</i>	Facilitate an interactive discussion forum on healthy aging with seniors living independently.
<i>Washington County Veterans Outreach</i>	Find populations within targeted community areas, identify their service and support needs, and provide resource information as appropriate.
<i>Union Gospel Mission</i>	Provide meals for homeless clients.
<i>JOIN</i>	Work with the outreach team in engaging homeless individuals on the streets of Portland and support their efforts to find permanent housing.
<i>Habitat for Humanity</i>	Help to build homes.
<i>Adventure Without Limits</i>	Provide recreational events supporting at-risk populations.
<i>Hands Across Portland</i>	A variety of service opportunities throughout the Portland area.

service learning activity, actively participate in team assignments, and present their learning via posters.

The following curricular goals and learning activities were used to deliver the didactic material:

Teambuilding and Communication. It has been suggested that basic communication skills are common

areas for health professions students to develop, but students from health professions have little experience with interprofessional communication (AAMC, 1999). A series of communication competencies such as selecting effective communication techniques, avoiding discipline-specific jargon, expressing opinions to team members with clarity and respect, listening actively and encouraging ideas and opinions have been indicated in

the expert report *Core Competencies for Interprofessional Collaborative Practice* (Interprofessional Education Collaborative Expert Panel, 2011). Aligned with these competencies, we provided a 20-minute presentation, followed immediately by teamwork assignments to emphasize the importance of being receptive to each other's ideas, effectively using communication tools, logically supporting each other's expressed ideas, and effectively conveying their messages across different interprofessional healthcare settings.

Diversity. The goals of the diversity topic were to understand the importance of conversations about diversity and examine how personal filters influence the way we respond to others. Faculty members presented a 20-minute didactic lecture that engaged students in beginning to identify their biases based on a series of pictures, and to examine how personal filters and assumptions would influence the way they communicated with others. The importance of embracing cultural diversity and appreciating individual differences in patients and healthcare teams (Interprofessional Education Collaborative Expert Panel, 2011) was addressed during the diversity topic. Students were encouraged to recognize the importance of diversity within interprofessional healthcare environments in order to optimize patient care delivery. After the didactic presentation, students were instructed to individually define diversity and then compare their definitions with their teams, discussing the similarities and differences in their perceptions of diversity.

Professionalism. The goals of the professionalism topic were to recognize similarities and differences in professionalism among healthcare professions and appreciate common ethical and professional dilemmas that team members often face in interprofessional settings. The codes of ethics for all seven health professions were shared with students. Legal requirements among different health professions were described, several vignettes were presented, and student teams were asked to discuss the vignettes and respond to the unprofessional misconduct identified in the vignettes.

Community Resources. The goals for this topic were to identify clients/patients' needs beyond each discipline's scope of practice, emphasize the importance of referring and collaborating in patient care with other healthcare providers and become familiar with a variety of local and federal community resources. During

this topic, an agent from a community agency participated and provided an overview of available community resources to students. A clinical case was presented, and faculty members from different health professions identified relevant community resources for the patient. Each student team was then assigned a case to discuss and identify available community resources for the patient. The submitted cases were not graded, rather, a selected spokesperson for each case presented their report to the entire class by the conclusion of the community resources session.

Summary and Wrap-Up. The last didactic topic differed from the other four didactic topics in that no lecture was presented; team activities were collectively completed by student teams; and each team activity integrated the didactic and experiential curricula. Three unique team activities were carefully designed. In the first activity, student teams studied an imaginary organization that served homeless families with children in order to provide shelter, meals, and other assistance. The goal of this activity was to promote student learning about what other health professions offer to assist a family with multiple health issues. In the second activity, student teams worked as interprofessional healthcare providers generating a SWOT analysis (analysis of Strengths, Weaknesses, Opportunities, and Threats) for a hypothetical scenario in which a homeless care organization had received a \$15-million grant to provide basic and primary medical care to a homeless population. The goal of this activity was to identify and discuss successes and challenges in establishing an interprofessional team. In the third activity, student teams reflected on students' comments (positive, negative, and unprofessional) from previous IPC surveys gathered during the fall semester. The latter team activity was intentionally designed to encourage students to appreciate the impact of constructive feedback on improvement of the educational process.

Evaluation

A series of anonymous surveys were developed to assess the entire IPC. Blackboard and SurveyMonkey tools were utilized for the administration of these surveys. The implemented surveys included qualitative and quantitative questions. Prior to the beginning of IPC didactic topics, the Pre-Topic survey was implemented and completed by 50% of students. In addition, at the conclusion of each didactic topic, students were

asked to complete a brief online survey (Post-Topic survey). The results from each Post-Topic survey were shared with the topic coordinators to improve delivery of the didactic curriculum. Furthermore, a mandatory comprehensive didactic survey was implemented at the conclusion of all four didactic topics and was completed by 98% of students. The last didactic session (summary and wrap-up) did not have a Post-Topic survey; however, the effectiveness of this session was assessed via the final IPC survey which had a 100% respondent rate. The submission of the Pre- and Post-Topic surveys (Table 3) was not mandatory to limit the burden of multiple survey submission on students.

The survey questions were discussed among faculty to make sure that each survey was meaningful and measurable. The Pre-Topic survey was developed by IPC coordinators and included a series of questions which ranged from student awareness of didactic topics to identifying valuable element that students desired to learn from the IPC. The Post-Topic surveys were de-

veloped by IPC coordinators and faculty who delivered the topics. These small Post-Topic surveys, which were mostly qualitative in nature, assessed what students learned from the didactic topics and how they would apply their learning into their practice. The comprehensive didactic survey was developed by IPC coordinators and included questions that assessed how the didactic activities and assignments assisted students in their learning of the didactic topics. The final IPC survey was developed by IPC coordinators and a few faculty members who participated in delivery of the fifth didactic topic. The final IPC survey included questions that assessed the effectiveness of the didactic and experiential curricula and provided an internal benchmark to measure students' progress in learning interprofessional skills.

The surveys questions that were qualitative in nature were analyzed using an analytic software program, NVivo 9 (QSR International Pty Ltd). The NVivo analysis validated our manual analysis of the qualitative

Table 3

A summary of implemented surveys that included both qualitative and quantitative questions

Survey Name	Goals	Response Rate
<i>Pre-Topic Survey</i>	To generate a baseline measure of the level of experience and expectations with regard to the didactic topics; to assess student experience, expectations, and impressions of each topic.	N=181 (50%)
<i>Post-Topic Survey</i>	To assess effectiveness of each delivered didactic topic and to measure student expectations and impressions of the didactic topics; to use the survey results to improve the following didactic topic(s).	*N≈90 (25%)
<i>Comprehensive Didactic Survey</i>	To assess the effectiveness of the fall didactic topics and to implement an internal benchmark to measure students' overall progress in learning interprofessional topics.	N=354 (98%)
<i>Final IPC Survey</i>	To assess students' experiences and impressions of the fifth didactic topic as well as to evaluate how effectively students felt they would implement their learning into their future work.	N=357 (100%)

*1st topic (N=130); 2nd topic (N=90); 3rd topic (N=65); and 4th topic (N=61)

data (Merriam, 2009). Table 3 summarizes the assessment goals and respondent rates for the implemented surveys. This evaluation was registered as an exempt proposal with the Pacific University IRB.

Results

Teambuilding and Communication

The Pre- and Post-Topic survey results indicated what students expected and valued learning about teambuilding and communication (Table 4, following page). In addition, in the Post-Topic survey students indicated how they would apply the most valuable element that they identified during this topic into their future practices (Table 5, following pages).

In the comprehensive survey, students were asked whether the activities from the teambuilding and communication topic assisted them in applying basic principles of interprofessional team-based communications and interactions during the other three didactic topics. The survey results indicated that 38% of students agreed, 32% disagreed, and 30% were neutral to the above statement.

Diversity

The Pre- and Post-Topic survey results indicated what students valued learning about diversity (Table 4). In the Post-Topic survey, students indicated how they would apply the most valuable element that they identified during the diversity topic into their future practices (Table 5).

In the comprehensive survey, students were asked to think of an example of a diversity experience they encountered during the four didactic topics that they found powerful and/or applicable, professionally or personally. A variety of responses was provided that included: when we accept each other and each other's opinions, we can achieve our goals; we are not as knowledgeable as we think we are and that we need to leave room for other professions to teach us; it was interesting how different professional fields reacted to diverse clients such as those who were obese or homosexual; and the diverse opinions, backgrounds, and other differences make a team more inclusive and better-able to treat a wider range of patients. Our assessment data from the comprehensive survey indicated that 47% of

students agreed that the diversity topic helped them to understand how valuing and considering multiple categories of diversity could improve the effectiveness of their future delivery of healthcare service to patients/clients. However, 31% of students were neutral to and 22% disagreed with the above statement. The comprehensive survey also identified biases and attitudes that students believed had a high prevalence within the community. Twenty-five percent of students indicated biases against people with disabilities, different racial identities, different sexual orientations, and different cultures and languages had a high prevalence within the community. In contrast, 16% and 26% of students stated that biases and attitudes against people of different religions and gender, respectively, had the least prevalence within the community.

Professionalism

What students valued in learning about professionalism prior to the delivery and after the delivery of this topic is indicated in Table 4. In addition, Table 5 demonstrates how students would apply the most valuable element that they identified during the professionalism topic into their future practices.

The professionalism topic discussed attitudes and behaviors such as confidentiality, expectations for professional conduct, and duty to report prohibited or unprofessional conduct of other health professionals. By the conclusion of the professionalism didactic topic, the comprehensive survey results indicated that 16% and 44% of students rated their awareness of behaviors and attitudes associated with professionalism within an interprofessional healthcare environment as excellent and very good, respectively. In addition, students were asked to indicate a reason why individuals sometimes act unprofessionally, unethically, or illegally in their role as healthcare providers. While 41% mentioned they put their own needs ahead of patients' needs or others' rights, 25% stated it was because they were unaware of their professional, ethical, and/or legal obligations, and 15% stated they were too busy to consider specific factors in individual situations. A lower number (12%) believed they would follow the recommendations of others (e.g., supervisors, others on the healthcare team) without consideration of their own professional obligations. Additionally, in the comprehensive survey, we identified that only 4% of students *did not* learn about the similarities of all the team members in their health-

Table 4

Sample of students' comments about the most valuable element (skill, quality, experience, strategy, etc) that they would like to have learned (student expectation) or did learn (student learning)

Didactic Topic	Student Expectation (data from Pre-topic survey)	Student Learning (data from Post-topic surveys)
<i>Teambuilding and Communication</i>	<ul style="list-style-type: none"> • how to communicate efficiently with the people I work with • learning how to establish a professional relationship with practitioners from other fields • learning how I could interact with other professions so that I could refer patients for the right reason • how to keep communication open and patient-centered 	<ul style="list-style-type: none"> • defining the roles of various disciplines among the team • the topic was important in daily interactions with professionals; having the opportunity to interact with students and faculty from other programs • to be able to work with other professionals in a productive manner • presenting ideas, hearing others' ideas, listening and be active listeners
<i>Diversity</i>	<ul style="list-style-type: none"> • developing an understanding and awareness for diversity as well as how diversity would affect working relationships • learning strategies for dealing with and caring for diverse patient populations • learning how to provide high quality care for patients with different cultures • how to remove self-imposed biases 	<ul style="list-style-type: none"> • how to be aware of my own filters when presented with a patient regardless if those filters help or hurt me as a professional • learning about what diversity meant and how to apply it to my profession on a day-to-day basis • it was helpful to get real-life examples of how diversity effected health care professionals • starting a conversation about diversity was the first step towards a multicultural perspective in different forms of therapy
<i>Professionalism</i>	<ul style="list-style-type: none"> • how to present myself professionally in order to gain respect • learning how to hold my emotions during extremely emotional sessions (i.e. child abuse, domestic violence, etc.) • how other fields view professionalism in order to appropriately interact with them • hearing personal experiences from current professionals to learn more about what to expect when I get out into the job field 	<ul style="list-style-type: none"> • it was extremely important that each profession respected and valued the roles and expertise of the other professions • it was valuable to understand the differences in ethical codes across health professionals • I learned that each profession had different confidentiality and reporting guidelines • I had a better insight as to how confidentiality would cause problems in a healthcare team
<i>Community Resources</i>	<ul style="list-style-type: none"> • how to be aware of available resources and to help people acquire those resources • finding out how to utilize resources in order to be more involved and aware of what my community has to offer • how to provide the best service possible, using all of the tools and resources available to me as a professional healthcare provider • learning to effectively collaborate with other healthcare providers to provide optimal care for patients 	<ul style="list-style-type: none"> • there were more resources out there than we may have realized • learned about some programs available that I did not know existed • taking initiative of finding various resources for my client if I felt they would be beneficial • it was a great experience to search for the different opportunities available for disabled patients

Table 5

Sample of students' qualitative responses about how they would apply the most valuable element that they identified during the fall didactic topics into their practice

Student Responses
(data from Post-topic surveys)

Teambuilding and Communication

- In every day conversations
- Considering other points of view
- Recognizing other health care professionals for their area of expertise and be a contributing member of an interprofessional team.
- Applying it when counseling patients; using this experience to build on future collaborative processes.
- I did not learn anything new from this topic. All of the things we talked about were topics that I had been exposed to in undergrad.

Diversity

- I would strive to be aware of the filters that I have and to respect differences in opinion, belief, or way of life even if they disagree with my own.
- I needed to make it a practice every day to be aware of my own assumptions.
- By interacting with a diverse group of people, it would help me to better serve my clients.
- I would just try to keep communication open always.
- I would use ethical judgment, guidance, and peer involvement at times in my decision making.
- I would not make judgment or assumptions based on physical appearance.
- There was nothing I learned with respect to diversity. As a professional, I have far more formal diversity and cross-cultural training than you can expect to touch in a two-hour session.

Professionalism

- I would honor and respect other health professions in terms of confidentiality.
- I would apply this professionalism by observing and handling each situation I encounter as a unique situation and learning experience.
- In patient scenarios and situations, I learned what my rights and responsibilities were and what I was legally bound to do in such situations; taking into consideration the motives of my fellow health professionals.
- Keeping up to date on the ethics codes within the various health professions or at least knowing there would be differences.
- I did not really feel there was anything that I have not heard before.

Community Resources

- Being able to refer patients.
 - Seeking supervision in complex cases and learning how to collaborate with a healthcare team.
 - Becoming more aware of outside resources for my clients.
 - Finding applicable resources for my patients and their caretakers.
 - Directing patients to a source instead of just telling them to look for nursing aid.
 - Utilizing this information in making referrals for clients to community and government resources.
 - I had a good grasp of community resources from my prior experiences working in the health care field. I am not sure I learned more about community resources than I knew before.
-

care team with respect to expectations for professionalism and legal and ethical obligations. In another similar question, 46% of students believed, after the delivery of the professionalism topic, they could identify two or more differences and 45% could identify at least one difference between different professions in their teams, with respect to legal and ethical obligations.

In the qualitative section of the comprehensive survey, students were asked to identify situations they were likely to encounter in which they would be called upon to make a decision about how to proceed in a manner that was professional, ethical, and/or legal. We used a coding process and selected a series of categories among student responses which led to common themes. The common themes indicated situations in which they may encounter: an incident of child abuse, a client making a romantic advance, an illegal prescription, and a coworker who violates HIPAA comprehensive care.

Community Resources

This topic was structured to introduce students to available community resources. Students expressed their knowledge about community resources before and after the delivery of this topic (Table 4). Similar to the other three didactic topics, students indicated how they would apply the most valuable element that they identified during the community resources topic into their future practices (Table 5). In the Post-Topic survey, students described how learning about available community resources helped them to better understand services provided by other professionals within healthcare systems. For instance, many students stated they learned about the various resources available to providers in order to make appropriate referrals.

In the comprehensive survey, students described the benefits of an interprofessional approach to identifying community resources over an approach carried out solely by their own discipline. A few student examples were: it would allow me more resources to use with my client that I normally wouldn't think of; different perspectives can help to generate greater possibilities for the patient; always learn more from the various perspectives of other professions; and an approach performed solely by my discipline would lack so many benefits that were available in the community. In addition, the comprehensive survey results indicated that

approximately 70% of students rated their awareness of access and utilization of community resources in providing healthcare services within an interprofessional healthcare environment as good, very good, or excellent.

Summary and Wrap-Up

The last didactic topic followed the service learning experience (experiential). Three team activities were generated and implemented to evaluate students' experiences and impressions from the entire didactic and experiential components. While activity #1 was related to learning more about each other's professions, activity #2 was about identifying success and challenges in establishing an interprofessional team and activity #3 was to emphasizing further the concept of professionalism. The final IPC survey indicated that group activity #1 further increased 52% of students' understanding of other professions, group activity #2 further increased 38% of students' understanding of interprofessionalism, and group activity #3 further increased 42% of students' understanding of professionalism.

In the comprehensive survey, 46% of students agreed, 31% were neutral, and 23% disagreed that during the four didactic topics, they discussed and researched different opportunities for collaboration amongst healthcare providers in the healthcare system. In addition, students were asked to briefly describe one benefit of interprofessional care. We used a coding process and selected a series of categories among student responses. The selected categories were clustered into four benefit themes which included better communication, comprehensive care, improved patient care outcomes, and efficient patient care.

Discussion

Interprofessional skills are multifaceted competencies that are difficult to learn from textbooks or isolated experiences. Each individual health profession is required to deliver their core curriculum, mandated by their accreditation agencies or by the needs of their profession. In addition, lack of access to other health professionals or physical facilities often impedes establishment of interprofessional skills training. As a result, scant attention or emphasis (if any) is given to interprofessional skills in isolated health professions' curricula. Regardless of challenges, training students to work in

interprofessional teams will result in better recognition of the limitations of their own health professions and learning the responsibilities and perspectives of other health professions. Therefore, when there is more than one health professions program within a college or university, it is invaluable to establish an IPC. However, this requires buy-in from all parties including faculty, administration, and students; adequate physical facilities, and curricular flexibility.

Our assessment data and faculty observations indicated that the didactic topics were well-integrated into the experiential component of the IPC. From the student survey results, however, we found that approximately 40% of students had a positive experience and valued the IPC, 30% were neutral and 30% consistently resisted the IPC. Based on some of the qualitative responses, students who resisted believed that they already possessed the delivered interprofessional skills (Table 5).

In order to be as efficient as possible in implementing and collecting assessment data, the results of each survey (Table 3) were reviewed and discussed by the IPC coordinators prior to implementation of the next didactic activity. In each survey, we included at least one qualitative question in order to capture students' additional constructive feedback and assist us in maximizing effectiveness of the IPC. The students' comments were well taken, and many of them assisted us in identifying strengths and challenges to effectively implement the presented and future IPC.

The following sections discuss the didactic and experiential curricula of our IPC and identify strengths and challenges discovered during the delivery of the IPC.

Teambuilding and Communication

Strengths. Our data from the teamwork assignments and survey results indicated that students had a desire to know how to work in a team and how to effectively communicate with students from other health professions. We received many positive comments about this topic (Tables 4-5). Students enjoyed interacting with their peers from other health professions and appreciated the important role interprofessional teamwork played in effectively completing an assignment. In addition, our survey results demonstrated that students became better acquainted with each other's professions.

Challenges. We acknowledge that there were challenges that some students faced during the teambuilding and communication topic. For instance, while some students stated that this topic would better serve students who did not already have professional experience, a few students mentioned that the evening class was exhausting, and others mentioned that they needed more hands-on team assignments. It has been suggested that students who have negative attitudes towards interprofessional learning are the ones who gain the least benefit from an IPC (Coster et al., 2008).

Diversity

Strengths. Approximately 50% of students believed that the diversity topic helped them to understand how valuing and considering multiple aspects of diversity could improve the effectiveness of their future delivery of healthcare service to patients/clients. In addition, students indicated how they would apply the most valuable self-identified element from the diversity topic into their practice (Table 4). Many positive responses were provided that demonstrated the diversity topic was a valuable topic as part of an IPC (Tables 4-5). Furthermore, many students shared with us examples of diversity that they encountered during other IPC didactic topics that they found powerful and/or applicable, professionally or personally.

Challenges. Diversity is a sensitive topic. We observed that a few students expressed dissatisfaction with the large group discussion and pointed out to us that time would be better to spent in small groups where students would be less hesitant to discuss sensitive topics. In addition, since diversity has many dimensions, group discussion sometimes extended beyond the expected scheduled diversity topic. As a result, a few student teams stated that they did not have enough time to finish the entire assignment.

Professionalism

Strengths. Professionalism and codes of ethics are established and viewed differently by different health professions. Many students mentioned that they learned what their responsibilities were in regards to some professional and ethical situations. All students provided different reasons as to why healthcare providers sometimes act unprofessionally, unethically, or illegally in their professional roles. In addition, approximately 50%

learned basic knowledge of professionalism of some of the other health professions and stated they could now identify two or more differences between different health professions' legal and ethical obligations. Furthermore, all students provided unique examples of situations in which they would be called upon to make a decision about how to proceed in a manner that was professional, ethical, and/or legal.

Challenges. Professionalism is a broad concept that includes being skillful, knowledgeable, responsive and responsible, having integrity, accountability, as well as knowing the specific ethical codes for professional conduct. Adding to the complexity of professionalism, each health profession has its own educational and accreditation requirements regarding professionalism. Teaching interprofessional ethics has always been a challenge because different professions have different policies of confidentiality and information sharing processes (Banks et al., 2010). Given the breadth of this topic, the session focused on training students to appreciate the different code of ethics among health professions. As a result, some students did not appreciate why they should learn about other health professions' codes of ethics and expected to learn more about professionalism in general. In addition, a few students mentioned that it was a difficult topic to follow or discuss because students were new in their programs.

Community Resources

Strengths. This didactic topic assisted students in knowing how to find information about various resources within the community and learned about available programs that would be beneficial for patients. In addition, students were introduced how to direct patients to specific state or federal resources and assisted students in incorporating the importance of establishing and maintaining relationships with other healthcare providers in the community. Furthermore, two-thirds of students rated their awareness of access and utilization of community resources in providing healthcare services within an interprofessional healthcare environment as good, very good, or excellent.

Challenges. One of the challenges for this topic was its novelty, i.e., not many students were familiar with community resources. As a result, several students mentioned that it would have benefited them if more real-life stories were provided in order to better understand

the challenges healthcare providers face in their daily practices.

Summary and Wrap-Up

Strengths. This class provided a unique occasion to see how well students could integrate their didactic learning into the experiential component of the IPC. Responses to the three integrative team assignments clearly indicated that students learned more about each other's professions and how to apply this learning into their future professions.

Challenges. The primary challenge we encountered in this class was to identify team assignments that could tie all four didactic topics together with the experiential curriculum. A series of faculty meetings were organized to discuss different team activities and assignments. While students appreciated this last didactic class to learn more about other professions, they suggested that we implement similar didactic topics earlier in the fall semester in order to promote better understanding of the various health profession roles in different healthcare systems.

In addition to the above challenges, based on our own observations and experiences, we bring the following areas to the attention of our readers:

Physical Facility

Physical facility has been identified as one of the important factors in implementing an IPC (Bridges et al., 2011). It has been suggested that allowing IPC students to interact and learn in small groups promotes in-depth discussion among students and seems to be the best approach for achieving interprofessional education objectives (Barr, 2002; Cameron et al., 2009). Because our IPC was based on teamwork and the student body was large, it was important to have access to breakout rooms in order to accommodate small group teamwork. In addition, the didactic curriculum was implemented during the evening when the health professions were not using their classrooms and breakout rooms for their own classes and activities. As a result, it was critical to communicate the evening class requirement to students as early as possible (during orientation). If the health professions are housed in different buildings or campuses, it is imperative to allow adequate travel time for students who commute a distance to attend an

interprofessional class.

Delivery of Topics by Faculty

Our experience demonstrated that students appreciated seeing faculty representatives from their own health profession and wanted their input in development of the IPC. As a result, it was important to generate an IPC faculty team that represented all health professions. It was also important to include clinical faculty in the different sessions to share their own interprofessional experiences. However, since experiential and didactic topics were coordinated by different faculty members, there was risk of inconsistent topic delivery across the IPC curriculum. Therefore, we developed a structured delivery framework that guided faculty in designing class lectures and materials.

Delivery of an interprofessional curriculum requires faculty members from different disciplines to collaborate with each other to establish a cohesive interprofessional curriculum. In addition, it is imperative that the administration provide vision, support, and encouragement to motivate faculty to establish and deliver such an interprofessional curriculum. It has been suggested that faculty from different health professions need to have access to interprofessional faculty development because the interprofessional learning differs from other academic learning they teach (Curran & Sharpe, 2007; Interprofessional Education Collaborative Expert Panel, 2011). Additionally, it is important to share the significance of any IPC with faculty so that they appreciate the importance of an IPC (Bridges et al., 2011). It has been suggested that faculty's negative attitudes to an IPC can be positively changed by involving them in an IPC teaching (Anderson, Thorpe & Hammick, 2011).

Communication with Students

It was crucial to inform students about the IPC and its goals and requirements as early as possible in their academic experience. We found that informing potential candidates during the admission process was helpful to achieve better student buy-in. It was also important that each health profession include the information during interview and/or orientation days.

Didactic Curriculum

The five didactic topics focused on important interpro-

fessional skills. However, since these interprofessional topics can easily be misunderstood or confused with similar topics that students have already learned from their past academic experiences, some students may have considered these topics "common-sense" topics. Therefore, we found it beneficial to allocate at least 30 minutes explaining why these interprofessional topics are important and how they differ from other, similar experiences that students may have had. The IPC is not confined to the five didactic topics that we delivered in our IPC. There are other didactic topics that can be implemented in an IPC which include accountability, assertiveness, conflict management skills, autonomy, and how to develop mutual trust and respect. Delivering the IPC during the second professional year or above may be perceived better than during the first professional year. In a study conducted by Owens et al., (2005), it was reported that their IPC students wanted the IPC module to occur later in their curricula allowing them to feel comfortable in their individual professional identities and to have adequate clinical knowledge to share with their peers (Owens, et al. 2010). Indeed, our last didactic topic indicated that students' buy-in was higher during the second semester (summary and wrap-up topic) compared with the first semester (four didactic topics).

Teambuilding

Every effort should be made to build teams that include student representatives from as many health professions as possible. We received comments from students who did not understand why we had not included six different representatives in each team. Therefore, in implementing an IPC, it is important to inform students how the heterogeneous number of students accepted into different health professions programs limits building teams in this manner.

Experiential Curriculum

Some of our students expected that the IPC would provide clinical training experience for students. Although working in an interprofessional clinical setting is ideal, doing this would be very labor intensive and requires significant resources including time, clinical sites, and manpower. Additionally, because this IPC was developed for first-year professional students who have not yet participated in their own profession's clinical practice, it was not considered wise to insert clinical experi-

ences in the first term. Rather, we intentionally focused on service learning that met the missions of our university for civic engagement, while still providing student teams opportunities to apply their learned interprofessional skills.

It has been suggested that students need to understand the differences between volunteerism and service learning in order to value the experiential component of the IPC (Bridges, 2010). It is essential to emphasize the value of service learning which effectively has been articulated in the fourth report of the Pew Health Professions Commissions which states that “The nation and its health professionals will be best served when public service is a significant part of the typical path to professional practice. Educational institutions are the key to developing this value. Health professional programs should require a significant amount of work in community service settings as a requirement of graduation. This work should be integrated into the curriculum” (O’Neil & Pew Health Professions Commission, 1998).

Finally, we identified two limitations in our educational strategy. First, we did not receive a high respondent rate in the Post-Topic surveys (Table 3). In addition, only half of students completed the Pre-Topic survey. As a result, the comparison data presented in Table 4 may not have been provided by the same student representatives who completed the Pre- and Post-Topic surveys. Second, our educational strategy did not include an assessment instrument to include an evaluation of agencies perception in regards to student team effectiveness. The latter could have enhanced our perception of team dynamics and teamwork at the experiential sites. However, team posters presented at the conclusion of the IPC clearly indicated effective integration of the IPC’s experiential and didactic curricula. While student learning was assessed through the articulation of goal achievement presented on the posters, the posters were not analyzed to compare the benefits of respective agencies; this will be conducted in future evaluations of the IPC.

Conclusions

Our results indicated that an IPC course such as the one described in this paper has the potential to shape how future healthcare providers work with other healthcare professionals in an interprofessional patient care environment. Our assessment data indicated that

40% of students valued the importance of the presented IPC curriculum, 30% were neutral, and 30% disagreed that the IPC was useful with the presented didactic and experiential curricula. In addition, our results identified a series of challenges in the implementation of an IPC. Furthermore, we found that incorporating clinical cases, assisting students in learning more about other health professions programs, implementing IPC classes during the second semester and delivering the course during the day (rather than evening) could have enhanced students’ buy-in and attention during presentation of the didactic topics.

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