INTERPROFESSIONAL EDUCATION SUPPLEMENT

An Interprofessional Education Session for First-Year Health Science Students

Andrea Cameron, BScPhm,^a Milka Ignjatovic,^a Sylvia Langlois, MSc,^b Dale Dematteo, MSc,^{c,d} Lisa DiProspero, MSc,^e Susan Wagner, MSc,^{d,f} and Scott Reeves, PhD^{c,g-i}

^aLeslie Dan Faculty of Pharmacy, University of Toronto

^bOccupational Science and Occupational Therapy, University of Toronto

^cWilson Centre for Research in Education, University Health Network

^dOffice of Interprofessional Education, University of Toronto

^eMichener Institute for Applied Health Sciences, Toronto

^fDepartment of Speech-Language Pathology, Faculty of Medicine, University of Toronto

^gKeenan Research Centre, Li Ka Shing Knowledge Institute of St. Michael's Hospital, Toronto

^hCentre for Faculty Development, St. Michael's Hospital

ⁱDepartment of Psychiatry, University of Toronto

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Objective. To implement and evaluate the effectiveness and short-term impact of an interprofessional education (IPE) session in the first year for health sciences students representing 9 health professions.

Design. An interprofessional faculty committee created a 2½ hour introductory interprofessional education session focusing on a single patient case and 2 possible discharge scenarios. A mixed method pretest/posttest research design was used to examine changes in students' perceptions of and attitudes toward IPE. Six follow-up focus groups also were held with students from the participating professions.

Assessment. Of 1197 health professions students enrolled, 914 students (76%) attended the IPE session. Two hundred thirty-two of 240 pharmacy students (97%) attended. Forty-three (18.5%) pharmacy students responded to the open-ended questions on the survey instrument. The most frequently reported gains from attending the session were recognition of teamwork importance to benefit the patient (30%) and understanding of other professionals' roles (29%). Shortfalls reported by students related to the content/style of presentation (26%) and technical/organizational (23%) aspects of the session. Pharmacy students who participated in one of the focus groups stated the session demonstrated the benefits as well as facilitators and barriers to collaborative care.

Conclusion. The session served as an effective introduction to IPE; debriefing and integration with uniprofessional curricula should occur. Students need additional small group interaction with other health professional students, and can contribute as members of the planning committee.

Keywords: interprofessional education, pharmacy students

INTRODUCTION

Pharmacists practice in diverse and evolving health care environments, working as integrated members of patient care teams.¹⁻³ Therefore, pharmacy students need to learn competencies required to practice in collaborative environments. The Accreditation Council for Pharmacy Education,⁴ the Center for Advancement of Pharmacy Education,⁵ and the Canadian Council on Accreditation of Pharmacy Programs,⁶ each includes interprofessional teamwork among its curricular requirements. Furthermore, both the 2003 Institute of Medicine report,⁷ and

the Canadian Patient Safety Institute's Safety Competencies⁸ articulate the need to incorporate teamwork to achieve safe practices. Curricula designed to provide these competencies may include classroom-based lectures,⁹ interprofessional small-group simulated/case discussions,⁹⁻¹⁵ practice site-based experiences,^{16,17} and Web-based interactions.^{18,19}

This form of education can provide a number of positive outcomes for students including enhancing students' awareness of other professional groups, improving their knowledge and understanding of how to work in an interprofessional team, reducing negative stereotypes of other professional groups, and strengthening their communication and collaboration skills.^{20,21}

At the University of Toronto (UT), pharmacy students have participated in an evolving IPE program at several stages of their learning, including large interprofessional education sessions and smaller case-based group discussions involving several other health disciplines. Since 2002, all third-year students have represented 1 of 6 professions enrolled in the Interfaculty Pain Curriculum.¹⁰ During their fourth year, a small number of pharmacy students participate in IPE modules concurrent with a profession-specific advanced pharmacy practice experience.¹⁶ In this paper, we report on pharmacy students' experiences in a first-year introductory IPE session.

In 1998, an interprofessional committee of faculty members representing the health science programs, including pharmacy, at UT was established. An introductory IPE session for first-year students from at least 6 different professions had been organized and evaluated annually since 2002. The format, venue, and scheduling varied each year; however, the primary focus was providing opportunities for first-year students from different health professions to listen to patient stories and communicate with one another about their roles within the health care system. With the establishment of the Office of Interprofessional Education in early 2006,²² the infrastructure was in place to formally plan, implement, and evaluate the first-year session, with the intention of incorporating this into a comprehensive IPE curriculum. Nine professions participated in 2006: dentistry, medical radiation sciences, medicine, nursing, occupational therapy, pharmacy, physical therapy, speech language pathology, and social work.

The overall planning, implementation, and evaluation results for this session have been described elsewhere.^{23,24} This paper will focus on the experiences of pharmacy students within this large interprofessional, introductory learning session in 2006. Some discussion is included about the role of pharmacy faculty members and pharmacy students in planning an interprofessional session. Lessons learned, which may guide development and implementation of introductory IPE sessions, are outlined.

DESIGN

Stimulated by participation in an IPE Faculty Development Course in May 2006,²⁵ a pharmacy lecturer assumed leadership of the first-year IPE Planning Committee to plan and implement the session for fall 2006. Representation from the faculty member of each of the 9 health science programs was sought, as well as student representation from the Interprofessional Healthcare Students Association (IPHSA). The student representative brought her own experience from the previous

year's session to the planning and kept the Committee's focus on meeting students' needs and interests at this early stage of their curriculum. Specifically, she explained that the previous session was not well organized and the content lacked structure. The Committee made changes to the 2006 session aimed at addressing some of these concerns.

The 2006 session was held in a theatre near campus for 2½ hours in the late afternoon in mid October. The Committee selected a date and time when students from all professions participating could attend. Students were informed that the session was a required component of the curriculum. However, each program decided what, if any, assessment component would be linked to the session. In pharmacy, we proposed integration with a first-year Introduction to Pharmacy course.

The learning objectives for the session were designed at the introductory exposure level, such that students would be able to describe certain aspects of collaborative competencies (at Bloom's knowledge level),²⁶ and begin to build *foundational knowledge*, as described by Fink.²⁷ Students attending would be able to:

- describe a client's perspective of the health care team
- define one another's professional roles, and
- enumerate aspects of health care from the perspective of different professions

To enable interprofessional group discussion to occur efficiently within the short time and single venue, seating was preassigned. The agenda and teaching strategies are outlined in Table 1. Students were given a booklet upon arrival that briefly described the education and practice roles of each profession represented (available from the author upon request). Much of the content of the session centered around the story of a patient recovering from a stroke and 2 possible discharge scenarios requiring the interaction of various health professionals. (A DVD highlighting the Patient's Story and parts of the scenarios is available at: <http://ipe.utoronto.ca/resources/dvd.html>)

A mixed method presession/postsession research design was adopted to examine changes in students' perceptions of, and attitudes toward, IPE following their participation in the session. To capture baseline data, the presession survey instrument was distributed to each student 1-2 weeks prior to the IPE session. This was achieved during uniprofessional (specific to the individual professional program) class-time when a representative from the study team described the session and evaluation plan. Those wishing to participate in this research component completed the presession survey instrument at that time. Postsession survey instruments were distributed to all students at entry to the session for completion at the close of the session.

Table 1. Interprofessional Education Session Agenda

Activity (Minutes)	Description
Entry and seating of students; discuss icebreaker (30)	Small group (5-6 students) discussion
Welcome/introductory remarks (10)	Didactic
Patient's story – stroke rehabilitation (15)	Experiences with health care system and numerous providers
Discharge scenario A (10)	Introduction by moderator; performance
Small Group Activity - Reflection on patient's story and scenario A (40)	Students work in interprofessional groups of 5-6, then join to clusters of 15-20
Discuss reactions, attributes needed for collaborative care	
Select and write one attribute on banner	
Hoist banners (5)	Moderator – short commentary
Discharge scenario B (10)	Performance
Collaborator Competencies (10)	Didactic
Evaluation process (10)	Completed individually by students
IP Student Organization (10)	Student Leader presentation

Approval was obtained from the University's Research Ethics Board. Students were informed about the proposed study verbally and in a letter at the time of distribution of the presession survey instruments; those students who completed the survey instruments were deemed to have given consent.

The construction of the presession and postsession survey instruments was based on 2 interprofessional instruments: The Interprofessional Attitudes Questionnaire (IAQ)^{28,29} and the Interdisciplinary Education Perception Scale (IEPS).³⁰ The survey instruments also collected information on students' gender, age, professional program, previous experiences with interprofessional education/health care employment, and level of enthusiasm for this type of education. In addition, the survey instruments asked students to respond to open-

ended questions relating to their expectations of (baseline), and experiences with (postsession) this specific interprofessional education program. (Copies of the survey instruments are available from the author.)

Focus group interviews were held with interested students 6 months after the session to explore in more depth emergent findings from the survey data and to begin to explore the longer-term effects of the IPE session. To arrange each focus group, a research associate visited each class to invite interested students to contact her by e-mail. Refreshments were provided as an incentive for attending the focus group. Six separate uniprofessional focus groups were held for students from 5 of the professions, including pharmacy. Questions and probes asked at the focus groups were developed by the planning committee (Table 2).

Table 2. Interview Guide Used in Focus Groups of Participants in an Interprofessional Education Session

Question and Probes
1. What were the most useful aspects of your experience in the first year interprofessional session last October 11th? Probes: What do you view as the purpose or goal? Do you see any particular benefit for the health professional? For the patient? For the system? What would you like to see next in your program related to IPE?
2. What were the least useful aspects of your experience in the first year interprofessional session/program? Probes: How was your profession portrayed? Do you see potential problems or barriers? Do you have unanswered questions? Are there apparent gaps between theory and practice?
3. What should be changed to improve the first year student experience of the interprofessional curriculum? Probes: Scheduling? Organization? Content? What would make it relevant/more relevant?
4. What have you learned from participating in your discipline's interprofessional program? Probes: New knowledge? Change in attitude? New skills? How has this changed your view of the student role and experience of professional training?
5. Are there any other issues you would like to raise? Probes: Have you learned about IP issues in other forums/sessions/courses since the first IPE October session? Have you had new experiences with IPE since October that caused you to reflect on any IP issues – either positively or negatively?

Analysis of data from the open-ended survey responses was undertaken using an inductive thematic approach. Focus group interview transcripts were examined for responses that would enhance our understanding of the findings from the postsession survey in order to help planners understand students' perceptions and insights.

EVALUATION AND ASSESSMENT

The findings presented here focus on the dataset generated from the pharmacy students' open-ended postsession survey responses and qualitative data from a follow-up focus group of pharmacy students. Quantitative data from the IPE scales in the presession and postsession survey instruments for all the student groups involved in this initiative are described elsewhere.²³

Perspectives from the Survey

Of the 1197 students enrolled in 9 professional areas, 914 students (76%) attended the IPE session in October 2006. Pharmacy was the largest of the classes and the best represented with 232 of 240 (97%) attending. If an unusually low attendance rate of one profession (9%) is excluded, the mean attendance was 90% among 8 professions.

The return rate within each class for postsession survey instruments was 59% to 76%, with pharmacy at 72%. All survey instruments had responses to the IAQ and IEPS scales; however, the response rate for each group of professional students to the open-ended questions ranged from 15% to 50%.

Forty-three (18.5%) of the pharmacy students responded to the open-ended questions, providing comments on: what they gained from the experience of IPE, what shortfalls they perceived with this experience of IPE, and what suggestions they had for the session in future. Themes that emerged from their comments are summarized in Table 3. Positive feedback about the content/process of the session indicated that students valued the interprofessional seating plan, booklet describing each profession, and hearing about an actual patient's experience. In particular, students noted that the message from a patient illustrating the need for better communication among the team was very powerful. Related to shortfalls, several students expressed skepticism that the second scenario presented during the session, which was portrayed by a more effective discharge planning team meeting than that involved in the first scenario, was unrealistic.

Related to suggestions for future sessions, students expressed a desire to discuss one another's professional roles in more depth. Although 1 student suggested that delaying the introduction to IPE to later in the curriculum would be beneficial, most of the students felt beginning IPE in the first year was valuable.

Perspectives From The Focus Group

In response to the question regarding whether attending the session changed their knowledge, attitudes, or skills, many of the students responded that they were

Table 3. Themes Identified From Postsession Survey Instruments Completed by Pharmacy Students Participating in an Interprofessional Education Session

Themes within Each Question	Frequency Cited, %
Gains from this experience (69 comments)	
• Importance of collaboration/teamwork/interprofessional care/IPE to benefit patient	30
• Information/knowledge/understanding/appreciation of other health care professions	29
• Importance of patient-centred care/exposure to patient experience/perspective	13
• Chance to meet/interact with other professional groups	12
• Other (eg, positive feedback on session, eye opener, sensitized, preparation for future)	16
Shortfalls from this experience (35 comments)	
• Issues related to content/style of session	26
• Technical/organizational issues	23
• Identified need for further knowledge/skill	20
• Concerns about how to transfer learning to practice	11
• Timing/scheduling issues	9
• Other (eg, lack of enthusiasm by some attending, did not mention other professions not there)	11
Suggestions for improvement (31 comments)	
• Issues related to content/style of event (eg, have more group interaction)	42
• Timing/scheduling issues	16
• Technical/organizational issues	10
• Other (eg, have some socializing, motivate students, add to curriculum, better than expected, liked skit)	32

encouraged by other health professional students' interest in cooperation and that the session made them want to become involved in making interprofessional patient care a reality.

One student expressed surprise that not all of the students understood the importance of IPE and some did not pay attention during the session. Another indicated that, as with a sports team, you need to practice working together so that teamwork can become second nature.

All students agreed that there were benefits for patients in IPE and interprofessional care (IPC), particularly for more complex cases; they were surprised that some current care, as illustrated by the patient's story, was not as collaborative as it should be. When asked if they see any potential barriers to interprofessional work, students indicated that the need to change attitudes would be the most difficult, yet important so that other professionals would be open to working with the team.

In response to the topic of how responsibility may be distributed when practitioners work on an interprofessional basis, students mentioned the legal ramifications of deferring patient care decisions to another professional. They felt that the trust required to share responsibility for care had to be developed by professions working together over time.

When asked to consider ways to improve the session, students noted that they would benefit from being offered more of this type of interactive learning, perhaps by scheduling a series of sessions throughout the year, with smaller groups of students, and a leader for each group. It was also noted that follow-up sessions would further develop and maintain the IPE skills learned and enable application of knowledge together in IPE courses taken in later years.

Related to the time of year the session should occur, some students found completing the session during their first semester of professional education intimidating, others felt the timing emphasized the importance of IPE.

DISCUSSION

The top 3 "gains" that students reported in the survey reflected the 3 session objectives. When comparing pharmacy students' open-ended comments to those made by other students, the themes and relative frequencies were not dissimilar.²³ In particular, the 2 "gains" (importance of collaborative care and knowledge of other health care professions) established a common foundation upon which all the health science students could build competencies throughout their programs. Pharmacy students' comments arising from an early interprofessional workshop

program in the United Kingdom are consistent with our findings, highlighting insights into roles and responsibilities and valuing team and collaborative competencies.¹³

Feedback from students that the second discharge scenario presented in the session was an unrealistic scenario, and that they felt a need for further learning, provide opportunities for individual follow-up within uniprofessional lectures/discussions. A debriefing session shortly after the IPE session was held by some classes and students appreciated this. Other classes required students to write their reflections, which served to reinforce learning. In pharmacy while no specific debriefing was held, we were able to link some of the issues raised at this session to several uniprofessional lectures later in the year. These discussed concepts and an evidence base for IPE/teamwork. Also, we arranged for practice-based teams to give a presentation to the class illustrating effective collaboration. The teams were able to demonstrate that the potentially "unrealistic" scenario seen at the IPE session could become a reality in practice.

The value of involving students in the planning of IPE sessions cannot be underestimated. Their perspective highlighted the importance of informal, social networking opportunities, in addition to formal IPE curriculum, to help break down barriers between professions and encourage development of teamwork. Student representatives also assisted in recruiting other students from senior years to assist in the session.

In response to the pharmacy student data, future plans for the annual IPE session include seeking opportunities to keep the interprofessional student groups created at the session together for further curriculum-related discussions. This would be enabled through online learning management systems, like Blackboard (Blackboard, Washington, DC). In addition, IPHSA plans to take advantage of having all the first-year students in one room by organizing a follow-up event. Past social events that were organized separately from the IPE session may not have been as inclusive in that students may have found the event difficult to attend because of schedule conflicts or were uncomfortable meeting others outside their immediate IPE session group. Efforts will be made to create a database of e-mail contacts for each interprofessional group at the session. This will enable students to maintain communication among themselves and subsequently attend social events with their existing group.

We also plan to formalize the assessment component (eg, include a reflective written assignment or relevant examination questions for term tests since without such, students across all professions may not have the same motivation to attend, or may perceive inconsistent expectations.

Reasons for one profession having only 9% attendance arose because the planning time was too short to: arrange protected time in this profession's schedule, sufficiently communicate the value of attendance, and avoid scheduling of a term test the following day. These issues were addressed the following year when the same profession had 96% attendance and the average for all professions was 91%.

Although having a pharmacy faculty member serve as chair of the planning committee for the IPE session was beneficial in ensuring the evolving role of the profession is recognized, in the interests of effective collaboration and in role modeling of an interprofessional team, the chair position should rotate to a faculty member of another profession, perhaps on a bi-annual basis.

Faculty involvement with this single IPE session has fostered collaboration and opportunities in other areas, such as membership on the Interfaculty Curriculum Committee (an interprofessional committee of faculty members representing each of the health science programs, functioning as an advisory and approval body for the IPE curriculum), and acknowledgment as a faculty "advisor" to colleagues interested in design of other IPE sessions. As discussed in the AACP Report on IPE,³¹ faculty development for IPE is important. At UT, an IPE faculty development course provides a foundation for many faculty and practice-based clinicians to strengthen leadership skills.²⁵ Involvement of faculty members in IPE initiatives is also formally acknowledged in annual review procedures.

This curricular evaluation contains a number of limitations. Most significantly, the paper is based on self-report data from a subset of students from the pharmacy class. The focus groups were held 6 months after the IPE session. Since only 3 of the 232 pharmacy students who attended the session participated in the focus group, their comments cannot be considered representative of the class. However, their responses did echo those from the other groups; thus, insights generated from this and the other interviews were considered of value in helping the planning committee to better understand how effective learning was and how changes could be made for the future. While the response rate for the open-ended questions was low, themes arising were consistent with those from other student groups and session objectives. More time could be provided to students to complete these evaluation forms.

Based on the data, as well as our experiences as planning committee members with this IPE session, the following "lessons" related to the development and implementation of an introductory IPE session were learned.

Designing the ideal IPE session may be just that—an ideal—and not an achievable reality. However, with each successive year, review of learner comments and re-examination of process and content needs to be done, striving to provide a better experience for subsequent students. While it would seem that class sizes and number of professions involved are inversely correlated to the ability to provide an ideal IPE program, this should not discourage planners.

Having students interact in small groups for a longer time to enable more in-depth discussion would likely have improved the experience. This is balanced by the logistics of finding locations and organizing facilitators for such an arrangement. Encouragingly, Anderson and Thorpe¹³ have described university-based workshops for 898 students, arranged in groups of 36 students. Opportunity for in-depth interprofessional discussion is provided at UT in year 3 for the pharmacy students.¹⁰ Holding a "debriefing" with individual classes shortly after the IPE session may address some unanticipated concerns and provide an opportunity for faculty members to reinforce some issues. Integrating IPE into the regular uniprofessional curriculum, with relevant assessment to provide incentive to attend, and continuity from one session to another, will reinforce interprofessional learning.

Students within and across professions may have diverse starting points and perceptions related to the need for IPE. However, based on some of the comments from pharmacy students, they also have insights and perspectives that enable rich discussion on the topic of IPE concepts, beginning from their first year. Indeed, students in the early stage of their health care programs have a strong willingness to engage in IPE.³²

Involving students in the planning process helps to identify the best approaches to meeting their learning needs, and to organize some related informal activities that will reinforce collaborative relationships. Student organizations, such as described at University of Alberta, within their InterProfessional Initiative,³³ or nationally across Canada,^{34, 35} are important partners in IPE. Pharmacy student experiences as part of a large introductory IPE session confirmed attainment of objectives of the session and provided useful insights for future IPE planning.

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