

Physician Assistant Students' Views Regarding Interprofessional Education: A Focus Group Study

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Purpose: The purpose of this study was to identify and report physician assistant (PA) student experiences, learning, and opinions regarding interprofessional education (IPE). **Methods:** A series of open-ended questions was constructed and designed to solicit PA students' opinions about the need for IPE, preferred teaching strategies, and implementation methods, using focus group methodology. We used two sets of questions, one for students who had participated in a formal geriatrics IPE experience (n = 12), the other for students who did not have the experience (n = 10). Focus group sessions were audiotaped and transcripts coded. Key themes were identified and ranked. **Results:** Twenty-two students participated in four focus groups. Theme saturation was reached and six overlapping themes emerged: (1) PA students learned the most about occupational and physical therapist roles; (2) They were surprised at other professions' lack of knowledge about the PA profession; (3) They strongly expressed that IPE should be required early in training; (4) They expressed preference for direct patient care with other health professions students, with trained faculty oversight; (5) They requested diverse clinical settings; and (6) They identified the optimal number of different students in a single IPE experience as four/five. The group exposed to geriatrics IPE noted the critical importance of faculty training for facilitation, while the nonexposed group emphasized the challenge of limited curricular time. **Conclusion:** PA students recognize the importance of IPE and request early, required clinical experiences led by well-trained interprofessional faculty with the option to choose clinical sites. Student preferences should be considered in IPE curriculum design.

INTRODUCTION

The delivery of quality, cost-effective medical care will increasingly rely upon team-based care. Interprofessional education (IPE) and collaboration are strategies recommended to increase the efficacy of health care teams.¹ IPE was recently identified by the Physician Assistant Education Association (PAEA) and the American Association of Physician Assistants (AAPA) jointly convened workforce task force as a key component to the future expansion of the physician assistant (PA) profession.²

IPE is commonly defined as “any teaching and learning activity that actively

promotes collaborative practice” or “occasions when two or more professions learn with, from, and about each other to improve collaboration and quality of care.”^{3,4} Important principles for IPE curricula cited in the recently released *Interprofessional Education Collaborative (IPEC) Core Competencies for Interprofessional Collaborative Practice* report are being (1) patient-centered, (2) community/population-oriented, (3) relationship-focused, and (4) process-oriented.⁵ The most commonly cited competencies include communication skills, understanding the roles of other professionals, team-work skills, conflict resolution, willingness

Feature Editor's Note:

Interprofessional education (IPE) has been identified as an important strategy to prepare future health care workers to be highly functioning members of the health care team. Developing methods and techniques to help physician assistant students obtain the important interprofessional education competencies can be very challenging for PA program faculty. This brief report describes one program's findings regarding students' experiences with IPE activities. The findings identified from the study serve as a basis for other programs to consider when designing effective IPE activities for their learners.

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to collaborate, and mutual trust and respect.⁵ Innovative curricula are needed that promote interprofessional collaboration and have been advocated by the Advisory Committee on Training in Primary Care Medicine and Dentistry.⁶

METHODS

At the Keck School of Medicine's Primary Care Physician Assistant Program, we solicited student opinions about how, where, and when IPE should be introduced into the curriculum. The study was conducted at the end of an 8-month period during which 12 of 50 second-year PA students had volunteered to participate in an Interprofessional Geriatrics Curriculum (IPGC). The formal IPGC curriculum consisted of three half-day, faculty-facilitated interprofessional sessions, each focused on a key topic (falls, cognitive assessment, and polypharmacy). IPGC PA students worked in teams that included physical therapy (PT), occupational therapy (OT), medical, and pharmacy students to interview and assess community-dwelling residents with different levels of functioning and cognitive impairment. They followed the residents over 8 months. Non-IPGC students had the opportunity to volunteer in a family medicine student-run teaching clinic involving up to five other health professions: pharmacy, OT, PT, medical, and pharmacy students in an underserved setting. We conducted focus groups to capture both IPGC and non-IPGC student opinions about the relevance of IPE within the PA curriculum and their perceptions about effective curricular delivery methods. Our goal was to generate a framework for designing future IPE experiences to effectively address PA students' learning needs and incorporate their preferences.

The Keck School of Medicine of USC Institutional Review Board approved the study.

Focus Group Method

The purpose of focus groups is to elicit group opinions on issues of common interest, using peer identity to encourage expression of common beliefs and to understand the degree of consensus or controversy around the issues or questions.^{7,8,9} We aimed for typical case sampling using a purposive recruitment strategy to reach a sample representative of the student class. Participants were 22 second-year PA students recruited via a series of emails from an administrator and offered the incentive of a free lunch and textbook. Purposive sampling resulted in two focus groups with all students having participated in the IPGC during the past year (IPGC group, $n = 12$) and two focus groups with students who had not participated in this curriculum (non-IPGC group, $n = 10$). The four focus groups comprised five to six students each and were conducted on two consecutive days. The focus groups followed standard methods, encouraging an informal atmosphere, natural conversation, opinion differences, and comments from silent members.¹⁰ Focus groups were conducted in English using a prepared script and were audio-taped, with participants identified only by assigned letters. Two experienced moderators each facilitated two focus groups.

Consistent with focus group methodology, the researchers first constructed semi-structured, open-ended questions addressing the domains pertinent to the research question using the literature as a guide.^{1,3,11,12} Through a process of discussions with the program director and other IPE committee faculty, the questions were refined, rephrased, and/or re-ordered. The two sets of students, with and without the IPGC experience, were separated, and slightly modified key questions were used to account for the additional IPGC curricular exposure. The final questions used represented four main

domains (ie, past and current exposure to IPE, relevance of IPE to future practice, important learning and best instructional strategies, and timing during training) of inquiry for the two groups (see Table 1 a/b). In all focus groups, the definition of and differences between team-based care and IPE^{1,2,3} were provided by the moderators.

Data Analysis

Data gathering and data analysis occurred simultaneously.¹⁰ Data triangulation was achieved by referring to audio tapes, transcriptions, notes, and independent analyses of the transcripts.^{7,13} Member checking was included at the end of each focus group when the moderator summarized the main points of the discussion and asked group participants to confirm and/or modify the summary.⁹ Focus group transcripts were typed and independently coded for key themes. Each of three coders derived themes according to the key questions for the focus groups and listed the themes. The coders then met and reviewed the data with an additional researcher who provided additional input. A final common list of key themes for each domain/question was constructed using an iterative process. Grounded theory was used to guide interpretation of themes and concepts and to develop a framework for understanding students' opinions.¹⁴ Our goal was to identify recurring patterns and comparisons across groups, while acknowledging outliers. Resolution of disagreements was obtained through face-to-face and email discussion with the noncoding faculty. The themes and interpretations reported represent the results of this process.^{9,10,13} As a final validation procedure, one to two students from each of the four focus groups were asked to perform further member checking by examining the theme lists to ensure that no important points were missed.

Table 1. Question Keys for Focus Groups

1a: Interprofessional Geriatrics Curriculum (IPGC) Group Question Key	
Questions	Probing Questions
1. In your exposure to medical, pharmacy, occupational, and physical therapy students, what did you learn that was new or surprising?	What were you surprised about? What did you learn that was new about roles? How will you apply this to future practice?
2. What aspects of your patient's care was most amenable to team-based care?	How would the care have been different if the patient were cared for by individuals instead of a team?
3. What unexpected events were there during the IPGC experience?	What issues about team dynamics were unexpected? What did you learn about yourself and your team members?
4. How would you design an interprofessional experience during physician assistant training?	Where would you place IPE in the curriculum? How many professions are optimal for these experiences? Which ones? What are best settings for IPE?
1b: Non-IPGC Group Question Key	
Questions	Probing Questions
1. What past experiences have you had in IPE or team-based care?	Tell us more about these experiences. What did you learn? What surprised you about other professions? Should IPE be formally taught in PA education?
2. If IPE experiences were available in your training, what should they look like?	When should IPE experiences occur? How much teaching should be in the classroom? What clinical experiences might be most effective? How many professions should be included? Which ones?
3. What methods of instruction might not work, or work less well?	Why would this not work? Why is this important? What would you avoid?

RESULTS

Four focus groups involving 22 students (overall class size = 50) were conducted over 2 days; 15% of participants were male (overall class is 27% male).

Ethnicities represented in the focus group were as follows: 35% white, 35% Asian, 10% Hispanic, and 20% other (overall class ethnicity distribution is 38% white, 26% Asian, 25% Hispanic, 1% Black and 10% other). Mean age of participants was 24.7 years (mean age of class was 24.1 years). Theme analysis

by the three coders indicated theme saturation. Each of the three coders identified between one and five themes per question. After the discussion, each question was associated with a range of two to five themes for the two sets of students (see Table 2 a/b). Member checking confirmed that no important themes were missed.

IPGC Focus Group Theme Findings

Within the IPGC group, students indicated they learned most about the roles

of OT and PT, less about pharmacy, and least about physicians during their IPE sessions. They were surprised by the lack of understanding and knowledge of PA roles and their need to explain the PA roles to other professions including faculty. During the IPGC experience, they also reported learning more about their own professional roles within the health care team. Narratives reflecting these themes are provided below:

“Definitely agree that I learned the most from PT and OT interactions

Table 2. Domains and Themes for Focus groups

2a: Interprofessional Geriatrics Curriculum (IPGC) Group – Themes	
Question Domain	Themes
1. Learning and roles	Learned most about occupational and physical therapy Surprised by lack of knowledge about physician assistant role Learned more about own (physician assistant) role in health care team
2. Patients and Team-Based Care	Geriatrics is complicated setting for team-based care Older patients benefit more from team-based care Redundancy occurs in team-based care
3. Unexpected findings in IPGC experience	Lack of consistency among teaching faculty Unclear roles of students within teams Need for team preparation before seeing patient
4. How would you design Interprofessional Education experiences?	Should be early in curriculum Should be required and predominantly clinical Ideal IPE team involves four to five professions IPE should be offered in a variety of clinical settings
2b: Non-IPGC Group - Themes	
Question Domain	Themes
1. Previous interprofessional and team-based experiences	Previous work in emergency or primary care setting Student-run clinic
2. Suggestions for required interprofessional learning experiences	Should be early, first semester, during curriculum hours (not out-of-hours) Should have minimal didactic component Should be primarily clinical, applicable to future patient care Should be offered in a variety of clinical settings Should involve four to five health professions
3. What teaching methods are less attractive/effective for this topic?	Didactic Nonclinical assignments outside of patient care setting

combined...before this activity, I had no idea...which patients to refer to what profession..."

"I encountered a faculty member yesterday who seemed to not really know what PA school was about. And I was a little surprised by that..."

"I was surprised that my medical student didn't know what a PA was."

PA students expressed growth in and confidence about their own knowledge of their role in the health care team in comparison with (first year) medical students, as follows:

"The med student that I worked with was surprised about how much we knew."

"The med student actually relied on me...we are kind of a team."

"My medical student was a first-

year student. He was a little timid...I was a little surprised... it was a good opportunity to share with him what we do...even try to help him out."

The IPGC group expressed conflicting feelings about the geriatric setting for IPE. It was particularly challenging for the team-based model because of cognitive impairment of patients, necessitating coordinated efforts at obtaining consistent histories. And yet, this very

challenge also showed students that team care in this setting was essential to avoid errors. This conflict was demonstrated by the quotes below:

"My patient also had moderate cognitive impairment. Especially in the history taking, it was very inefficient as a group."

"...one good thing about doing (IPE) in the geriatric setting is that they are very complicated patients, and so having a team that can evaluate a lot of different things is good..."

One unexpected observation from the IPGC group was inadequate faculty training to teach IPE, expressed as the failure of the faculty advisors to consistently define roles before each patient encounter and to allow for a team "huddle" before meeting with the patient. For some students, this translated into negative attitudes toward faculty advisors and dysfunctional team dynamics.

"...they (faculty) were not clear about our specific roles, and what we were to do...I didn't know if I was supposed to speak up or just listen."

"...every advisor had a different style. Some left us to our own devices, and some were dominant."

"The faculty should really know what the (health professions) roles are."

"She (the new faculty member) just kind of took over, and it was not a pleasant experience..."

In describing an "ideal" IPE curriculum, the IPGC students consistently suggested that curricula should be introduced early (first semester), required, incorporated into regular class hours, and *primarily clinical*, involving *actual patient care* (guided by IPE-trained faculty from different health professions), and conducted with other health professions students. Students strongly expressed a desire to have diverse clinical settings, such as emergency, primary care, or

chronic care settings, within which to be exposed to IPE before beginning formal clinical rotations. Additionally, they identified four to five different professions as an "ideal" number for IPE.

"...it is essential to have these experiences as part of the curriculum...It can help us prepare to be quality PAs."

"I think it (IPE) needs to be incorporated in the first year...more hands-on clinical experiences and learning more about other professions."

"I think five (professions)...is a really good number (for IPE)."

Non-IPGC Group Theme Findings

Nine of 10 students in the non-IPGC group reported exposure to IPE within the past year, in the form of one half-day at the student-run clinic. Students noted lack of understanding among non-PA professions about the PA role:

"It surprised me how little other professions knew about our profession. They didn't really know what we were capable of and what training we had, what level of service we can provide..."

"I get that question all of the time: What do you do? What are you able to do? What are your restrictions?"

Students with exposure to IPE expressed the most learning from OT and PT students, exemplified by:

"OT and PT work with the patients so much more than we could realize...providing a really thorough aspect of care with daily tasks of living ..."

"It was really surprising to see PT in wound care management... I agree that PT and OT can be really utilized in patient care."

Based on their limited IPE exposure, non-IPGC students voiced the opinion that an IPE curriculum should be

required early in training, ideally in the first semester. They emphasized the need to minimize didactic teaching such as "being lectured to" and instead use interactive forums to introduce IPE and health professions' roles. Like the IPGC group, this group stated that most of the IPE experiences should be clinical, involve direct patient care, and include direct interaction with other health professions students. They also stressed that PA students should be given a choice of clinical settings such as primary care, surgery, and rehabilitation settings. Sample quotes include:

"To have it more in our first few semesters...the student-run clinic was so impacting because we could actually see them doing what their job entails."

"I will be willing to listen to someone...giving a 20-minute presentation on their role and really capitalizing on our time."

"I think (IPE experiences in) orthopedics or surgery would be essential because they use a lot of OTs and PTs for rehabilitation... getting patients back to activities of daily living..."

Combined Themes from Both Groups

Looking across both groups, we found six overlapping and three nonoverlapping themes. Overlapping themes were (1) Of the four professions PA students worked with, they learned most about the OT and PT professions; (2) There was a lack of knowledge among other professions about PA roles; (3) IPE should be required and introduced early; (4) IPE should be primarily clinical; (5) IPE should be offered in a variety of settings; and (6) Optimal number of professions was four to five per experience. The IPGC group noted the critical importance of faculty training, while the non-IPGC group emphasized the need to avoid nonclinical assignments and the challenge of limited curricular time.

DISCUSSION

Our study purpose was to elicit student opinions about strategies to deliver future IPE curricula within the PA program and to consider student preferences in curricular implementation. We identified common themes across the two groups, but there were also distinct differences. There was agreement from all students that IPE should be required and introduced early in PA training, even before basic science education was completed.

Our study is unique in soliciting PA student opinions about IPE and was conducted in the context of some exposure to IPE, so that students had knowledge of IPE to make a judgment about its relevance to future practice. Even the small difference in IPE exposure (one formal and structured, the other brief, informal, and less structured) was associated with differences in knowledge and opinions, begging the question of “dose effect” of IPE exposure. An unexpected finding was that the IPE exposure strengthened students' own professional identity and increased their awareness of the need to educate other professions about their own roles. The IPGC group identified faculty development as a key requirement of teaching, an issue also emphasized by different recent studies and policy makers.¹⁶⁻¹⁹ Student-identified themes about IPE (eg, role recognition, team function skills, patient care) coincide with key recommended IPE competencies.^{3,20,21,22} This congruence underscores the importance of involving students early in curriculum design to increase buy-in, adoption, and effectiveness of learning approaches.

The strengths of this study include appropriate representation of the PA student demographic, theme saturation, data triangulation, and a valid, systematic, qualitative approach. Faculty consensus for theme analysis was consis-

tent and high. One study limitation is representation from a single program focused on primary care in an urban setting. Moreover, faculty perspectives are not represented in this study, nor are the opinions of students from other health professions. Future studies will compare views of PA students from other programs and other health professions students, the gap between student and faculty perceptions for delivering effective IPE, and appropriate evaluation methods to determine IPE program effectiveness.

We suggest that student opinions be incorporated into future planning of IPE curricula. We conclude that a representative sample of PA students with recent informal and formal IPE experiences express positive attitudes toward IPE and agree on the importance of requiring IPE within their training. These PA students recommend early clinical exposure in interprofessional learning environments that involve training with three to four additional health professions in clinical settings. They advocate for faculty development in IPE. Their views are consistent with the current IPE research literature and recommended policies.^{11,12, 18, 21}

ACKNOWLEDGEMENTS

This study was supported by grants from the Health Resources and Services Administration Bureau of Health Professions grant, Physician Assistant Training in Primary Care, and a research grant from the National Commission on Certification of Physician Assistants (NCCPA) Health Foundation. We thank our PA student class of 2013 for their generous support and participation. We are grateful to Constance Goldgar, MS, PA-C, for her meticulous review of the manuscript.

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