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The Power of a Team: Using Unfolding Video Cases in Interprofessional Education for Advanced Health Trainees

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Abstract

Introduction: Few interprofessional (IP) learning opportunities are designed specifically for advanced health learners who are early in their training yet have already had some clinical experience. This group of learners requires activities that are didactic based but extend beyond the introductory IP curricula typically geared towards prelicensure students. This highly interactive curriculum aims to fill that gap in the literature. **Methods:** An interprofessional case-writing team created two unfolding video cases—a mother-infant dyad seeking care and an elderly non-English-speaking man experiencing disjointed care—for a large IP event with doctors of nursing practice (DNPs), pharmacy practice, and dental science, masters in social work, and physician assistant (PA) trainees, individualized to learner interest. The team also developed a highly detailed faculty guide, including specific talking points, to assist IP teams of faculty facilitators. Learners were evaluated using a Likert-scale postsession survey and open-ended questions. Qualitative data were analyzed for themes related to the objectives. **Results:** Survey results indicated that learning objectives were met and students were highly satisfied with the overall curriculum. Mean scores for organization, utility, and facilitation effectiveness were all above 4.6 (range: 1-5), with the DNP, pharmacy, and PA students indicating higher levels of satisfaction compared to the other professions. Faculty feedback was very positive, particularly with respect to the faculty guide. **Discussion:** Challenges were concentrated around implementation of the curriculum rather than the curriculum itself. This curriculum can be used with a variety of learners with minimal adaptation of discussion questions.

Keywords

Interprofessional Education, Unfolding Case, Advanced Health Trainees

Appendices

- A. JIT PowerPoint Slides.pptx
- B. Faculty Guide.docx
- C. Case Notes.docx
- D. Jessica and Caleb Video .mp4
- E. Mr. Kim Video.mp4
- F. Resource Sheets.docx
- G. Evaluation.docx

All appendices are peer reviewed as integral parts of the Original Publication.

Educational Objectives

By the end of this curriculum, learners will be able to:

1. Place the interest of patients and populations at the center of care while honoring the confidentiality, dignity, privacy, and unique culture and values of patients and respecting the expertise of other health care professionals.
2. Clearly articulate the roles and responsibilities of the interprofessional health care team members and how they work together to provide team-based care to patients, families, and other health care professionals.
3. Recognize how their own uniqueness (experience, culture, power) contributes to effective communication, conflict resolution, and positive interprofessional relationships.
4. Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.

Introduction

The growing evidence that team-based care improves patient satisfaction, health outcomes, and health care utilization has led to a wealth of interprofessional curricula.¹ Historically, much of the curriculum development in this area has been focused on prelicensure students. With the new Institute of Medicine model highlighting the various points along the learning continuum that necessitate interprofessional

education (IPE),² efforts on team-learning opportunities in clinical settings are increasing. However, in comparison, didactic and clinical interprofessional curricula and learning opportunities designed specifically for advanced health trainees are minimal.^{3,4} Advanced health trainees—such as graduate nursing, social work, physician assistant (PA), and dental students who have had some clinical experience—require curricula along the learning continuum that are more advanced than those typically offered to prelicensure students, which are more foundational in nature.

IPE efforts have historically been concentrated in acute care settings.⁵ Many of the published curricula in *MedEdPORTAL* and other journals are focused on prelicensure students, clinical settings, quality improvement, or simulation.⁶⁻¹⁰ Over the past several years, efforts have increasingly begun to focus on understanding the role of the team, teamwork, and communication in addressing complex patient scenarios in community-based care settings.¹¹ Community-based providers experience the same challenges in collaborative teamwork and even may be considered more at risk for communication errors or gaps. Team members typically are not colocated or may work in different health care agencies or systems, presenting challenges in communication. Community-based primary care clinics provide more episodic care with high-volume demand, which also creates a context for potential miscommunication, unintentional gaps in care, and/or error. Thus, early interprofessional learning in advanced health trainees should utilize authentic scenarios that focus on understanding roles across professions and beginning competency in communication with professions encountered in primary care or community-based settings. Curricula intentionally designed for beginning learners in advanced health trainee programs are a noted gap in the educational resource literature.

The overarching goal of this program was to offer introductory exposure to advanced health professions trainees on how teams can work together to provide a holistic approach to a complex community-based patient scenario. This curriculum uses video-based unfolding cases to support scaffolding and facilitate collaborative dialogue among advanced learners. Participants in this activity included students in the doctor of nursing practice (DNP), pharmacy, social work, PA, and dentistry programs. The University of Washington Center for Health Sciences Interprofessional Education, Research and Practice has an extensive history of bringing together teams of faculty to create, plan, and implement learning opportunities across the health professional student learning continuum. The center's teams bring expertise in case development, faculty training, and student engagement for health professions trainees. Supported by funding from the Health Resources and Services Administration, faculty decided to adapt two real-world scenarios to address the above-identified gap in curricula for advanced health professions trainees early in their programs.

We convened an interprofessional faculty team to discuss gaps in the members' respective health professions curricula and determined that complex patient scenarios with underlying mental health concerns were a common gap across professions. This educational program was created to meet those needs in a meaningful, real-world scenario that engaged multiple health professions. We elected to do an in-person session in order to provide a face-to-face opportunity for learners to engage in meaningful discussion related to a case. Two cases were adapted for this program, with contributions from all health professions teams to ensure accurate and realistic content was included. Our approach to developing the overall educational activity drew from principles of adult learning theory (learners are self-directed),¹² experiential learning (active learning approaches crystallize learning),¹³ and reflective practice (assumptions and biases are uncovered through activities that support reflective thinking, necessitating the creation of safe environments to support learning).¹³

This educational opportunity builds on prior experiences of our team by creating authentic learning experiences necessitating a team approach. We used the University of Washington IPE Curricular Framework (from J. Danielson and M.A. Willgerodt, unpublished material, 2018; see the [Figure](#)) that incorporates the Canadian IPE learning trajectory by aligning learning activities with the Interprofessional Education Collaborative (IPEC) Expert Panel Core Competencies¹⁴ and learning continuum, to inform the

development of the curriculum. We chose to utilize unfolding cases that require active participation to support experiential learning and facilitate immersion and collaboration. Thought-provoking questions and discussions that are learner driven with the presence of a faculty member align with adult learning and reflective practice principles. Video cases enable learners to engage and work more effectively by providing appropriate involvement, participation, and challenges to learners. Dror, Schmidt, and O'Connor noted that when using video alone, video plus lecture, or video plus interaction, students in the last group had higher posttest scores compared to the other groups.¹⁵ Furthermore, technology such as videos also permits scaffolding because of the ability to pause and resume in a way that is more efficient than using other forms of simulation. Finally, learning is more effective with conversational or informal tones compared to a formal lecture format. Thus, our team chose to create video vignettes of unfolding cases. Importantly, our team's prior experience had shown that these kinds of early-exposure activities enhance awareness and provide a foundation for more sophisticated team-learning activities later in educational programs.

Figure. Interprofessional Curricular Framework (from J. Danielson and M.A. Willgerodt, unpublished material, 2018).

Methods

This curriculum was created to address the educational gaps noted earlier: the need for IPE curricula designed for advanced health trainees and the need for content appropriate for learners early in their advanced educational trajectory, as well as in the context of community-based primary care. We created two unfolding cases so students could choose one relevant to their interests and intended specialty. Both showcased the complexities inherent in holistic care while emphasizing the importance of understanding roles and values across professions, as is critical for learners early in their advanced training to understand. The target audience for this curriculum was students in DNP, pharmacy, social work, PA, and dentistry programs, who were early in their training but had some clinical experience. An interprofessional group of faculty facilitators led the session activities and evolving discussions. Facilitators were trained using the just-in-time PowerPoint slides (Appendix A), which included a brief overview of IPE definitions, rationale, and the IPEC Core Competencies.¹⁴ The learning objectives were reviewed, followed by a step-by-step overview of the 2-hour educational program. Faculty facilitators were also given a comprehensive

faculty guide (Appendix B) that provided logistical details, learning objectives, required materials, and room setup, as well as a detailed time line of the session. Also included were detailed instructions on the facilitator's role, facilitation tips, and how to manage the overall discussion. The faculty guide additionally included a case overview. Each scene was broken down, with a summary of the video content, to provide more specific instructions on how to frame and introduce the scene. This was followed by discussion questions and the learning goal for each scene. Finally, to assist the facilitators, talking points specific to each profession were included after each scene so that facilitators would feel prepared to address profession-specific questions.

The two cases involved a mother and newborn infant seeking care (Jessica and Caleb) and an elderly immigrant man with oral complications (Mr. Kim). The Jessica and Caleb case centered on a new young mother who, at age 20, gave birth to Caleb at 38 weeks. Jessica wants to transfer care of her newborn to the shelter where she is currently residing. She is experiencing challenges around breast-feeding, is fatigued, is not eating well, and is experiencing gum bleeding. She has minimal social support. The Mr. Kim case centered on an elderly Korean immigrant living in an independent community-based living facility with his wife. He has several chronic diseases and sees multiple providers. He is experiencing severe dental carious lesions as a result of additive xerostomia effects from his multiple medications. This case highlighted the challenges of working with non-English-speaking populations and lack of communication across providers.

Trainees were provided with case notes (Appendix C) in advance of the session. Small interprofessional groups of six to eight students began with an icebreaker activity described in the faculty guide (Appendix B) focused on reflecting upon and sharing roles/responsibilities and training of health professions. Next, facilitators introduced the case and reviewed the case notes with the trainees. The first vignette of the video (Appendices D & E) was played, and the facilitator used the questions provided to initiate discussion. The facilitator then guided the students by facilitating interaction and promoting reflection, while remaining cognizant of the goal outlined in the faculty guide. Each vignette was played in succession after discussion. The groups then convened in a larger room, and faculty facilitators led a two-stage debrief, as described in the facilitator guide (Appendix B). First, they debriefed the unfolding case, asking questions such as: "What were the strengths and challenges working as a team where each member has a unique role/responsibilities, when collaborating on a complex patient/family-centered care plan?" Second, they debriefed the entire session, asking questions such as: "Overall, what did you like about the session today? What went well? Overall, what would you have wished was different? What do you feel like you need or would like to develop competency in coordinated care, teamwork or collaborative practice?" Faculty facilitators made notes on flip charts to help learners reflect on each other's comments. At the end of each debrief section, the faculty facilitator summarized the comments. At the end of the session, trainees were given resource sheets (Appendix F) to use when caring for similar patients and were asked to complete an evaluation form (Appendix G).

Results

The curriculum was implemented four times with a total of 180 interprofessional trainee participants. Students were first-year DNP, second-year pharmacy, first-year PA, second-year dental, and a combination of first- and second-year social work students. Only two PA students and six dental students ultimately participated because of unanticipated scheduling conflicts. Twenty-three faculty facilitators were trained. Students were asked to evaluate the session's organization, perceived utility to future practice, and facilitator effectiveness on a 5 point Likert scale (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neutral*, 4 = *Agree*, 5 = *Strongly Agree*). Learning outcomes were evaluated qualitatively through written feedback provided by the students. Faculty also participated in the evaluation of the curriculum by engaging in a scheduled debrief 2-3 weeks after the curriculum was implemented. Because of the numerous faculty involved in the implementation of the curriculum, several debrief sessions were scheduled to provide opportunities for maximum participation.

Table 1 displays the quantitative evaluation scores of the sessions by participating professions. More DNP and social work students participated (84 and 49, respectively), whereas learners representing dentistry and PAs were the fewest in number (six and two, respectively). Mean scores for organization, utility, and facilitation effectiveness were all above 4.6, with the DNP, pharmacy, and PA students indicating higher levels of satisfaction compared to the other professions. Overall, results demonstrated that the experience was positive and helpful to future practice. Qualitative data were obtained to gain a sense of learner reactions (**Table 2**). Learners were asked to share one thing they had learned that they would apply in future practice, as well as their overall perceptions of the experience. Responses were analyzed and coded by learning objective. The majority of the student comments ($n = 232$) reflected an appreciation of the shared and unique values of each profession (Objective 1), followed by a better understanding of the roles and responsibilities of the health professions in their group ($n = 161$; Objective 2). Fewer comments were reflective of the remaining objectives: recognizing uniqueness of role in contributing to communication and relationships ($n = 133$; Objective 3) and developing shared accountability for the care of the patient ($n = 74$; Objective 4). Student comments reflected an understanding of the importance of collaborative practice in providing quality comprehensive care. Other feedback from the students further validated our previous experiences, indicating that the students appreciated the opportunity to learn from other students, would not have recognized the value of such learning opportunities had they not participated, and desired shared learning opportunities throughout the curriculum. One student expressed having been burned out in her program and said that participating in and reflecting upon this curriculum reignited her passion for her chosen health care profession. Other comments from students centered on appreciating the opportunity to be with other health professions students, developing a deeper understanding of the need for collaborative practice, and wanting more opportunities and time to delve deeper into exploring ways to partner with one another to deliver high-quality care. A number of students expressed a desire for several quarter-long courses with other professions students.

Table 1. Mean Evaluation Ratings by Profession^a

Profession	N	Well-Organized	Useful and Relevant	Effective Facilitator
Dentistry	6	4.50	4.50	4.33
Doctor of nursing practice	84	4.73	4.80	4.69
Physician assistant	2	5.00	5.00	5.00
Pharmacy	34	4.62	4.53	4.71
Social work	49	4.43	4.57	4.55
Unmarked	5	4.40	4.60	4.80
All professions	180	4.61	4.66	4.65

^aRated on 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*).

Table 2. Qualitative Comments by Learning Objective

Objective	Comments
1. Place the interest of patients and populations at the center of care while honoring the confidentiality, dignity, privacy, and unique culture and values of patients and respecting the expertise of other health care professionals.	<p>"I learned more about the roles of the other professions and importance of including everyone's perspective from the beginning."</p> <p>"Valuing others' expertise. Putting the patient at the center of the team."</p> <p>"Learned how assumptions across disciplines play an important role in how coordination of services work out."</p>
2. Clearly articulate the roles and responsibilities of the interprofessional health care team and how they work together to provide team-based care to patients, families, and other health care professionals.	<p>"Learning about the limitations and barriers to each profession . . . was valuable."</p> <p>"Created a holistic plan with other health care providers."</p> <p>"We can be very thorough when each team member participates."</p>
3. Recognize how one's own uniqueness (experience, culture, power) contributes to effective communication, conflict resolution, and positive interprofessional relationships.	<p>"Each person brings knowledge and expertise from their field, which can enrich the dialogue between the professionals."</p> <p>"Coming from social work, these are conversations we are having amongst ourselves, but not necessarily with other disciplines - So, really thinking about how to apply this practically, because it seems difficult."</p> <p>"This was a great exercise. . . . I find that communication between Social Work and MDs can be difficult and disjointed."</p> <p>"Social work and nursing tend to work together well . . . the majority of issues that arise (in my work place) involve physicians."</p>
4. Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.	<p>"We all see the same patient with a different lens."</p> <p>"We were able to develop new ideas which decreases the risk of missing something."</p> <p>"Coordination of care is a necessity, not a nice 'extra' thing to do for patients."</p>

Evaluative comments from faculty facilitators confirmed the need for interprofessional learning opportunities across the learning trajectory, as well as for constant vigilance in modeling the IPEC competencies and collaborative behavior. One faculty noted, “Students talked a lot about the fact that they are not encouraged in any of their classes to think about contacting other professionals. There was a lot of talk from some [profession] students that they were being instructed to always think about who would pay for anything they did.” Faculty facilitators also discussed how students were continuing to feel the effect of the interprofessional learning experience by raising questions about other professions in subsequent classes.

Students and faculty also provided constructive evaluative comments that centered on logistical and content concerns. Students felt that the location was not centralized enough and demonstrated a bias towards a certain profession, that other professions (e.g., medicine and nutrition) should have been included, and that groups needed more equal representation from each profession. Regarding the content, some students felt that one of the videos depicted dentistry in a negative light, would have preferred a more “complex” case, and would like more guidance on how to engage in collaborative practice when teams are not colocated. Faculty felt that there was a disparity in experience level of students within professions that impacted how other professions learned about each other. For example, there was wide variation in practice experience in DNP students, and some groups required more faculty involvement to teach others about the DNP role while others did not. Overall, formative evaluations were more positive than negative.

Discussion

This curriculum was formatted to engage the expertise of the interprofessional team of students such that they relied on their colleagues in order to enhance their holistic understanding of the patient scenario. The curriculum represents an efficient way to help learners appreciate the importance of being attentive to psychosocial issues that impact well-being and health and of engaging with patients to provide holistic care while instilling the value of team-based collaborative care early on in advanced health professions training. The cases were developed with an interprofessional team of faculty to ensure they were authentic, meaningful, and relevant to each of their professions, as is best practice.¹⁶ Case development went through numerous iterations that took time and were logistically challenging to navigate, but feedback from faculty and students confirmed the relevancy of the cases and underscored the importance of intentionality and systematic thoughtfulness in developing interprofessional curricula. Using an unfolding case format provided the scaffolding necessary for students to gradually meet the learning objectives and allowed them to witness how different professional providers play unique and complementary roles in supporting patients in holistic care. Using videos for the unfolding cases provided a more interactive method that optimized interprofessional learning. The videos made the patient experience come alive in a way that allowed students to understand the importance of team-based care. The faculty facilitator guide directed the discussion to uncover care priorities from the perspective of each profession and its alignment with the perceptions of patient priorities to ensure meaningful learning.

We were able to leverage an existing shared clinical seminar opportunity in the newly redesigned DNP curriculum that facilitated the participation of large numbers of DNP trainees. Similarly, pharmacy students were required to attend at least one of the sessions offered, also positively impacting attendance. As noted above, achieving the same level of attendance from the other professions was challenging. Attendance was elective, and last-minute scheduling changes in the other schools were likely the cause of less representation. We discovered that the uneven participation influenced the dynamics of the group discussion. We noticed that on days when professions were equally represented in the small groups, learners were more confident with sharing their professional perspectives. While we were aware that the uneven participation would impact group size and discussion,¹⁶ we did not anticipate that it would also impact confidence in perspective sharing. Moving forward, we have become more cognizant of having at least two learners from each profession in interprofessional group activities.

Despite preparing just-in-time facilitator training slides and providing multiple in-person sessions to accommodate faculty schedules, preparing faculty for the event was a challenge. This is validated in the literature that highlights appropriate and adequate faculty preparation for IPE learning as a consistent barrier.¹⁶ Faculty participation and engagement in the just-in-time sessions were spotty despite faculty champions in each school and verbal commitments to attend. Possible strategies to address this challenge include creating collaborative agreements across schools to support faculty participation in IPE activities and converting just-in-time training into web-based modules that can be completed by faculty on their own schedules.

Learners reported feeling more confident in understanding the roles of health professions and the meaning of a holistic approach to caring for patients and families. This experience then sets the tone for the remainder of their training, by fostering open communication, consideration of other health professions roles, and being cognizant of contextual issues impacting the patient/family. This in turn provides students with a more comprehensive lens through which to view their profession-specific learning, which we feel will better prepare them for team-based practice in the future. However, student comments also highlighted the need for continual faculty development. The revelation that students perceived faculty reluctance in seeking out other professions and a faculty focus on payment method as a driver for care suggests that faculty need to be more aware of potential implicit messages they are conveying.

This curriculum was originally developed for one large-scale event where students could select the type of case depending on their interest area. Because the Mr. Kim video is slightly longer than the one for Jessica and Caleb and to account for possible differences in length of discussions, we recommend allotting 2 hours for the curriculum. However, the curriculum has sufficient detail to be applicable to learners further along in their educational programs and provides the flexibility to be used in variety of ways. The cases could be split up and used in other types of events or classes. Because of their complexity, these cases can also be utilized repeatedly over time, with emphasis on different areas (and adaptation of the discussion questions). Several faculty voiced interest in using the cases in their uniprofessional classes as well. Using the curriculum in these various ways enhances its utility across different contexts and facilitates its sustainability.

The faculty guide was an unanticipated success. In addition to providing instructions on the activity, we clearly articulated the goal for each discussion and offered talking points, which ameliorated much of the anxiety related to facilitating such an event. Faculty appreciated knowing the intended outcomes at each point throughout the case discussion and having profession-specific highlights to support their facilitation. Formatting faculty guides in this way can be extremely helpful when utilizing multiple faculty who have differing levels of knowledge of and competency with the content and IPE in general. Finally, by understanding the goals throughout the curriculum, faculty are able to recognize the systematic progression of the dialogue among learners.

Limitations

Several limitations should be noted and considered when using this curriculum. Despite our multiple attempts to involve equal numbers of health professions trainees, there was wide variation in the numbers of participants from each profession. The largest number of attendees came from the DNP and pharmacy programs because their participation was required; this discrepancy impacted the quality and nature of the group discussions. Furthermore, faculty participation in the just-in-time training was similarly uneven. Consequently, there was variability in faculty confidence and skill in facilitating the groups, which underscores the importance of consistent and systematic faculty development with IPE. This curriculum was offered several times over the course of a quarter to accommodate student schedules; however, only one cohort of students participated. For example, all the second-year DNP and third-year pharmacy students in a given year participated rather than multiple cohorts of second-year and third-year DNP and pharmacy students. This, coupled with limitations related to self-report evaluation methods, should be

noted when interpreting evaluation data. Effectiveness needs to be assessed through more objective and behaviorally focused assessments in order to understand the influence of these types of educational curricula on collaborative practice. Despite these limitations, however, this curriculum, including the faculty guide, fills an important gap in advanced health trainee education.

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Informed Consent

All identifiable persons in this resource have granted their permission.

Ethical Approval

Reported as not applicable.

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