

## Interprofessional Education Without Limits: A Video-Based Workshop

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### Abstract

**Introduction:** Interprofessional collaboration improves patient outcomes. Many institutions lack access to learners from other health care professions, limiting the feasibility of many published interprofessional curricula. We created a video-based workshop to fill the need for an introductory interactive interprofessional activity for third-year medical students (MS 3) in their internal medicine clerkship, in which other health care students and standardized patients were not readily accessible. **Methods:** This session introduced medical students to the interprofessional model of care through a video workshop. Learners engaged in reflective observation as a video presented a physician interviewing a patient. The training and roles of interprofessional providers were discussed with the aid of video demonstrations. Learners completed postworkshop and postmedicine clerkship surveys with responses indicated using a Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). **Results:** Sixty-seven MS 3s participated in this workshop; postworkshop survey response rate was 82%. Of students who responded to the surveys, 87% agreed that the video increased their understanding of when it would be beneficial to consult interprofessional team members. Students' confidence in interacting with interprofessional team members improved from a mean of 3.0 before the workshop to 3.7 after the workshop. At the end of the medicine clerkship, 71% indicated that the video improved their ability to work with interprofessional team members at least moderately. **Discussion:** This video-based workshop improved students' self-rated understanding of interprofessional team members' roles and increased their confidence interacting with other members of the interprofessional health care team.

### Keywords

Interprofessional Education, Case-Based Learning, Geriatrics

### Educational Objectives

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

1. Identify eight interprofessional providers and list their major roles on the health care team.
2. Analyze a patient case and suggest at least four appropriate interprofessional consultants and questions for those consultants.
3. Report increased confidence in interacting with interprofessional providers after having exposure to interprofessional team members in their internal medicine clerkship.

### Introduction

Interprofessional collaboration has been shown to improve patient care in studies, including randomized controlled trials, comparing populations receiving multidisciplinary care interventions versus the standard of care.<sup>1-4</sup> Improved patient outcomes range from decreased readmissions for heart failure<sup>1</sup> to improved quality of life satisfaction in older adults.<sup>2</sup> Unsurprisingly, the Liaison Committee on Medical Education's (LCME) Standards for Accreditation of Medical Education Programs include a requirement that, "The core curriculum of the medical education program prepares medical students to function collaboratively on health care teams that include health professionals from other disciplines as they provide coordinated services to patients."<sup>5</sup> To assess our curriculum on this LCME standard, we conducted a brief needs assessment.

The needs assessment included a knowledge test with multiple-choice questions regarding the roles of different providers on a multidisciplinary team and an attitude survey for third-year medical students (MS 3), in addition to a brief interest survey for fourth-year medical students (MS 4). Of MS 3s, 51 of 65 (78%)

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who were approached participated in the interprofessional knowledge test. The average knowledge test score was 52% correct responses, and 71% disagreed or strongly disagreed that they were knowledgeable about interprofessional providers in the ambulatory setting. All 51 (100%) MS 3s agreed or strongly agreed that becoming knowledgeable about interprofessional providers was important. Of MS 4s, 45 of 105 (43%) participated in the survey, with 93% of respondents indicating an interest in having more interprofessional educational experiences during medical school.

With the results of the needs assessment, it became clear that we needed to include additional interprofessional education training and so looked to the published literature. In recent years, there have been a remarkable number of curricula developed with an aim to increase interprofessional education, highlighted by an Interprofessional Education Collaborative collection on *MedEdPORTAL*. We conducted a review of the collection and all of *MedEdPORTAL* with the search term “interprofessional.” This review identified a variety of thoughtful interprofessional learning experiences that involved collaboration with other students and providers, including several with initial introductions to the roles of the interprofessional team.<sup>6-9</sup> Some also provided modalities of learning about the interprofessional team that could be applied in settings with fewer interprofessional resources, via, for example, ebook<sup>8</sup> or remote collaboration.<sup>10</sup> Many of these educational exercises take advantage of access to students in multidisciplinary training programs, creating an interdisciplinary learning environment. However, not all universities with medical schools, like ours, have schools for other health care professions from which to draw students readily for such collaborative exercises. Developing an interprofessional curriculum in a single discipline setting, while equally important, can provide several additional logistical challenges.

In addition, our search did not identify introductory tools that could provide exposure for medical students to the interprofessional team in an interactive video case-based way in settings in which other health care students and standardized patients were not readily available. Case-based videos have been used as a springboard for more advanced interprofessional trainees.<sup>11</sup> Furthermore, case-based videos would support the Universal Design for Learning framework, which advocates for illustrating concepts through multiple media.<sup>12</sup> We aimed to create an adaptable, iterative introduction to the interprofessional setting that could be beneficial to medical students in a single discipline setting. Such an introduction could provide baseline knowledge to students before they embark on learning

experiences with interprofessional health care providers on the wards.

In order to create an introductory educational activity to address these gaps, we utilized the Core Competencies for Interprofessional Collaborative Practice, which involve four core competency domains: values/ethics for interprofessional practice, roles and responsibilities for collaborative practice, interprofessional teamwork and team-based practice, and interprofessional communication practices.<sup>13</sup> We developed an educational session that sought to maximize MS 3 knowledge in the roles and responsibilities for collaborative practice competency domain of interprofessional education, which is a necessary foundation for the other three competency domains. Additionally, the University of Toronto has developed a Framework for the Development of Interprofessional Education Values and Core Competencies that outlines a learning continuum from exposure to immersion to competence.<sup>14</sup> This curriculum was designed to provide initial knowledge within the exposure portion of this continuum.

The third-year internal medicine clerkship, which includes exposure to multidisciplinary rounds in the hospital, served as an ideal time point in the medical students’ early clinical education to review and practice applying the roles of different health care providers. However, the session could also be used as an introduction to different aspects of clinical medicine in the preclinical years, or even with learners from other health care professions. It aimed to make students comfortable with the roles of various providers in the hospital to give them tools to maximize their experiences with these providers when they encounter them in the clinical setting.

## Methods

### Development

The development of this workshop, including the creation of the PowerPoint didactic and the video, was based on the needs assessment and the collective clinical experience of providers from multiple health care disciplines. The providers included in the development of the work included a nurse, an occupational therapist, a physical therapist, a social worker, pharmacists, speech language pathologists, a physician assistant, an advanced practice nurse, a registered dietitian, physicians from internal medicine and geriatric medicine, a graduating medical student, and a videographer. We utilized an iterative process to refine the didactic and video script. Whenever possible, providers from each health care profession acted in the video to represent their profession, but when providers were unable to attend the video filming, actors portrayed their roles.

## Implementation

We implemented this required workshop for clinical undergraduate medical students during the beginning of their internal medicine clinical clerkship between the fall of 2016 and the summer of 2017. It was designed as an initial introduction to the members of the interprofessional team and should be implemented as part of a longitudinal curriculum designed to reinforce these principals with exposure to professionals from multiple disciplines. The facilitator was a physician familiar with the training and roles of other interprofessional team members.

Prior to the workshop, a computer and projector were set up with sound enabled and with the didactic PowerPoint (Appendix A) and video (Appendix B) open. The curriculum alternated between PowerPoint and video didactics, with specific timing details provided in the facilitators' overview (Appendix C). However, the video was not embedded within the PowerPoint to allow flexibility in instructional methods, including watching the video in its entirety. A dry erase board was utilized to record the interprofessional providers who students suggested during group discussion. Sufficient copies of the postworkshop survey (Appendix D) were also printed prior to the workshop and ready to hand out to each learner.

The workshop was designed for a medium-sized group setting (approximately 20-22 participants) and took approximately 90 minutes to conduct.

*Introduction:* In the first 10 minutes we used the PowerPoint presentation (Appendix A) to introduce the interprofessional team. The introduction included the definition of multimorbidity, a contrast of the traditional model of care with the interprofessional model of care, and described physicians (or advanced practice nurses, physician assistants) as the gatekeepers to this system in certain medical settings. We also reviewed literature demonstrating the benefits of interprofessional care teams.

*Case introduction—let's meet Mrs. Smith:* We then spent 5 minutes introducing the patient case, an inpatient example of an elderly patient with multiple comorbidities. The patient's, Mrs. Smith's, case served as the topic of reflection for the students, who used her interview with the physician to identify problems that would benefit from interprofessional consultation. We showed the video clip of her discussion with her physician (timing details in the facilitators' overview, Appendix C).

*Group reflection and brainstorming:* We then spent the next 15 minutes using the think, pair, share method for students to reflect individually on which interprofessional providers

they would like to consult to aid in the care of Mrs. Smith and why, then discuss in pairs or small groups. We next invited groups to share their answers with the whole class. A list of interprofessional providers to consult were written on a dry erase board.

*Interprofessional provider training:* This portion of the workshop took 40 minutes. For each interprofessional provider, we reviewed slides discussing the health care professional's training and role on the team. We then showed the video clip of that provider working with the patient (timing details in Appendix C). The interprofessional providers depicted included a registered nurse, a pharmacist, a registered dietitian nutritionist, a speech language pathologist, a licensed clinical social worker, a physical therapist, and an occupational therapist. Additional providers discussed but not pictured in the video included case managers, advanced practice nurses, physician assistants, and home health care providers.

*Recap:* We then spent 10 minutes showing the video clip during which Mrs. Smith discussed her experiences with the interprofessional team with her physician. We concluded with 10 minutes for additional questions.

## Evaluation

We evaluated the curriculum with a survey immediately after the completion of the workshop (Appendix D) as well as a survey (Appendix E) after the completion of the whole internal medicine clerkship. Because the published assessment tools in the literature would not optimally evaluate this particular interprofessional educational intervention, we developed our own survey instruments through an iterative process with medical education stakeholders from geriatrics and internal medicine. Due to time limitations, the survey instruments were not piloted prior to use.

In keeping with our educational objectives, which focused on knowledge regarding interprofessional provider roles and confidence in interacting with interprofessional providers, these surveys focused on questions to determine self-assessment of knowledge gained and change in attitudes (specifically confidence). In the postworkshop survey, we asked students to state their level of agreement on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) with several statements regarding knowledge gained from the video. We also asked them to retrospectively rate their confidence interacting with interprofessional providers before the workshop, as well as to rate their confidence after the workshop. These ratings were compared with a paired Student *t* test. We also included several

questions related to students' reactions to the educational program, such as whether the video should be shown to future students, and opportunities for free-text responses related to most and least useful aspects of the video-based workshop, and ways to improve it.

Of eligible MS 3s, 52 who participated in the curriculum were asked to complete the end-of-clerkship survey, approximately 8-10 weeks after the workshop. On this survey we asked students to rate how much the video improved their ability to work with interprofessional providers and how often they used the knowledge gained from the video. This study was deemed exempt by the Institutional Review Board of The University of Chicago Biological Sciences Division/University of Chicago Medical Center.

## Results

We utilized this video-based curriculum with three groups of MS 3s ( $N = 67$ ) during their internal medicine clerkship at the University of Chicago Pritzker School of Medicine during the 2016-2017 academic year.

Of participating MS 3s, 55 of 67 (82%) completed the postworkshop survey. Of these, 87% (48 of 55) agreed or strongly agreed that the video increased their understanding of when it would be beneficial to consult interprofessional team members, 96% (53 of 55) agreed or strongly agreed that the video provided them with new knowledge, and 89% (48 of 54) agreed or strongly agreed that the video should continue to be shown to future internal medicine clerkship students. Students' confidence ratings with regards to interacting with interprofessional providers increased significantly from 3.0 before the workshop to 3.7 after the workshop ( $p < .0001$ ).

Response rate for the end-of-clerkship survey was 85% (44 of 52). Fifty-two percent (23 of 44) reported they utilized information learned from the workshop at least weekly during their clerkship, and 71% (31 of 44) indicated that the video improved their ability to work with interprofessional team members at least moderately.

## Discussion

This video-based introduction to the interprofessional health care team improved MS 3s' understanding of the roles of interprofessional team members, including when to consult interprofessional team members and new knowledge about their roles and responsibilities, and improved their confidence in interacting within the interprofessional health care team. Medical students also generally acknowledged that they regularly used the information and skills they learned during the workshop while

on their medicine clerkship, and that the video improved their ability to do so.

A strength of this curriculum was its potential application in health care training settings in which there are limits to educational resources or teaching methods. For example, this video-based workshop is particularly valuable at institutions in which one professional school is in a silo, without schools of other health care professions at the same institution. A key tenet of interprofessional education is collaborating with other providers/trainees of different health care specialties. This video still allowed students to view examples of other providers interacting with a patient and gave them a knowledge base to use moving forward in the collaborative activities of their continued interprofessional education. Additionally, it was created with interprofessional collaboration and input into the design of every aspect of the curriculum. At some institutions, the opportunity for standardized patient encounters may be limited; this workshop provided an example case with some of the benefits of standardized patient learning (e.g., a realistic clinical scenario with an actor portraying a patient in a clinical setting, the opportunity for students to envision themselves in the role of a provider) as well as several other learning modalities (lecture, group discussion). Additionally, as a self-contained session with multiple individual provider components, it can be integrated into the clinical or preclinical curriculum, depending on the structure of a given medical school's interprofessional and clinical programming, and can be reviewed by students outside the classroom. Lastly, this video could still be utilized when learning is limited to virtual instruction, such as during the COVID-19 pandemic.

This session was meant to be introductory and was therefore not comprehensive in either the roles of the providers discussed or the number of providers portrayed, though it did introduce nine different clinical professions. It should be utilized as part of a comprehensive interprofessional curriculum and would be enriched by the involvement of different interprofessional facilitators and students. The workshop would also be enriched by encouraging more engagement with the video during partner work depending on the amount of time allowed for the workshop, such as discussion about how the social worker may benefit from communication with the nurse, for example. The evaluation would be strengthened by longer longitudinal follow up later than 8-12 weeks out. A limitation to the evaluation approach was that it evaluated students' perceptions of their knowledge without the objective measures used in our needs assessment. Another limitation was that the survey instruments were not

piloted prior to use and contained a neutral category which could possibly distort results. Additionally, it would be informative for the workshop evaluations to include more questions that prompt student reflection, such as asking students to reflect on how their communication with interprofessional team members will change as a result of the workshop.

We took away several lessons learned from creating this educational intervention. First, active participation of interprofessional health care team members from each represented profession was key in developing an accurate and appropriate educational activity. Each contributor provided critical input to the development of the video script and didactic presentation, and in many cases even acted in the video. Their participation was invaluable and highlighted by students as a strength. Second, this workshop was given to the students quarterly, and we found that the type of information most highly valued by students in the first and second quarters was different than that most highly valued by students in the third and fourth quarters. Students in the first and second quarters had very little hands-on clinical experience, and really preferred to focus on the most basic information about roles and responsibilities, while students in the third and fourth quarters started to ask more questions about communication and teamwork with interprofessional team members. Therefore, some consideration may be given to conducting this workshop at the beginning of the clinical year instead of quarterly throughout, since the workshop was designed to provide students with a foundation in the roles and responsibilities of interprofessional team members. Another lesson learned was that if it is feasible at a given institution, it is helpful to have providers from the various health care professions represented available to answer questions specific to their profession, even if asynchronously. We found that during the question and answer portion of the workshop, students sometimes asked questions that the facilitator—a physician—was not able to answer. Being able to contact providers from other health care professions, even if after the workshop with later follow-up with the student participants, was helpful.

Efforts are underway to incorporate this session into a larger developing curriculum in interprofessional education exploring multiple facets of the interprofessional care team and interprofessional learning. We hope to increase the number of interprofessional educational activities that involve direct interaction with providers from other health care professions to address the other three domains of interprofessional collaborative practice, though these types of activities are more intensive to develop. In the meantime, this session demonstrated that a video-based workshop is an appropriate and effective

method for teaching roles of interprofessional health care team members.

## Appendices

- A. Interprofessional Health Care Team PowerPoint.pptx
- B. Interprofessional Health Care Team Video.mp4
- C. Facilitators Overview.docx
- D. Postworkshop Survey.docx
- E. End-of-Clerkship Survey.docx

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

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## Informed Consent

All identifiable persons in this resource have granted their permission.

### Prior Presentations

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Houpy J, Thompson K, Pincavage A, Kostas T. Introductory interprofessional education: video curriculum design. Poster presented at: Medical Education Day, University of Chicago; December 2016; Chicago, IL.

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### Ethical Approval

The University of Chicago Biological Sciences Division/University of Chicago Medical Center Institutional Review Board approved this study.

### Disclaimer

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