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## Interprofessional education faculty development survey: Perspectives on IPE and collaborative practice and COVID-19

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### ABSTRACT

The cancellation of in-person classes in March 2020 due to COVID-19 caused a sudden shift in the educational experiences of health profession students enrolled at the University of Michigan (U-M). With the move to remote learning, educators engaging in interprofessional education (IPE) were faced with the challenge of preparing students for interprofessional collaboration from a distance. A survey was designed to investigate the impact of the pandemic on IPE practices and discover educator development needs. Faculty and staff from 10 health sciences schools within the U-M and Michigan Medicine were invited to complete a survey investigating their use of IPE competencies prior to, during, and after the pandemic; their development needs; and their ideas for future implementation of IPE and collaborative practice. Fifty-six percent of respondents reported their ability to teach IPE competencies was impacted by changes related to COVID. There was a significant ( $p \leq 0.001$ ) difference between self-report of incorporating IPE competencies prior to and during pandemic and during and into the future across all five competencies. Technology was reported as a challenge when teaching IPE, and a need for future faculty development. Leveraging virtual and case-based learning and increasing collaboration between schools were identified as ideas for future implementation.

### 1. Introduction

The arrival of the COVID-19 virus in the United States in early 2020 caused a significant and sudden shift in the educational activities of health profession students and clinical and academic faculty. On March 11, 2020 the University of Michigan (U-M) joined more than 100

colleges and universities across the country in announcing a switch to remote teaching.<sup>1</sup> This resulted in the cancellation of face-to-face interprofessional education (IPE) activities. This phenomenon was noted across the health professions education spectrum.<sup>2-4</sup>

By mid-March 2020, stay at home orders issued by the state of Michigan and the closing of non-essential health care facilities

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**Table 1**  
Survey respondent demographics.

	Entire sample (n = 166)	Previous experience with IPE (n = 100)	Taught IPE between March–July 2020 (n = 44)
Primary Role within School or College	N (%)	N (%)	N (%)
Faculty	131 (78.9%)	81 (81.0%)	35 (79.5%)
Staff	35 (21.1%)	19 (19.0%)	9 (20.5%)
Profession			
Dentistry	28 (16.9%)	15 (15.0%)	8 (18.2%)
Medicine	40 (24.1%)	21 (21.0%)	11 (25.0%)
Nursing/Advanced Nurse Practitioner	20 (12.0%)	14 (14.0%)	4 (9.0%)
Pharmacy	7 (4.2%)	3 (3.0%)	1 (2.3%)
Physical Therapy	6 (3.6%)	4 (4.0%)	3 (6.8%)
Social Work	43 (25.9%)	28 (28.0%)	12 (27.3%)
Other (Public Health, Physician Assistant, Respiratory Therapy, Occupational Therapy, Kinesiology, Dental Hygiene, Other)	22 (12.0%)	15 (15.0%)	5 (11.3%)
Respondent Reported Location of Learners' Academic Affiliation			
Ann Arbor	111 (66.9%)	68 (68.0%)	31 (70.5%)
Michigan Medicine	30 (18.1%)	16 (16.0%)	8 (18.2%)
Flint	21 (12.7%)	15 (15.0%)	5 (11.2%)
Dearborn/Other/Missing	4 (2.4%)	1 (1.0%)	0 (0.0%)
Academic Appointment			
Clinical Track	80 (48.2%)	53 (53.0%)	24 (54.5%)
Tenured Track/Tenured	32 (19.3%)	19 (19.0%)	7 (15.9%)
Lecturer	20 (12.0%)	11 (11.0%)	5 (11.4%)
No academic appt/Other	34 (20.5%)	17 (17.0%)	8 (18.2%)

continued to provide challenges to clinical faculty and students who were working and learning in these environments. A majority of students were excluded from the clinical environment, pausing learner activities for the health professions. Academic and clinical faculty and staff were immediately challenged in how to best continue to deliver IPE opportunities for their students.<sup>5</sup> Concerns about progression towards degree as well as issues for licensure also came to the forefront. As solutions emerged, focus on technology, curriculum, educational adaptations and lessons learned for the future were shared by leaders in health professions education.<sup>6–8</sup>

However, much like before the pandemic, addressing the unique needs of many educators engaged in IPE and collaborative care curricula

remained limited. In addition, IPE initiatives strive to achieve a unique set of competencies.<sup>9</sup> In order to further understand the needs of clinical and academic faculty and staff, the U-M Center for Interprofessional Education Faculty Development Committee developed and distributed a survey to gather information about integration of IPE competencies, faculty development needs and ideas for future implementation of IPE within the context of COVID-19. The goal of this survey was to explore the impact of the pandemic on IPE and collaborative practice as well as generate ideas for future faculty development needs.

## 2. Methods

### 2.1. Survey development and dissemination

The survey was developed by a faculty team utilizing the interprofessional competencies espoused at U-M which include the Interprofessional Education Collaborative Competencies (IPEC®) and an additional competency on intercultural humility.<sup>9</sup> The survey (Appendix 1) was reviewed by experts with expertise in IPE and faculty development. The survey consisted of three sections, demographics (4 questions), self-report of ability to teach IPE competencies prior to the pandemic, during the pandemic, and in the future (9 questions), and two questions related to needs for faculty development and ideas for future implementation of IPE. Executive Committee members of the U-M Center for Interprofessional Education were requested to forward the recruitment email with the survey link (Qualtrics, Provo, UT) to their academic and clinical faculty two times in order to maximize response rate from all schools, colleges, and clinical environments. Faculty and staff who received the email were encouraged to forward the survey invitation to others. Participants provided electronic consent before accessing the rest of the survey. The survey remained open from August through September 2020. The study was considered exempt by the Institutional Review Board at U-M (HUM00182594).

### 2.2. Data analysis

Quantitative data were analyzed using IBM, SPSS version 26.0 (IBM Corp, Armonk, NY). Descriptive statistics were used to summarize the dispersion of responses. Comparisons of frequency of teaching IPE competencies for the periods before, during the pandemic, and in the future were completed with the Friedman test with post-hoc pairwise comparisons using Wilcoxon signed-rank tests. A significance level of  $p < 0.05$  was used for Friedman test, and due to the multiple post-hoc comparisons was adjusted using the Bonferroni method to  $p < 0.017$ . Qualitative data was generated using Qualtrics software. Qualitative data analysis was completed by three of the authors using a thematic analysis approach to identify emergent themes and patterns within the dataset.<sup>10</sup>

**Table 2**  
Survey Respondents Report of Frequency of Integrating IPE Competencies in Practice Prior to, During the Pandemic, and in Future.

Frequency	Always/Most of the time			About half the time/Sometimes			Never		
Competency	Prior to (n = 100)	During (n = 44)	Future (n = 96)	Prior to (n = 100)	During (n = 44)	Future (n = 96)	Prior to (n = 100)	During (n = 44)	Future (n = 96)
Value/Ethics	90 (90.0%)	31 (70.5%)	87 (90.6%)	8 (8.0%)	8 (18.1%)	7 (7.3%)	2 (2.0%)	5 (11.4%)	2 (2.1%)
Roles/Responsibilities	89 (89.0%)	30 (68.1%)	86 (89.6%)	10 (10.0%)	10 (22.7%)	8 (8.3%)	1 (1.0%)	4 (9.1%)	2 (2.1%)
Interprofessional Communication	91 (91.0%)	28 (63.6%)	87 (90.6%)	8 (8.0%)	13 (29.5%)	7 (7.3%)	1 (1.0%)	3 (6.8%)	2 (2.1%)
Teams/Teamwork	89 (89.0%)	28 (63.6%)	86 (89.6%)	10 (10.0%)	13 (29.5%)	8 (8.3%)	1 (1.0%)	3 (6.8%)	2 (2.1%)
Intercultural Humility	80 (80.0%)	24 (54.5%)	83 (86.5%)	19 (19.0%)	16 (36.4%)	11 (11.5%)	1 (1.0%)	4 (9.1%)	2 (2.1%)

**Table 3**  
Themes and selected quotes identified from open-ended data.

Themes	Selected Quotes from Open Ended Questions
COVID-19 Impact on Teaching Cancellation of in-person events, including clinical rotations	<ul style="list-style-type: none"> <li>● Clinical outreach and rotations were halted. Students glean a great deal of IPE experiences during these learning opportunities.</li> <li>● Simulations were not able to be in person changing the dynamic of the experience with the patient/family as well as the interdisciplinary colleague. Not able to debrief after the simulation experience.</li> </ul>
Learning how to use technology quickly	<ul style="list-style-type: none"> <li>● Time spent focusing on technology and accessibility took away from other course material. Different than what I had planned, but necessary all the same.</li> </ul>
Time constraints	<ul style="list-style-type: none"> <li>● Time and incorporating remote teaching/ learning provided challenges</li> <li>● Teams were too busy for education, still are to some degree.</li> </ul>
Separation/distance	<ul style="list-style-type: none"> <li>● Moving off-site has decreased the amount of interaction within my interdisciplinary team. Most interactions happen via email or phone which does not allow for organic IPE to take place in the same way as in-person interactions.</li> <li>● Inability to get disciplines together</li> </ul>
IPE Competencies that Need to be Emphasized	
All competencies	<ul style="list-style-type: none"> <li>● It is impossible to pick one or only a couple from this list. In order to provide a high standard of care for our patients and families, it is vital that caregivers of all disciplines work within the context of all of these competencies. To leave even one off would negatively impact the care a patient/family would receive.</li> </ul>
Intercultural humility	<ul style="list-style-type: none"> <li>● They are all important, if I had to choose one, it would be intercultural humility. Our country is very divided and understanding cultural humility is vital.</li> </ul>
Communication	<ul style="list-style-type: none"> <li>● Without communication, I strongly believe, none of these other areas are feasible.</li> </ul>
Faculty Development Needs	
Time/Opportunity	<ul style="list-style-type: none"> <li>● I would like to see more opportunities for collaborative learning experiences and for faculty to have the opportunity to teach in other programs. I would also like increased faculty training and opportunities to participate in formal IPE training.</li> </ul>
Technology challenges	<ul style="list-style-type: none"> <li>● Engaging audiences in a virtual setting. It is hard to know if people are learning when their names are the only thing up on a Zoom lecture.</li> <li>● More experience with telehealth and it's processes and associated skills</li> <li>● Broadening the development of online IPE courses to learn these skills, would be helpful in making courses and techniques more accessible to students.</li> </ul>
Online opportunities	<ul style="list-style-type: none"> <li>● We need to offer more accessibility to the IPE courses offered in Ann Arbor (AA) to the smaller campuses (Flint). There are many opportunities in AA that are not available to the other campuses in part due to location, timing and program schedules. Consider offering virtual or on-line options that truly allow more students the opportunity to participate.</li> <li>● Building online virtual simulations</li> <li>● Leveraging the advantage distance learning gives us in promoting interactions that do not have to occur face to face or even necessarily synchronously.</li> </ul>

### 3. Results

#### 3.1. Demographics

A total of 166 respondents completed the survey (Table 1) giving an estimated return rate of 17%. The majority of respondents identified as

faculty (77.1%, n = 128). Half of the sample came from the schools of medicine (24.1%) and social work (25.9%). For those faculty (n = 100) who had previous experience teaching IPE, 44.0% (n = 44) completed an IPE course/event/activity between March–August 2020.

#### 3.2. Practice of IPE before, during, and after COVID-19 pandemic

Prior to the pandemic, the majority of faculty who taught IPE were able to “always/most of the time” incorporate the five IPE competencies into their teaching, with intercultural humility being the least frequently incorporated at 80% (n = 80). Fifty-six percent of the faculty reported their ability to teach IPE competencies was impacted by changes related to COVID-19. The Friedman Test was completed in order to assess differences in self-report frequency in teaching IPE competencies across the 44 respondents who answered all three time points (prior to, during, future). There was a statistically significant difference in self-report of teaching values/ethics [ $\chi^2(2) = 22.1$ ,  $p = 0.001$ ], roles and responsibilities [ $\chi^2(2) = 22.3$ ,  $p = 0.001$ ], interprofessional communication [ $\chi^2(2) = 25.2$ ,  $p = 0.001$ ], teams/teamwork [ $\chi^2(2) = 28.0$ ,  $p = 0.001$ ], and intercultural humility [ $\chi^2(2) = 19.7$ ,  $p = 0.001$ ] as compared to prior, during and into the future. There was a statistically significant difference between self-report of incorporating IPE competencies prior to and during the pandemic (decrease in reported frequency), and during and into the future across all five competencies ( $p \leq 0.001$ ); however, there was no difference in reporting of frequency prior to and into the future (Table 2). The majority of respondents (84.3%, n = 129) strongly agreed or somewhat agreed that as a result of COVID-19 the need to teach IPE competencies is more important than ever.

#### 3.3. Qualitative results

Respondents were given the opportunity to provide open text regarding how their ability to teach IPE was impacted by the mandated changes related to COVID-19, which IPE competencies should be specifically emphasized, skills needed to support IPE/collaborative practice, and future ideas. Key themes (Table 3) impacting respondents' ability to teach IPE included the cancellation of face-to-face events (including clinical rotations), time constraints, distancing, and the need to learn how to use technology. Two-thirds of respondents reported that all the IPE competencies are valuable and that no one competency should be emphasized over others when preparing students for practice. The other third of respondents specifically identified communication, intercultural humility, and teamwork as competencies that should be emphasized. Faculty identified needs included time, additional collaborative opportunities and support for use of technology. Future ideas for IPE highlighted the need for collaborations across various health professions schools, leveraging online technology to make connections, and case-based activities.

### 4. Discussion

Self-reported teaching of IPE competencies at U-M, in faculty who taught before and during the COVID-19 pandemic, significantly decreased. The drop in the ability to integrate IPE competencies during the pandemic speaks to the complexity of integrating IPE in teaching and curricula. IPE can be seen as “in addition to” or integrated with other components of the curriculum. When the pandemic hit, there was a swift shift to address critical issues such as ensuring students were able to graduate on time and modifying existing courses to the online environment. In fact, several respondents spoke to this in their comments.

The rapid change to online instruction presented additional challenges. Respondents reported difficulty pivoting to a digital environment when integrating the IPE competencies. This was obviously true for those activities requiring students to work in groups or in clinical or simulation environments. However, since a considerable proportion of

IPE instruction at U-M occurs in classrooms and small groups, this also identified opportunities for the future. It is often difficult to gather students from two or more programs in the same physical space. The lessons learned using online meeting technologies may inform future models of instruction in a virtual environment. Virtual models could also support or leverage clinical or experiential (face-to-face) opportunities.

A limitation of this study is the potential for bias in the sample. Medical School and School of Social Work respondents made up about half the sample, though they do not comprise half the numbers of healthcare faculty and staff at the university. The survey was distributed through representatives at each of the schools. The decentralized nature of U-M with three campuses, 10 schools and medical center, means there is not one common listserv for all health professions faculty and staff. This inevitably led to variability in dissemination and follow up and may have impacted sample size and distribution. Also, due to survey design, only 44 respondents completed all questions related to teaching IPE before, during and after the pandemic. Constructing the survey differently may have increased the number of faculty responding for all three time periods. Nevertheless, these results do provide insight into factors that may have impacted faculty ability to incorporate IPE competencies during the pandemic and ideas for the post-COVID future.

## 5. Conclusions

Faculty reported a significant reduction in incorporation of IPE competencies into their teaching during the COVID-19 pandemic. Technology was reported as a challenge when teaching IPE and was listed as a need for future faculty development. Leveraging virtual and case-based learning and increasing collaboration between schools were identified as ideas for future implementation.

## CRedit authorship contribution statement

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## Declaration of competing interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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## Appendix A. Supplementary data

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