The Slow Creep Back: Threats and Opportunities for IPE Posed by COVID-19

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Interprofessional education (IPE) prepares current and future health care professionals for interprofessional collaborative practice (IPCP). IPCP results in increased quality of care demanded by patients and reimbursed in value-based care models when appropriately operationalized. The COVID-19 pandemic forced rapid and unprecedented changes in higher education and healthcare, although the impact on IPE delivery in the U.S. is unknown. Analyses of qualitative survey data collected from U.S. IPE leaders (n = 21) identified the impact and challenges of the pandemic on IPE programs. Three primary themes emerged: transition to a virtual environment, uncertainties and fears regarding finance and program sustainability, and opportunities for improvements in programming, delivery, instructional design, experiential learning, and assessment. Programs faced existential pandemic-related challenges. Concurrently, the pandemic accelerated innovation in IPE curricula, illuminated opportunities for IPE to improve the work life of healthcare providers, and raised awareness of the need to extend the Quadruple Aim to eliminate health inequities. *J Allied Health* 2022; 51(1):9–14.

WITH THE TRANSITION from fee-for-service to value-based care models by the Centers for Medicare & Medicaid Services and many private payers, the focus on health care quality has jumped to the forefront of both practice and policy conversations. Two Institute of Medicine reports argued that patients are more likely to receive a higher quality of care when health professionals work collaboratively.[1,2] Since these reports were published, additional studies have provided support for the idea that an interprofessional collaborative practice (IPCP) approach results in better patient outcomes.[3,4] Because of this, numerous healthcare delivery systems have endorsed and continue to support IPCP to improve healthcare quality. Interprofessional education (IPE) is the vehicle that develops the healthcare workforce of the future by ensuring a supply of healthcare professionals with competency in IPCP.

In late 2019, the American Interprofessional Health Collaborative (AIHC) IPE Organizational Models task force ("task force") distributed a survey to 131 interprofessional education and practice leaders to determine organizational models of IPE across the United States. The task force included representatives from multiple IPE programs across the nation with expertise in instrument design and interprofessional research. Leaders from 80 institutions (61% response rate) completed the 37-item survey, and the report of the survey findings is the first to describe U.S. organizational models of IPE.[5] This survey of organizational models of IPE concluded just 3 months before the onset of the COVID-19 pandemic, which resulted in significant disruption to higher education. Before spring break 2020, many institutions felt unprepared to have students return to in-person instruction, and there was inadequate time to make contingency plans; thus, clinical sites were closed to students. Universities and practice sites were forced to radically alter schedules and depart from traditional in-person instruction on short notice, often with little guidance from state or federal leadership. The desired state was not going to be solely a "flipped classroom," but rather a "flipped teaching strategy" with transitions that had to occur in a matter of days or weeks, as opposed to semesters or years.

Given the dramatically altered context of instruction in higher education, the task force realized the importance of determining the impact of the pandemic on IPE programs throughout the U.S. Before the pandemic, funding for many IPE programs was tight or nonexistent, and task force members feared that additional pandemic-related financial strain could pose an existential

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threat to IPE programs. For example, the task force was concerned that IPE models predicated on in-person instruction might disappear if clinics were closing to students. Hence, the purpose of this study was to determine the impact of the pandemic on IPE programs across the U.S. and consider post-pandemic implications for these programs. Accordingly, the authors of this article, a subgroup of the task force, developed and asked the respondents two additional questions beyond the original survey.

Methods

This project was approved as exempt research by the University of Minnesota Institutional Review Board.

In October 2020, a survey was emailed to the 80 IPE leaders who completed the 2019 AIHC task force survey. This follow-up survey was administered electronically via Qualtrics Software (Provo, UT) and included two open-ended questions. It remained open for 4 weeks and two email reminders were sent. Twenty-one unique individuals representing 21 different states responded. The questions were framed to gather information regarding the potential impacts of the pandemic on IPE programs and centers across the nation. Specifically, the questions helped to determine: 1) whether institutional changes that occurred since the pandemic impacted the respondents' IPE program or center operations; and 2) challenges anticipated by IPE leaders to their program or center operations over the next year of the pandemic.

Hermeneutic analysis framed the qualitative methodology used for this work. In hermeneutic analysis, the text is reviewed in a socio-historical context and then interpreted by the researchers based on their experience with the phenomena. Thus, an iterative process of content text analysis was conducted using a five-coder independent analysis. This approach was possible because the team had previously worked together on other studies. Each coder read the text, assigned codes, and used open coding to describe themes that anchored the meaning of the words to the lived experience found in the data. Individual analysis was then shared across the team.

Given that the coding team included persons from different professions located in different states, the language used by the coders varied, but the interpretation of meaning once discussed was consistent. Thus, two individuals worked closely together to integrate the coding and themes provided by the five team members. The draft codes and themes that resulted were then returned to the team members for further review and consensus. The themes and subthemes extracted represent the meanings from the texts provided by the respondents. This iterative inductive process of asking open-ended questions, data collection, and data analysis increased the credibility, dependability, trustworthiness, transferability, and authenticity of the qualitative content analysis.[6] A member check of the summary of findings was conducted at the Association for Prevention Teaching and Research Annual Meeting and the Jefferson Center for Interprofessional Practice and Education Conference for Interprofessional Care for the Twenty-First Century in 2021 in which the authors presented the results. The conference session participants noted agreement with the research summary and no further themes emerged from these discussions.

Results

Several important themes emerged from the respondents' comments, including 1) barriers and enablers to the transition to a virtual environment, 2) uncertainties and fears about financial stability and sustainability, and 3) numerous new interprofessional opportunities around virtual programming, delivery, instructional design, experiential learning, and new ways of thinking about and conducting program assessment. Exemplar comments are quoted in the paragraphs that follow to support each theme.

Transition to a Virtual Environment

> *"Most courses have transitioned to online delivery and all IPE events are being delivered virtually."*

> *". . . it has been a significant issue moving to the online environment for our interprofessional service learning program."*

> *"Restrictions on visitors to campus have necessitated moving much of our interprofessional clinical services from in-person to remote delivery. IPE events, such as an inter-institutional TeamSTEPPs training for . . . students in health and human services, have had to be conducted online rather than in person. The IPE course that we offer every semester to 100+ . . . students that had hybrid elements in the past is now fully online."*

Uncertainties and Fears About Finances and Sustainability

> *"We were in the midst of planning some additional IPE activities for our learners last winter (2019) and that has been set aside given all the complexities that academic programs are facing with their own education requirements. I am hoping we can energize again in the late spring / early summer for strategic planning and am being very mindful of the workload on our IPE champions and colleges (and the office staff)."*

> *"Due to budget cuts, our IPE center is being merged with another center (AHEC). Both can and should be symbiotic but staffing also will be reduced so it will negatively impact programming."*

> *"As an institution, it has been relayed that it will take 2+ years to recoup the losses experienced from March through to the present (and that assumes no further large 'hits'). The uncertainty of this on our operations moving forward is great—will, at some point, we need to entertain furloughing or letting go of any of our staff members?; how long will development funds be cut (used to support faculty / staff at conferences)? There had been great financial investment in services and programs that we had hoped to*

market; however, given the financial situation (across the board at all colleges and universities), the feasibility of marketing these endeavors is questionable."

"What I fear most though is losing the collaborative environment we had built, where people could drop by or call our IPE office to brainstorm IPE/P ideas, and informal meetings of a few diverse professionals could spark meaningful projects in IP education, practice, and research. Already people are becoming Zoom-weary and I fear a slow creep back into the silos we have worked so hard to coax everyone out of."

New Interprofessional Opportunities

Programming

"Simulation is difficult as it is relative to suspending disbelief; in this environment the effort to suspend is even greater."

". . . by the movement of programming to virtual delivery, some of our satellite campuses have been able to more easily participate."

". . . increased access for those who may not be able to come to campus and increased safety for health-compromised individuals."

"Certain key programs do not seem to have an effective on-line alternative currently. We need to find other means of achieving those learning objectives."

Delivery

"The OIPE [Office of Interprofessional Education] has been viewed as a resource for many units across campus to help problem-solve their own disruptions in work or class delivery as our events have been successful and are viewed as innovative."

". . . programs have been converted to virtual delivery. This has required training in the online environment of faculty, staff and students."

Instructional Design

"Our service based IPE initiatives are on pause due to the risk to community members, students and faculty. Some have transitioned to teleheath using teleteaming."

"All of our interprofessional training activities had to be moved online due to restrictions imposed by social distancing rules at our university. This change has necessitated curriculum revisions in order to adapt everything to scenarios that could be practiced online."

"Our team has embraced the challenges posed by COVID. Instead of restricting what we are able to do, we have created innovative solutions and alternative formats to meet IPE/IPC goals. This has resulted in new partnerships with a number of units across our campus as well as other universities. It is our hope that these new relationships will continue to strengthen and be fruitful as they have grown from our success in meeting goals to create highly-effective teams that create innovative solutions to shared problems in a timely way."

". . . the online environment negates many of the commonly raised barriers to IPE so it could be that we see more engagement."

"We are capitalizing on the creativity at hand to create a few more opportunities . . . like having nursing students page medical students about simulated patients and working on asynchronous communication."

"The move to an all-virtual format for IPE has eliminated several barriers previously hindering implementation of our IPE events. We have students distributed across the state and it was difficult to manage interprofessional interactions that were conducted as a hybrid with some students meeting in person and other students using video technology to participate. Have ALL students participate virtually has leveled the playing field in this regard."

Experiential Learning

"Many interprofessional teams were disrupted in an effort to limit the number of bodies in the hospital and clinic settings."

"Students were initially removed from clinical rotations, but have since returned in some programs, allowing resumption of some clinical IPE."

"While all 'didactic' work related to it has been converted to online delivery, the direct patient care has continued. In light of COVID we did need to purchase the appropriate PPE for the students participating in this program."

"Clinical IPE has been less affected. The challenge is to get students into clinical placements, but once there, they are able to engage in IPCP."

"I predict that burn-out in care providers will hit hard in the near future. This would impact uni-professional and IPE clinical opportunities. Supporting the resilience of the workforce needs to be a priority. In the workplace IP collaboration is being argued to be a source of resilience."

Program Assessment

"To date, all of the activities have been successful with the virtual process, and we are seeing some of the highest student evaluation data we have ever received."

". . . opportunities to compare the in-person results with the virtual results to come up with the best future model."

Discussion

This qualitative investigation represents 21 respondents' descriptions of the impact of the COVID-19 pandemic on U.S.-based IPE program organization and resources as it existed in late 2020 and on IPE opportunities that lie ahead. It also builds upon prior work[7–11] regarding financial resources and other factors that impact IPE program development and sustainability.

Although there is marked heterogeneity in IPE programs' resources and structure across the U.S.,[9] respondents clearly and consistently indicated that IPE programs had successfully moved from being largely place-based and face-to-face to a virtual environment as a direct result of the pandemic. Doing so required intensive effort by senior leadership, staff, faculty, and students on many fronts, including logistics, curriculum, pedagogy, and technology. Responses suggest that this transition was a major departure from pre-pandemic practices.

It is also clear that the pandemic prompted reallocation and diversion of resources previously ascribed to IPE[5]; IPE administrators responded with concerns related to financial sustainability, the ability (or inability) to retain current or hire additional staff, impediments to new program growth and development, and uncertainty regarding the timeframe for the return to pre-pandemic norms.

Based on this research, adaptations resulting from the pandemic that could improve future interprofessional programming include reconsidering the use and expanded ability to use simulation as a teaching and learning modality. IPE programs should consider how curricula administered virtually can attain the same learning objectives as curricula administered in person. The move to virtual curricular delivery also facilitated IPE programs' reach to previously isolated student populations, such as those geographically distant. Similarly, it increased opportunities for student engagement among those students who might be less comfortable with face-to-face interactions.

The theme of opportunities related to the delivery of IPE coalesced around several subthemes. The first subthemes related to a significant need for further education and training for students, staff, and faculty on the programming and delivery methods for IPE, in addition to the need to reinforce with administrators the benefits of IPE to encourage financial support during this pandemic and beyond. The other delivery-related opportunity reflected the abilities of IPE teams and programs in reaching their students, thus becoming a hub of best practices for others on the virtual campus. This recognition resulted in the need to train and educate others outside of the traditional IPE world in those same innovative best practices.

A variety of responses coalesced around the next subtheme, instructional design, within the context of the pandemic. Adaptations of pre-pandemic practices to enable functionality within the online environment included forming innovative solutions, using new formats, developing new partnerships, a more intense focus on synchronous versus asynchronous communication, and increased use of telemedicine or telecare. Changes in instructional design and delivery also facilitated the participation of professions that, before the pandemic, had been unable to participate in IPE activities due to geographic barriers.

The impact of pandemic-related restrictions was particularly pronounced in experiential learning, the fourth subtheme, where numerous clinical sites and organizations shut their doors to students to reduce the spread of the virus. Resuming experiential learning during the pandemic required IPE educators to ensure adequate personal protective equipment for students, identify testing resources, and provide assurance that patient volume was at a level that would ensure a safe and meaningful experience for students and clinical preceptors. Responses suggest that academic health centers (AHC) had more enablers and connections than those in non-AHC environments with respect to returning to experiential learning. In AHCs, where the education of future healthcare professionals is a core tenet,[9] this return to experiential learning may occur more readily than in non-AHC settings. An emergent opportunity that remains is for health systems to encourage and support the development of resilience in clinicians and clinical preceptors, with IPCP as a critical component, as they have borne much of the brunt of the challenges brought on by this once-in-a-lifetime pandemic.

The final subtheme related to new interprofessional opportunities was adaptations to program assessment. While some reported high levels of student satisfaction in virtual IPE activities, the need remains to describe IPE outcomes and responses to the pandemic's unique circumstances, and to compare the outcomes from traditional, pre-pandemic IPE efforts to those in the pandemic environment. This pre- to intra-pandemic assessment must occur to determine the efficacy of current educational interventions. While this pandemic experience has been a significant accelerator of progress within IPE, one must pause, reevaluate the current condition, and reflect on what has been learned through this process before forging ahead. This can ensure that shortcomings are identified (e.g., failure to assess and use of inadequate or incompletely defined outcomes), reversion to pre-pandemic "norms" is avoided, and development as educators and healthcare professionals is continued.

The survey results gave rise to several questions. One of the most prevalent is, are health systems and IPE leaders and educators, academically, clinically, and administratively, being reactive or proactive in their approaches? Why have IPE efforts been primarily relegated to in-person offerings when the mass of higher education has been transitioning toward more virtual or hybrid platforms? Under what circumstances is there clear value in the face-to-face as compared to the virtual environment? Why did it take a pandemic to get providers to push payers enough to support telemedicine? Are we gathering sufficient data to justify and enable telemedicine expansion to become an enduring outcome of the pandemic? How many patients were previously unable to receive services when telehealth was not an option? Do we know what best practices are in the pre-pandemic in-person environment, let alone the practices being used within the pandemic? What can be done to prevent the "slow creep back" to pre-pandemic silos, practices, and policies? How can we take advantage of these opportunities, and the accelerator of progress that the pandemic has been?

The outcomes that IPE is striving to achieve and their relevance to the Quadruple Aim of decreasing the

cost of care, increasing care quality, improving population health, and ensuring a better working environment for healthcare professionals and staff[12-14] must be considered. This is particularly true of the fourth aim, as respondents stated their "predict[ion] that burn-out in care providers will hit hard in the near future" due to the numerous additional stressors applied to them during this pandemic. Respondents identified that, "[s]upporting the resilience of the workforce needs to be a priority" and that "[i]n the workplace IP [interprofessional] collaboration is being argued to be a source of resilience." IPE creates a strong pipeline of health professionals equipped to work in a collaborative, team-based environment.

Similar consideration would apply to expanding the Quadruple Aim, and thus developing a framework for a quintuple aim, which furthers healthcare and IPE's responsibility to address healthcare inequities.[15] These inequities exist not just in the level and quality of care provided to each individual, but in who is providing this care and structural barriers to health. This requires a move beyond satisfaction and self-assessment measures to include additional measures assessed by other stakeholders in the provision, receipt of, and payment for healthcare services, including healthcare professionals, payers, policymakers, and members of the public, which is consistent with previous recommendations from the Institute of Medicine.[12]

Although questions remain, interprofessional educators and healthcare professionals responded admirably to the pandemic. They deployed innovative programming and delivery models created in a timeframe that, before the pandemic, would have been thought to be impossible.

Limitations

The limitations of this qualitative research include its time-specificity, making it difficult to replicate as the dynamics of meaning are based on a social-historical context. The pandemic was in full force and organizationally disruptive at the time of the study. The passage of time has allowed adapted processes to be developed, and thus, the study could not be replicated as greater bias would be introduced. An additional limitation is that the number of respondents was small, as they were a subset of self-selected individuals from the national study that opted to participate in this study on the impact of the pandemic on IPE programs.

Lessons Learned

IPE educators were resilient, creative, and dedicated in times of turmoil caused by the global pandemic. Virtual learning enabled new opportunities in IPE, removed several barriers to participation, and did so without sacrificing experiential learning. Clinical patient care continued throughout the pandemic with high demands on providers. Institutions augmented students' clinical time under strict safety guidelines established by the CDC and individual organizations. Telemedicine and simulated learning enhanced IPE learning opportunities when clinical sites were off-limits until institutions established guidelines to promote community safety. Actions described by those participating in the study denote a need for more proactive educational and financial measures when responding to and preparing for disasters, whether natural or manmade. There is also a need to explore the difference between face-to-face IPE learning and online or distance learning related to IPE performance outcomes.

The pandemic appears to have become an *accelerant* for educational innovation for many academic institutions, pushing the boundaries of integration for existing technologies. The learning curve was steep during the initiation phases. However, faculty and students adapted to processes over time, with faculty experiencing greater challenges adjusting teaching strategies to new learning environments. The pandemic allowed faculty an opportunity to demonstrate greater empathy and compassion for one another and students. The technology used allowed for greater inclusion of professions or geographic sites not previously capable of participating in IPE learning activities. The pandemic shed light on the inequities in health care and in education in a manner that could be demonstrated in simulations and role plays. Thus, it has been suggested that IPE telehealth competencies should be established for healthcare professions as well as patients with some level of consistency in telehealth platform functions and language.[16]

Conclusion

U.S. IPE programs faced unprecedented financial, logistical, technical, and pedagogical challenges during the COVID-19 pandemic that mirrored similar challenges throughout higher education and academic health sciences centers. Qualitative responses to a mid-pandemic survey indicate that while IPE programs grapple with the transition to a virtual environment and significant financial uncertainties, they also are developing highly innovative approaches to IPE in the virtual environment. The lack of preparation for an event of this magnitude strained the education and healthcare systems tremendously; thus a more proactive approach in planning for challenges, natural and manmade, is needed. The pandemic offers IPE programs an opportunity to reflect on core mission and celebrate their resilience in responding to this unique challenge. This research supports the need to further clarify the role of IPE and IPCP as a driver for the quintuple aim as a framework for optimizing healthcare and system performance.

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