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# Forward Thinking and Adaptability to Sustain and Advance IPECP in Healthcare Transformation Following the COVID-19 Pandemic

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# Forward Thinking and Adaptability to Sustain and Advance IPECP in Healthcare Transformation Following the COVID-19 Pandemic


## Abstract

The proliferation of the novel SARS-CoV-2 (COVID-19) virus across the globe in 2020 produced a shared trauma internationally of unprecedented devastation, disruption, and death. At the same time, the pandemic has been a transformation catalyst accelerating the implementation and adoption of long overdue changes in healthcare education and practice, including telehealth and virtual learning. The COVID-19 pandemic has placed healthcare at a crossroads, either viewing it as a temporary situation that requires short-term solutions, or as a major disruption that presents opportunities for innovation for sustainable development and transformation. As COVID-19 transitions from pandemic to endemic, we have a unique opportunity to leverage lessons learned that can foster healthcare transformation through innovation, forward thinking, and interprofessional education and collaborative practice (IPECP). With the changing landscape of higher education and healthcare, IPECP leaders need to reflect on and implement 'Forward Thinking and Adaptability' and 'Sustainability and Growth' in their IPECP approaches and strategies to achieve the Quintuple Aim. To capitalize on this opportunity and based on a recent publication by InterprofessionalResearch Global, this paper explores and debates (from a global perspective) the impact and application of healthcare education and practice transformation on IPECP with the goal to identify best practices in integrating and sustaining IPECP and building a resilient workforce.



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# Forward Thinking and Adaptability to Sustain and Advance IPECP in Healthcare Transformation Following the COVID-19 Pandemic

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**ABSTRACT**

The proliferation of the novel SARS-CoV-2 (COVID-19) virus across the globe in 2020 produced a shared trauma internationally of unprecedented devastation, disruption, and death. At the same time, the pandemic has been a transformation catalyst accelerating the implementation and adoption of long overdue changes in healthcare education and practice, including telehealth and virtual learning. The COVID-19 pandemic has placed healthcare at a crossroads, either viewing it as a temporary situation that requires short-term solutions, or as a major disruption that presents opportunities for innovation for sustainable development and transformation. As COVID-19 transitions from pandemic to endemic, we have a unique opportunity to leverage lessons learned that can foster healthcare transformation through innovation, forward thinking, and interprofessional education and collaborative practice (IPECP). With the changing landscape of higher education and healthcare, IPECP leaders need to reflect on and implement 'Forward Thinking and Adaptability' and 'Sustainability and Growth' in their IPECP approaches and strategies to achieve the Quintuple Aim. To capitalize on this opportunity and based on a recent publication by InterprofessionalResearch Global, this paper explores and debates (from a global perspective) the impact and application of healthcare education and practice transformation on IPECP with the goal to identify best practices in integrating and sustaining IPECP and building a resilient workforce.

**Keywords**: interprofessional education, collaborative practice, system transformation, healthcare, telehealth, InterprofessionalResearch Global

## INTRODUCTION

### Overview – Systemic Response to Global Disruption

Since 2020, the world has experienced “once in a generation” devastation, disruption, and death due to the COVID-19 pandemic. Despite its significant devastation and disruption, the pandemic also acted as a transformation catalyst that accelerated the implementation and adoption of long overdue changes in healthcare education and practice, including telehealth and virtual learning. However, effecting sustainable healthcare transformation requires systems-based change management that embraces innovation, collaboration, resilience, and longer-term planning and preparedness.

The COVID-19 pandemic has significantly enhanced the appreciation of interprofessional teamwork and collaboration in healthcare. Before the pandemic, a consensus on the positive impact of interprofessional teamwork on healthcare was emerging among healthcare professionals and organizations. The COVID-19 pandemic elevated this from "awareness to a necessity" with the urgency for interprofessional collaboration which arose from healthcare workforce pressures during the pandemic where increased demand for health care led to new perspectives around scope of practice and context of delivery of services.

Interprofessional collaboration across professions and sectors during the pandemic significantly fostered healthcare innovation and transformation in quickly developing and implementing new models of education, care, treatments, and vaccines for COVID-19. The role and use of digital technologies in healthcare education and practice have been extended and solidified by the pandemic. Macro-level policies and regulation were temporarily modified to address the challenges that the healthcare providers, students, and educators were facing in their everyday practice and education. The rapidly evolving landscape of healthcare education and practice through digitalization and smart technology integration has created unique opportunities for such a systems-based change management in healthcare to help improve not only interprofessional education among the current and future generations of healthcare providers, but also patient and population care, safety, and health outcomes.

In practice, while telehealth continues to serve as a primary method of delivering care to millions of patients who would otherwise not have access to healthcare, restrictions on who, how and when to use it remain a challenge. In education, students and faculty are still experiencing fragmentation in learning and collaboration while the sustainability and effectiveness of virtual learning in healthcare education is not yet fully understood.

Capitalizing on this unique opportunity and leveraging the lessons learned from the pandemic to foster healthcare transformation through innovation and IPECP, the international organization of InterprofessionalResearch.Global (IPR.Global), in collaboration with the American Interprofessional Health Collaborative (AIHC) and the Canadian Interprofessional Health Collaborative (CIHC) are providing this discussion paper, developed as the next step after publishing a joint e-book by the group entitled, ‘*Interprofessional Education and Collaborative Practice (IPECP) in Post-COVID Healthcare Education and Practice Transformation Era’*.[1] This report provides a global perspective on best guidelines and practices to integrate and sustain IPECP during the post-COVID era of healthcare education and practice transformation. In this paper, we call on interprofessional educators, practitioners, leaders, scholars, and policy makers to utilize “Forward Thinking and Adaptability” and “Sustainability and Growth” in their IPECP approaches and strategies, to achieve the Quintuple Aim of better health, better care, better value, better work experience, and better health equity for all.[2]

### Background

Interprofessional education (IPE) refers to occasions where students and professionals from two or more professions learn about, from, and with each other to improve collaboration and quality of services.[3, 4] The COVID-19 pandemic, despite its detrimental impacts and consequences on virtually all aspects of life world-wide, has revealed the critical role of interprofessional collaboration to save lives.[5, 6] However, some educational institutions have failed to prioritize IPE while transitioning their health professional education online during the pandemic.[7, 8]

The need for the healthcare providers to learn and work with each other (and with patient/family/community) to improve the Quintuple Aim is not new. The World Heallth Organization (WHO) has been calling for health professions to learn together to work together since 1988.[9] In response to this call, many countries, including the United Kingdom, the United States, Canada, and Australia have joined the movement towards IPECP by allocating financial and human resources to advance interprofessional education (IPE) and interprofessional collaborative practice (IPCP) among their healthcare professionals and students.

WHO’s *Framework for Action* stressed the importance of IPE for the development of a collaborative practice-ready health workforce. The document concludes that a high level of synergy between health workforce planning and health education systems is required to facilitate the sustainability of IPE, including the transition of learners from the classroom to the workplace.[3] In the same year, the Lancet Commission – a worldwide grouping of 20 professional and academic leaders - shared a vision and strategy

for the future education of health professionals.[10] In a wide-ranging critique of current health professional curricula, the commission highlighted the importance of team-based care, and therefore the need for team-based learning, with IPE throughout the continuum of training. The WHO continues to support the need for IPE. The report "Transforming and scaling up health professionals' education and training," emphasized the need for IPE to support IPCP.[11] The WHO's five-year action plan for 2017-2021, moreover, calls for "provision of interprofessional education and organization of multidisciplinary care, including recommendations on skills mix and competencies to achieve integrated people-centred care."[12] Most recently, the publication of the Global Competency Framework for Universal Health Coverage has outlined collaboration as one of six domains of competence for health professionals, recognising the importance of interprofessional teamworking to promote excellence in healthcare.[13]

***Interprofessional Socialization***

Over the past four decades, IPECP has experienced significant improvements as an approach to address the need for interprofessional collaboration across different programs and professions. The ever-changing healthcare systems in the 21st century, however, requires and demands a fundamental and sweeping shift in our thinking and conceptualization of IPECP. It seems IPECP knowledge, skills, and competencies alone are not sufficient to prepare and transform current and future health and social care professionals for an integrated interprofessional model of practice.[14] In fact, the transformation of healthcare education and practice requires the preparation of healthcare professionals who see themselves not just a member of their own profession, but simultaneously as a member of the larger interprofessional team and community (also called dual identity development) whose goals are to improve the Quintuple Aim.[5,15,16,17] Who *we are* (as professionals) greatly affects how *we think* and what *we do* in practice (i.e., responding to, prioritizing, and engaging in interprofessional collaboration).[5,18,19]

In doing so, and according to Khalili, we need to challenge our basic assumptions about how IPECP can assist students to become "collaborative practice-ready" and/or healthcare providers to become "interprofessional practitioners."[5,20] Our focus needs to shift from IPECP as the *End Goal* to IPECP as means to get to the goal of *transforming educational and practice*. There is a need to re-conceptualize IPECP as ongoing processes of socialization within a system rather than "one-size-fits-all intervention." To transform healthcare, it requires cultivating collaboration across both education and practice through system change. This system change requires rigorous research and scholarship to measure and evaluate IPE impact on learners, teams, and the Quintuple Aim.[16,19,21,22]

As an evolutionary process within a system through interprofessional socialization (IPS), IPECP is not only a pedagogical approach, but also is a philosophy of collaboration. IPECP is a philosophy of collaboration integral to the core mission in building the infrastructure and culture of interprofessionalism within the education and practice settings.[16, 19, 20, 22] As an approach, IPECP is a pedagogical strategy to seamlessly integrate opportunities for IPS and interprofessional collaboration into curricula and, in turn, into healthcare team practice.[16,22,23,24] According to Khalili and colleagues, IPS is an ongoing, complex, and phased process that occurs in and outside of classrooms, simulation and practice, through which interprofessional learners come together to learn with, from, and about each other to develop dual professional and interprofessional identity (dual identity) and to become "collaborative practice-ready" and "interprofessional practitioners" to improve the Quintuple Aim.[2,19,21,23,26,27,28,29]

In order to establish a milieu of interprofessionality and dual identity, the focus in education, practice, and health care systems should include valuing and applying IPS at all levels (individual, profession, and system levels) in which the contribution, knowledge, and skill of each profession are deemed as important as others.[19,21,22,26,30] Interprofessional socialization, through its ontological perspective of the "being" and "becoming" interprofessional practitioners, helps create the structure and space for IPE to effectively challenge the power differentials and the existing hierarchies between professions. In turn, this could influence and transform the traditional siloed approaches to health and social care professional education and practice into an integrated holistic health system. This movement requires a transformation from the historical mindset of "us versus them" (dueling) to a mindset of "we" (dualing) of interprofessionalism and teamwork.[21,22,31,32]

***Healthcare Resilience***

The COVID-19 pandemic comprehensively tested the resilience of healthcare systems across the globe. It exposed systems vulnerabilities, and gaps in strategic planning, interprofessional practice protocols, (inter)professional training, financial planning, and building infrastructure capacity.[33,34,35] These impacts highlighted the importance of building and sustaining resilient systems which require maintaining supportive infrastructures that proactively and reliably seek to prevent provider stress and reduce professional disillusionment and burnout.[34] Fostering system resilience is achieved through deconstructing and addressing the complexity of what resilience and adaptability actually look like in practice. Systems should destigmatize help-seeking, acknowledging vulnerability, and viewing individual and collective struggles as strengths, not failures.[36,37] By building a resilient system, the workplace would become more psychologically safe, by supporting the duality of workers' responses to stress during normal times and when crises erupt. Creating a culture of interprofessional psychological safety within healthcare teams can

promote interprofessional collaboration and compassion by enhancing shared interprofessional identity and communities of practice, strengthening team resilience.[34,36,38] Consistent with the Quintuple Aim, a resilient culture privileges working together as an interprofessional team to decrease burden, improve patient care, and enhance job satisfaction.[2] The case study below illustrates the influence of system culture to promote healthcare environments which are inclusive, respected and valued, thereby promoting resilience, reducing burnout, and strengthening communities of practice.

| **Case Study** |
|---|
| Some institutions have started surveying their providers to assess what they need to lessen burnout and be supported by their respective institutions. One hospital in the Northeast U. S. developed a series of information-gathering options to learn from workers about how they could reduce burnout and foster resilience. What they learned was unexpected – rather than asking for more money, less workload, and time, workers wanted to "matter." They wanted to be recognized and reinforced not just during extraordinary times but throughout their time of employment. |
| In response to the surveys, leadership redefined employee priorities with worker wellness and retention in mind. Wellness resources and recognition programs were implemented and workers across all levels were reminded that their work had purpose and meaning. Lastly, ongoing training in clinical leadership was offered to help those in management and oversight positions better understand and meet the needs of their staff. |

Barasa et al opine that a health system's strength and resilience should be measured not just by its adaptive response to a catastrophe or crisis but also by its ability to maintain everyday functioning. They suggest that while infrastructural and financial strength is important, nurturing and strengthening sustained system resilience must include team functioning and institutional culture. Developing interprofessional, competent, and resilient systems require collaboration across many stakeholders. Sustained system resilience is possible when all stakeholders i.e., individuals, teams, organizations *and,* the system are collectively enabled and empowered.[39]

During the COVID-19 pandemic health systems' capacity to deliver equitable healthcare and remain financially resilient and viable was seriously tested and came up short.[35,40,41] Thus, a forward-thinking model for the future must include collective strength-building where we not just support individuals, an essential part of the solution, but also resilient teams and organizations.[33] Building interprofessional environments with a collaboration-ready workforce functioning in healthcare delivery teams supports sustainably resilient organizations.[42] Yet this remains unrealized due to disparate accreditation criteria, standards, and uneven implementation across healthcare professional education.[5, 43]

Building resilient systems requires a holistic approach whether in times of global catastrophe or during typically functioning order. Healthcare systems, which rely on a core of well-trained, competent interprofessional workforce, require strategies to enhance resilience which are based in broad, multi-sectorial approaches.

| **Recommendations to Promote Resilience for Health Professionals:** |
|---|
| ● Broaden our understanding of what resilience means and what it should look like in healthcare practice. |
| ● Destigmatize help-seeking, dismantle hierarchy, and develop sustainable infrastructures to support health workers across all professions and levels of care. |
| ● Give voice to workers in all roles in creating wellness systems designed to meet their needs. |
| ● Create, facilitate, and advance a culture of interprofessional collaboration and teamwork among faculty, learners and providers. |

**The Direction Forward - Transformation through Collaboration across Professions, Organizations, and Sectors**

The COVID-19 pandemic has shown the importance of collaboration and partnerships across professions, organizations, and sectors. Professions needed to work together to address the surge in healthcare demands and the unknown circumstances during the pandemic, and to support each other through this time of global health emergency.[44] The collaboration between organizations was a crucial factor to increase efficiency and reduce double-track strategies in healthcare and management of COVID-19.[45] Cross-sectoral boundaries needed to be reduced to adequately address unmet health and social care needs amongst people not critically ill with COVID-19.[46]

***Maintaining Human Relationships and Connection***

The pandemic highlighted the tremendous strain on relationships and interactions in both healthcare and education. Providers experienced unprecedented pressure, with high caseloads, insufficient staffing, redeployment to unfamiliar areas of practice, as well as concern for their own and family well-being. Patients endured their stay in hospital in these circumstances, often without

the support of family and friends; many died alone during periods of visitation restrictions in hospitals and long-term care settings.[47] The ensuing moral distress has been experienced by both family members and healthcare providers.[48] Furthermore, the pandemic disrupted health profession education globally as programs shifted to online platforms and mandated IPE had to continue to meet professional body requirements for health and social care professional registration.[49,50,51] The move to online teaching presented both benefits and challenges, with relationships forged for some through digital technologies and disconnections experienced by others with inequitable digital access.[52] Studies have reported online education has the potential in leaving students with a sense of feeling isolated and disconnected from their peers, instructors, and program.[53]

In both settings, the need for humanistic responses to counteract these social disruptions became clear. Relationships are at the centre of all health care experiences; hence the value of a framework like Relationship-Centred Care (RCC) that addresses the traditional relationships of provider to patient and provider to provider, as well as provider to community, and provider to self.[54] The RCC Framework has been used as a foundation to guide IPE curricular development and implementation (e.g. https://ipe.utoronto.ca/u-t-ipe-curriculum).

Various approaches have been proposed to develop health profession students' humanistic and empathic responses in health care encounters with both the service users and with fellow team members. Foundational is the application of a humanistic paradigm which emphasizes a commitment to self-development, essentially considering what it is to be human.[55] Ultimately, health professionals are people first, and within systems or organisations people can influence the interprofessional learning culture by virtue of being human.[38]

The effort to reach one's fullest potential can be further enabled through transformative education approaches that lead to both individual and collective transformation through a process of critical reflection and critical reflexivity, examining assumptions, power, privilege, and social location.[56] An interesting approach is the integration of health, arts, and humanities which offers a preliminary framework to foster collaborative competencies and empathy development.[57,58] Referring back to the RCC Framework, the value of relationships among health professionals as well as with patients, clients, and family are acknowledged. An additional strategy is the intentional partnership with those with lived experience (patient/family partners) in education, whether at the pre- or post-licensure level. Patient partners have contributed to student appreciation of strategies that support engagement of the patient as a partner on the team, as well as growth in professional and ethical responses.[59]

***Health and Digital Literacy***

Low health literacy is associated with limited healthcare access and poorer health outcomes.[60] During the COVID-19 pandemic restrictions, there was a significant increase in the use of social media platforms that led to sharing of health information and misinformation in digital environments that amplify the reader's own worldview in addition to the proliferation of inaccurate information.[6,61] Social media algorithms and the practices of some corporate and political actors amplify certain perspectives that can oversimplify information, aiding misinformation to persist or promoting binary "them-versus-us" discourse.[62] Proliferation of a number of influential "conspiracy theories" perpetuated online and were weighed against reasonable and evidence-based public health measures, such as mask-wearing, vaccinations and even the existence of the virus.

As a result, systems that should have enhanced population health literacy by translating health information to lay terms thereby amplifying the ability to access, obtain, evaluate, health information to improve personal and public health, instead enhanced and perpetuated the dissemination of misinformation and encouraged disinformation.[6] This rise of misinformation fueled by a number of sociopolitical factors before, during, and after the pandemic have led to a wide range of challenges which a strengthened IPECP can address. To this effect, an integrative review recommends didactic and active learning strategies that target and improve health and digital literacy skills during interprofessional learning opportunities.[63] This could address health literacy not only amongst health professions but also in the communities they serve. Forming collaborative informative relationships with the communities that support and strengthen the bonds between patient-provider by replacing the transactional approach with a transformational one could effectively counter misinformation to promote accurate health literacy.[61] This would require countering the misinformation "infodemic" and political will that creates a policy realignment and regulation.[64] We need to build a social appetite for robust evidence to ensure that clear and accurate information is accessible and understandable to all.

***Digital and Blended Learning***

The COVID-19 pandemic accelerated digital transformation and adoption by many years, while also reinforcing the desire for both online and in-person educational experiences to enhance learning. In many cases, COVID-19 challenged the sustainability and growth of collaborative education and practice, but moving forward, it is essential that educators consider evidence and data to ensure sound pedagogical approaches.

In the COVID-19 pandemic, existing education programs as they exist have undergone an "urgent" transformation. Within the scope of economic and technical possibilities, the most easily digitalized elements in the previous programs were opened to remote access.[65] During this difficult period, graduation standards and goals in many programs were needed to be modified to accommodate students' graduations at the time. This accommodation raised some concerns among educational experts indicating this could lead to some learning deficits among students and new graduates, but there is yet enough evidence to demonstrate any impacts on practice. Hence, it is necessary to prioritize the collection of data and ask the proper questions to determine tonline experiences and the competencies attained are comparable to those of the in-person environments and experiences.

The post-pandemic expectation is that learning gaps turn into lifelong learning with digital and blended learning approaches. Therefore, there needs to be better understanding of the digital learning skills and their impacts on students and new graduates' lifelong learning.[66,67] The results of Kolcu and colleagues and Başer et al studies revealed valuable information that will inform future decision-making.[65,66,67] First, they found that students' digital learning readiness was appropriate for the opportunity to learn, which has helped increasing their satisfaction. Second, these researchers demonstrated that not only knowledge-base learning can successfully happen remotely, but also communication skills and psychomotor skills training could be delivered through online learning specifically if the trainings are designed with appropriate teaching and learning models. These findings provide support for using hybrid format in delivering IPECP. Considering the main goal of IPECP is to advance students and professionals' knowledge, skills, norms, and competencies towards improving interprofessional collaboration and quality of services, virtual learning with using interprofessional teaching and learning strategies and facilitation will be essential for the sustainability of IPECP.

Since the pandemic in 2020, we have created online learning experiences in several iterations, there is additional time to create assessment plans to ensure students are gaining interprofessional knowledge, skills, norms, and competencies needed for providing interprofessional collaborative practice in real world. In order to do so, many are choosing to utilize a hybrid, or blended, approach to pedagogy. Hybrid approaches allow for the use of multiple educational spaces, mimicking real-world, dynamic interaction in various settings, as well as remove many barriers, both physical and psychological, to learning.[68] For example, students separated by physical space, such as students enrolled in universities in different countries can now successfully collaborate via online platforms. Now we have a new paradigm where we design hybrid educational experiences that allow us to capitalize on positives from both the online and in-person environments.

Along with a hybrid approach comes a place for simulation-based learning. Simulation-enhanced IPE provides various professions the opportunity to develop interprofessional collaborative competencies, recognize and appreciate their own and other team members' roles in real time, improve overall communication skills, and develop adequate patient care in a low-risk environment.[69] As technology and healthcare both continue to advance, especially throughout the COVID-19 pandemic experience, simulation has emerged through virtual technologies as we urgently adapted and moved to online platforms. There are multiple experiences of universities providing successful online interprofessional-based simulation experiences using standardized patients or through virtual reality. There are a range of adaptations that can be made, such as software, videos, quizzes, interactive workbooks, online question and answer sessions, as well as choose your own adventure role plays.[70] As we have now experienced multiple adaptations during the pandemic, moving forward, we can utilize facilitator and student data to ensure that we are optimizing the online and in-person interprofessional education simulations and matching the real-world reality. The online and in-person IPE simulations need to be a priority as we continue to design viable educational experiences that data is utilized to determine the efficacy of the approach and anchored in pedagogy.

***Interprofessional Telehealth***

Interprofessional teams have used telehealth effectively, even prior to the pandemic. Specifically, IPECP has been shown to have the potential to improve patient quality outcomes, improve medication-related problems, and reduce hospital readmissions.[71,72,73] With the delivery of team-based telehealth, there has been a reduction of no-show visits, which further reduced the potential risk of disrupted patient–provider relationships.[74] Some findings describe that telehealth contributes to better appointment attendance, improved chronic disease management, and better patient adherence to their care plan (National Committee for Quality Assurance). Regarding the interactions between the team and patient, one study demonstrates increased connectivity between a patient and their care team throughout a complex care journey.[75]

This is the time for providers to discuss a joint approach of telehealth delivery in interprofessional care. One option is to consider how telehealth can be used as a method to deliver interprofessional care. Telehealth practices can be aligned to interprofessional competencies with the goal of improving team-based care delivery.[76,77] Coordinating care can reduce limitations in information technology, and overcome both time and capacity issues.[77] Telehealth can also be improved by increasing communication across the team as well as to patients.[77] Another option to utilizing telehealth in interprofessional practice is by using an established virtual care competency framework and aligning it to IPECP practices. For example, similarities were established between a medicine-

based telehealth framework and IPECP competencies, which showed alignment of ethical considerations, patient safety, communication standards, and roles and responsibilities.[77]

Ensuring that team-based care continues in a virtual environment is critical to the success of telehealth. An article published by the American Medical Association recognizes the need to optimize team-based care within telehealth services and provides advice on ensuring that team-based care continues to be present in the virtual environment. Strategies include (1) building an appropriate team, including administrative support, (2) choosing a model, synchronous or asynchronous, that meets the needs of the practice site and type of care needed, (3) developing appropriate workflows that clearly define the roles and responsibilities of each team member, and (4) implementing appropriate quality improvement strategies to ensure optimal outcomes for the team and the patients.[78] As telehealth care presents challenges, including technology and documentation, that may not exist for in-person care, the team may consider conducting simulated telehealth visits beforehand. The simulation may include the member of the care team with one person playing the role of the patient, and patients can also be given the opportunity for a practice visit before their scheduled appointment to ease concerns.[79] A simulation will increase the likelihood of a successful visit and build confidence within the team. Continually promoting team-based care in the virtual setting is imperative to not revert to siloed care and will increase the likelihood of safe, efficient, and effective care for patients and families.

With the exponential growth of virtual healthcare visits during the pandemic, comes not only the need to address impact on team dynamics among healthcare providers in this new setting, but also the recognition that the participating patients/clients/caregivers will require support to engage fully. This progression of the patient's/client's role now requires them to be better prepared for the digital experience.[80] A scoping review examining resources available to support patient/client partnering with the interprofessional team yielded three themes: virtual workflow models; guidelines for "webside" manner; and virtual patient support personnel.[81] Described workflow models attempt to mirror in-person encounters, focusing on how to structure interactions. "Webside" manner refers to the nature of interactions between the health care providers and patients, which are more challenging when social and communication clues may be less discernable.[82] Consideration must be given to support full participation of all attendees, a dynamic that continues to require further exploration. Finally, dedicated personnel may be needed to support full patient engagement in the virtual environment. Srinivasan and colleagues note that "patient engagement is the key driver of high-quality health care outcomes", thus, the clinical team must mitigate potential challenges to both the technical and relational aspects of all interactions.[80]

Given the anticipated increase in demand for telehealth, health professional students will require specialized training, during their professional training, to acquire the knowledge and skills necessary to provide care for patients and communities in this context.[83] While well-established telehealth curriculum and training opportunities for students are still limited, the University of Wisconsin-Madison in collaboration with Wisconsin Department of Health Services has recently developed and delivered a customized telehealth curriculum for interprofessional dementia caregiving as a community practicum for their cross-professional students.[84,85,86] The findings of this interprofessional telehealth delivery demonstrated significant improvement in students interprofessional socialization and teamwork while significantly advancing their knowledge about dementia and dementia caregiving using a pre-post evaluation design.[87]

Health professions graduates will need to be competent both in IPCP and the use of information technology to ensure effectiveness of the virtual health care team.[88] Telehealth curricula can include topics related to technical and communication skills, interprofessional collaboration and teamwork, professionalism in telehealth including patient confidentiality and consent, physical examination in the virtual environment and understanding the challenges and limitations of telehealth and how to overcome them.[86,89] Additionally, professional development programs for faculty members need to adapt to the evolving need for telehealth with health professions curricula to ensure faculty members competency on the use of technology and awareness of best practices for telehealth to ensure effective delivery.[83,90] Furthermore, health professions schools must work closely with practice sites to understand how telehealth is delivered to inform curricula development to align with local needs of the community.[90]

While face to face training and direct patient care is important, there are opportunities for virtual precepting and to involving students to address some of the challenges faced in providing care to rural communities.[83] Health professions schools are called to explore further the role of telehealth in the context of interprofessional training within their curricula transformation strategies using a theoretical framework and to revise competency frameworks to accommodate new practice realities.[83,86,90]

***Health Care Policy***

Globally, health and social care professional, statutory and regulatory bodies (PSRBs) outline healthcare workforce standards for proficiency and competence. Competence is needed with interprofessional collaborative practice (IPCP), a point recently reinforced by the World Health Organization with the inclusion of the collaboration competence domain in the Global Competency Framework

for Universal Health Coverage.[13] In some countries such as Canada and the United Kingdom interprofessional education (IPE) is a mandated integral component of healthcare curricula to prepare health and care workers for practice and to optimize safety and service provision.[42, 91, 92]

The Interprofessional Education Collaborative's operational definition for interprofessional competencies in health care is:

> *… integrated enactment of knowledge, skills, values, and attitudes that define working together across the professions, with other health care workers, and with patients, along with families and communities, as appropriate to improve health outcomes in specific care contexts.*[42]

Emerging from the pandemic and a time of emergency remote teaching, the role of technology needs to be considered in interprofessional competency development. The current and future healthcare workforce, alongside educational providers, need to develop digital literacy as healthcare advancements shape interprofessional learning and collaborative practice.

## CONCLUSION

The shared global trauma of COVID-19 stressed healthcare workers and the healthcare system producing adaptations and changes in all sectors. The question remains if these will be lasting improvements or merely emergent measures to quickly pivot to a new situation. Some of these adaptations include re-examining the nature of work roles and collaboration; digital learning and telehealth; and creating lasting competency and policy structures to support this new paradigm. It is through forward thinking and the willingness to adapt to new conditions where we feel that sustainable system improvement will occur. These changes, in a constantly evolving care environment, will hopefully address the Quintuple Aim creating positive impacts around quality, costs of care, access to care, equity, and patient/provider well-being.

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