What the COVID-19 Pandemic Can Teach Health Professionals About Continuing Professional Development

David Sklar, MD, Yusuf Yilmaz, PhD, and Teresa M. Chan, MD, MHPE

Abstract

The world's health care providers have realized that being agile in their thinking and growth in times of rapid change is paramount and that continuing education can be a key facet of the future of health care. As the world recovers from the COVID-19 pandemic, educators at academic health centers are faced with a crucial question: How can continuing professional development (CPD) within teams and health systems be improved so that health care providers will be ready for the next disruption? How can new information about the next disruption be collected and disseminated so that interprofessional teams will be able to effectively and efficiently manage a new disease, new information, or new procedures and keep themselves safe? Unlike undergraduate and graduate/postgraduate education, CPD does not always have an identified educational home and has had uneven and limited innovation during the pandemic. In this commentary, the authors explore the barriers to change in this sector and propose 4 principles that may serve to guide a way forward: identifying a home for interprofessional continuing education at academic health centers, improving workplace-based learning, enhancing assessment for individuals within health care teams, and creating a culture of continuous learning that promotes population health.

In the wake of the pandemic, academic health centers (AHCs) have combined their missions of education, clinical care, research, and administration to combat the public health disaster of COVID-19. To do so, they have greatly reorganized and consolidated many operations. There have been multiple immediate needs: (1) to safely provide clinical care for patients with an emerging disease, (2) to educate the workforce about how to diagnose and manage the virus, and (3) to engage communities to reduce infections through public health interventions.

These missions, however, have met with limited and uneven success due to problems in the fragmentation of education for practicing clinicians and to the lack of an identified home for continuing professional development (CPD) that can serve as a source for new information and new skills. The care imperatives to address COVID-19 include the need for different health professions to work together, and their education must similarly be coordinated, collaborative, and aligned with their work. Can our experiences with the COVID-19 pandemic accelerate innovation in CPD to face new health care challenges in the future? We present a framework to address the fragmentation of continuing health education, which includes identifying a trusted home for CPD, providing team-based training, ensuring that training is integrated into the actual work environment, determining how to assess the individual and team competencies that are required in the workplace, and examining how changes in the culture of AHCs can facilitate these changes. We believe that the changes we suggest could help our health systems be better prepared for the learning needs of future health-related disasters, including pandemics.

The dominant form of clinical education is still delivered in profession-based silos. Our individualist approach to health professions education may very well be due to pragmatic reasons; licensing, credentialing, and certification and recertification are all granted at the individual level. However, modern health professionals with an independent license to practice rarely have an individual practice anymore. The graduates of health professions education are often thrust into highly complex and interdependent systems, and instead of being independent, they are merely practicing in an unsupervised manner but within very intercalated and interwoven systems. COVID-19 has provided daily reminders of this interdependency of health professions as there has been a daily need to share rapidly evolving information and practice approaches. When faced with a global pandemic, the health care sector has responded in many ways that are quite exciting. We have developed new vaccines and diagnostic tests with unprecedented speed. We have found a way to rapidly evaluate and treat many patients using telehealth systems and to convert almost our complete preclerkship curricula into digital formats. However, the collaborative education of interprofessional teams has yet to crystalize in this new reality. How might this experience with COVID-19 help to empower our continuing educational system for the future?

We have brought together 4 principles that are relevant broadly to future continuing education programs. We suggest that AHCs, with their expertise and commitments to undergraduate and graduate medical education (UME and GME), can become the home of the interprofessional education (IPE) of practicing clinicians. We also discuss the need for workplace-based training, ways to assess the competence of individuals, teams, and individuals within teams to...
address new information about a new disease; and the creation of a culture of continuous learning that incorporates clinical needs and population health goals.

The Future of CPD

We must ask our medical education community: What would the future of health professions education look like with excellent CPD? We believe that the following 4 principles, if fully realized in our considerations of excellent CPD, could help us build a future state that is more responsive and resilient to disasters like the COVID-19 pandemic.

CPD must have a home where team-based training can be provided

We should expect the same level of educational quality and commitment for the IPE of practicing physicians as we do for the quality of medical student and resident education from AHCs. Education at all levels should be team-based to best contribute to high-quality population health. AHCs that have CPD offices can ask the office to lead programs of IPE that incorporate their research and clinical care to promote the health of the population. CPD offices usually receive far less financial support and institutional attention than do UME and GME programs even though practicing individuals spend much more time receiving CPD than they did receiving their initial training. Incentives to encourage AHCs to devote more attention to their practicing graduates could include stronger linkages with philanthropic gifts from grateful alumni and better educational contributions from practicing clinicians to the education of the AHC’s students and residents. While specialty society–based CPD will continue to have a role in supporting the various needs of specialists, AHCs should be encouraged to provide longitudinal IPE oriented to improving population health.

Project Extension for Community Healthcare Outcomes (Project ECHO) is a team-based CPD program in which teams of primary care and specialist physicians, physician assistants, social workers, and nurses convene using a web-based platform. The goals of the team are to discuss and manage the care of patients with complex diseases with specialists who provide case-based guidance to help solve specific patient care problems while also providing IPE to the primary care team.

This approach allows patients to get needed care in their home communities and increases the capabilities of the community health care team. The education is relevant and meaningful to the team, which makes it more likely to be remembered.

Creating systems that augment shared awareness of quality improvement principles and their implementation is also key for the larger team—the health system of the AHC. Integrating quality improvement and systems thinking is paramount for the entire health care team and uses IPE to improve quality of care and reduce costs, steps that will benefit patients and AHCs. Introducing co-learning between interprofessional groups will be the key to creating shared mental models within our systems that will align the goals of the health team.

Training must be workplace based and integrated within the actual work environments

Certainly, many AHCs engage in continuing education of their professionals. However, going forward, the ex vivo classroom and online training must comprise the minority of training for individuals in practice. Instead, CPD must be more completely integrated into the workplace. We must close the gap between knowledge and workplace activity by finding ways to engage group-based learning within our workplaces. In situ simulation represents a significant leap toward how we might change workplaces. Using manikins or standardized patients and offering learning experiences to interprofessional providers in their workplaces allow for a more efficient use of time and a more effective translation of theoretical knowledge into the providers’ realities. Rehearsals in which providers review procedures that are rarely performed and practice them in an operating room or emergency room can provide realistic opportunities to maintain individual and team skills. These workplace-based team-learning experiences can be built into work schedules and procedural checklists. We must find ways to capitalize on both the systems learning (e.g., workflow improvements, quality improvement) and the personal learning concurrently.

Health professionals often seek informal education in the workplace to clarify a clinical question that a colleague from another profession or specialty has raised. In the workplace, gathering and using information require just-in-time access to up-to-date, accurate information that may not come from the profession of the clinician who is seeking the information. During the COVID-19 pandemic, not only have social media platforms been a touchpoint for interprofessional and international connection and support, but they have also expedited dissemination of knowledge from blogs, podcasts, and preprints. Future IPE should include resources to help clinicians understand how best to use these resources.

Three considerations should guide use of online technologies to enhance just-in-time workplace-based learning. First, is the source of the content on the online platform credible? Second, is the platform that hosts the resources and content designed specifically for workplace-based learning? Finally, how are the stakeholders of health care education informed of the resources so that they will access them and develop skills and habits for using them?² We suggest more development of the open educational resources movement (e.g., open access podcasts, blogs, other digital educational resources that are freely available to the world at no cost to the user), including more robust editorial processes.³ Users should be empowered to engage in constant surveillance and critical appraisal of the available resources.⁴

Assessment of individuals and evaluation of team performance must be nuanced, accessible, ubiquitous, and timely

Workplace-based training and assessment will soon be inextricably linked to online technologies. As assessment of individual practitioners becomes more the norm within our clinical spaces, we must be careful to provide adequate support and guidance to providers receiving feedback. Individuals being assessed can experience moral injury and distress if they are not adequately prepared for the experience. Similarly, individuals being assessed can ignore feedback if they consider their assessment was not backed up with sufficient data.⁵

Team- or unit-level data will also be important for health systems evaluation. The data must be valid, credible, and
associated with the performance of both the individual and the team. We must help individuals parse these data to identify their own learning needs, but we must also help aggregate the team members’ data to gain insights on how a team might improve.

Audit and feedback is a popular modality of quality improvement that centers largely on providing a practice audit to an individual provider. However, this method has been shown to be rather unreliable at the individual level, whereas group-based interventions have been shown to improve audit and feedback, which suggests that team-based approaches to feedback may be more effective overall. Scaling up the use of audit and feedback to allow for both individual and team-based reporting of outcomes will be crucial; only when each provider can understand their individual contribution to the team can we begin to move the mark in how to improve patient care. We must also recognize the importance of consistency and team dynamics in patient care, both of which may be more important than individual competency in some cases.

After all, the patient’s outcomes are not driven by individuals but rather by the system they encounter, with a combination of providers working together to ensure the patient receives the best care. Indeed, we must quantify the collective competence of a system to best describe its fitness for delivering patient-level outcomes. But, can we also find ways to distinguish individual contributions from within that collective performance? The question, therefore, is whether we can find a way to separate an individual’s contribution to an overall patient outcome. Some scholars, such as Sebok-Syer et al and Smirnova et al, have delved into this concept of interdependent versus individual competence, but these works are quite early conceptualizations. Our field needs to develop new ways to quantify within a system each provider’s contribution to each patient’s outcomes. As we gain deeper insight into the performance of team members via more nuanced analytics, we should be able to find improved combinations of providers to effectively moneyball (i.e., use data from analyses to achieve better performance) for better outcomes.

Culture change must occur to support a mindset of institutional and personal growth

AHCs must become learning organizations. As more and more training programs begin to enter the competency-based medical education (CBME) movement, there have been increased writing and discussion about the growth mindset of trainees, but little attention has been paid to the systems in which these trainees will eventually work. To achieve the CBME’s aims (e.g., better patient care and outcomes), we must find a way to change the culture around AHCs to emphasize population health and the education required to achieve it rather than clinical revenues. The concepts of a learning culture and deliberate and continuous improvement are well aligned. Kegan and Lahey have developed a framework for organizations wishing to become deliberately developmental. Thoma et al have recently written about the application of the Kegan and Lahey model of Deliberately Developmental Organizations in the context of learning analytics and CBME; this model should be further explored to determine if it could serve as a framework to help us to realize the potential of learning and development within organizations.

Measures that might facilitate this culture change are systems-oriented morbidity and mortality rounds, which would include the contributions of information systems, staffing, communications, noise, and other environmental factors to problems in clinician care. Moving from the measurement of individual competencies to team and organizational measurement systems that reward population-level outcomes can encourage a culture of teamwork and team excellence.

Conclusions

The COVID-19 pandemic has shed light on many principles that we must carry forward to our future state. COVID-19 has taught us how a system that rewards individual competence and excellence can result in colossal failure for the health of the population. A culture of continuous learning with a goal to create better population health can and must be achieved. We believe that AHCs can help support team-based education and practice. We hope that we can use the lessons learned from the COVID-19 pandemic to help us make the bold changes needed to create a continuing health professions education system that will be innovative and responsive to whatever health problem confronts us in the future.

Acknowledgments: The authors appreciate the work of all the tireless clinicians, teachers, and leaders who helped them organize into teams to combat the COVID-19 pandemic.

Funding/Support: Y. Yilmaz and T.M. Chan receive salary for their work within the Office of Continuing Professional Development at McMaster University. Y. Yilmaz is the recipient of a postdoctoral fellowship grant from the Scientific and Technological Research Council of Turkey (TÜBİTAK).

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

D. Sklar is professor of emergency medicine, University of New Mexico Health Sciences Center, Albuquerque, New Mexico, professor, Arizona State University, College of Health Solutions, Phoenix, Arizona, and professor, University of Arizona College of Medicine, Tucson, Arizona; ORCID: http://orcid.org/0000-0003-4705-7904.

Y. Yilmaz is a postdoctoral fellow, McMaster Education Research, Innovation, and Theory (MERIT) and Continuing Professional Development Office, McMaster University, Hamilton, Ontario, Canada, and a researcher-lecturer, Department of Medical Education, Faculty of Medicine, Ege University, Izmir, Turkey; ORCID: http://orcid.org/0000-0003-4378-4418.

T.M. Chan is associate dean, Continuing Professional Development, Faculty of Health Sciences, McMaster University, associate professor, Divisions of Education & Innovation and Emergency Medicine, Department of Medicine, McMaster University, program director, Clinician Educator Area of Focused Competence Diploma Program, Royal College of Physicians and Surgeons of Canada, and clinician scientist, McMaster Education Research, Innovation, and Theory (MERIT), McMaster University, Hamilton, Ontario, Canada; ORCID: http://orcid.org/0000-0001-6104-462X.

References

1. Arora S, Geppert CMA, Kalishman S, et al. Academic health center management of chronic diseases through knowledge networks: Project ECHO. Acad Med. 2007;82:154–160.
2. Patocka C, Lin M, Voros J, Chan T. Point-of-care resource use in the emergency department: A developmental model. AEM Educ Train. 2018;2:221–228.
3. Azim A, Beck-Esmay J, Chan TM. Editorial processes in Free Open Access Medical Educational (FOAM) resources. AEM Educ Train. 2018;2:204–212.
4. Ting DK, Boreskie P, Luckett-Gatopoulos S, Gysel L, Lanktree MB, Chan TM. Quality appraisal and assurance techniques for Free Open Access Medical Education (FOAM)
resources: A rapid review. Semin Nephrol. 2020;40:309–319.

5 Kamhawy R, Chan TM, Mondoux S. Enabling positive practice improvement through data-driven feedback: A model for understanding how data and self-perception lead to practice change. J Eval Clin Pract. 2021;27:917–925.

6 Ivers N, Jamtvedt G, Flottorp S, et al. Audit and feedback: Effects on professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2012;CD000259. doi:10.1002/14651858.CD000259.pub3.

7 Foy R, Eccles MP, Jamtvedt G, Young J, Grimshaw JM, Baker R. What do we know about how to do audit and feedback? Pitfalls in applying evidence from a systematic review. BMC Health Serv Res. 2005;5:50.

8 Cooke LJ, Duncan D, Rivera L, Dowling SK, Symonds C, Armson H. The Calgary Audit and Feedback Framework: A practical, evidence-informed approach for the design and implementation of socially constructed learning interventions using audit and group feedback. Implement Sci. 2018;13:136.

9 Lingard L. Rethinking competence in the context of teamwork. In: Hodges B, Lingard L, eds. The Question of Competence: Reconsidering Medical Education in the Twenty-First Century. Ithaca, NY: Cornell University Press; 2018:42–69.

10 Shinners J, Franqueiro T. Individual and collective competence. J Contin Educ Nurs. 2017;48:148–150.

11 Sebok-Syer SS, Chahine S, Watling CJ, Goldszmidt M, Cristancho S, Lingard L. Considering the interdependence of clinical performance: Implications for assessment and entrustment. Med Educ. 2018;52:970–980.

12 Smirnova A, Sebok-Syer SS, Chahine S, et al. Defining and adopting clinical performance measures in graduate medical education: Where are we now and where are we going? Acad Med. 2019;94:671–677.

13 Chan T, Sebok-Syer S, Thoma B, Wise A, Sherbino J, Pusic M. Learning analytics in medical education assessment: The past, the present, and the future. AEM Educ Train. 2018;2:178–187.

14 Lewis M. Moneyball: The Art of Winning an Unfair Game. New York, NY: W.W. Norton and Company; 2004.

15 Kegan R, Lahey LL. An Everyone Culture: Becoming a Deliberately Developmental Organization. Boston, MA: Harvard Business Review Press; 2016.

16 Thoma B, Caretta-Weyer H, Schumacher DJ, et al. Becoming a deliberately developmental organization: Using competency based assessment data for organizational development [published online ahead of print May 25, 2021]. Med Teach. doi:10.1080/0142159X.2021.1925100.

17 Mondoux SE, Frank JR, Kwok ESH, Cwinn AA, Lee AC, Calder LA. Teaching M&M rounds skills: Enhancing and assessing patient safety competencies using the Ottawa M&M model. Postgrad Med J. 2016;92:631–635.

Cover Art

Artist’s Statement: Heart Attack

As an 18-year-old teenage girl who aspires to work in the medical field, I found the #HeART project a unique, informative, and creative campaign to raise awareness for heart disease, specifically heart disease in women. Before learning about the #HeART project, I was unaware that heart disease was the leading cause of death for women in the United States. Unfortunately, I am not alone. Since learning about the scary reality of heart disease and its detrimental effects— affecting men as well—I was inspired to use my artistic abilities to change minds and behavior through my acrylic painting Heart Attack, on the cover of this issue.

In Heart Attack, I depict a heart in both sickness and health. From the perspective within the chest, the left side of the heart represents malady through the significant reduction in size, discoloration, and lining of the left atrium and ventricle with fat. The left side of the heart is also embedded in a cluster of barren trees that are laden with a salt shaker, fries, and the chemical formula for sucrose. The trees enveloping the heart are symbolic of disease and the items within the branches represent elements of an unhealthy diet. In juxtaposition, the right side of the heart is healthy and strong, evident in the vibrant hues of red, purple, and pink; the wholesome size; the lack of fat lining the right atrium and ventricle; and the absence of barren trees.

Since learning about the #HeART project, I have become more aware of what I consume and how to maintain a healthy and balanced diet. As a rising freshman in college, I am actively thinking of ways to stay happy and healthy in the next 4 years of my life and beyond. I find the proverb “everything in moderation” very apt because it allows for the ability to maintain a healthy and balanced diet while still enjoying every aspect of life. The #HeART project has not only altered my mentality and raised my awareness of heart disease, but it has equipped me with the power to spread awareness to others.

Acknowledgments: The author would like to thank Mark Collins-Department of Art, Oak Park and River Forest High School; Holly Gooding, MD, MSc, Emory University School of Medicine; and Jingyi Liu, MD, Stanford Healthcare Department of Medicine.

H. Bergen

H. Bergen is a third-year student, University of Illinois at Chicago, Chicago, Illinois. At the time of creating/writing, she was a student, Oak Park and River Forest High School, Oak Park, Illinois; h.bergen132@gmail.com.