

# The Impact of COVID-19 on Continuing Professional Development: Go Green and Go Home?



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At the time of writing, coronavirus disease 2019 (COVID-19) has infected more than 270 million people and has caused 5.3 million deaths. Despite the introduction of effective vaccines, the incidence of COVID-19 infection is increasing at more than 500 000 per day worldwide.<sup>1</sup>

The pandemic has also severely disrupted all human interactions, from the personal to the international. Two of the interactions that have been most markedly affected by the pandemic are social gatherings and the \$4.7 trillion tourism and travel industry. Together, these restrictions have effectively decimated the global conferencing calendar, fuelled by reports such as that of a 2-day, 100-attendee biotechnology meeting in a Boston hotel in February 2020 that was ultimately shown to have seeded approximately 300 000 COVID-19 cases, with outbreaks in 29 states (representing 1.8% of U.S. cases at that time) and at least three other countries.<sup>2</sup> The economic consequences of this almost complete cessation of travel for conferencing and tourism have been severe: It is estimated that the greater Toronto area had lost more than \$14 billion by March 2021.<sup>3</sup>

The disruptions wrought by the pandemic on worldwide educational activities have also been profound, as detailed in the Organisation for Economic Co-operation and Development and International Association of Universities 2020 reports.<sup>4,5</sup> In health care education, institutions responding to these challenges have been obliged to rapidly convert to online learning. Evaluations of online learning and best practices in digital education continue to be pursued for medical students,<sup>6</sup> residents,<sup>7</sup> and allied health care trainees.<sup>8</sup>

However, it is in the area of continuing professional development (CPD), where education restrictions and pandemic-related travel embargoes have intersected, that the impact of COVID-19 has been most pronounced. Since spring 2020, local, national, and international CPD meetings have either been cancelled or have rapidly pivoted to remote learning formats using digital platforms such as Zoom.<sup>9</sup> To date, there has been insufficient time to rigorously evaluate this seismic change in CPD practice. This is a matter of considerable interest when, arguably, CPD is the most important arena of health care education, as the number of practitioners exceeds the combined number of learners at any time. Initial reports in this area have focused on rates of uptake of online-only CPD, where anecdotal but widespread reporting suggests that the online format may increase, rather than decrease, health care provider registration for CPD events by more than 50%.<sup>10</sup>

In the obstetrics and gynaecology CPD program here at the University of Toronto, we have also seen this increase. During the first wave of the pandemic, from February to April 2020, we suspended our program to develop the personnel and infrastructure to provide virtual CPD meetings and recordings of the events on a password-protected Vimeo channel. We offered our first online course in May 2020 and to date have presented 21 courses to 8394 attendees. In course evaluations, 32% of

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attendees indicated that they would have attended the event in person, whereas 68% stated they only attended because the event was available online. Of these 21 courses, 16 are repeated annually, and registration for these increased by 79%—from 3562 in 2019/2020 (pre-pandemic) to 6364 online in 2020/2021—without any additional investment in advertising. Although there are many possible confounding causes for this increase, our experience mirrors that of other programs that migrated to online CPD.<sup>10</sup> When we asked for preferences regarding future “post-pandemic” CPD events, 57% favoured continuing the online format only, 27% were undecided, and only 16% favoured returning to an in-person or hybrid format. Narrative feedback in the evaluations alluded to both the benefits and drawbacks of the online format.

Online learning is not a new educational tool. In 1960, the University of Illinois first introduced computer-based training. In 1983 Ron Gordon, the former head of Atari, started the Electronic University Network, and the University of Toronto presented the first completely online course in 1984. Since that time, there has been an explosion of online learning worldwide. This increase has been accompanied by many technological developments—it has been said that, in the last century, technological progress has increased 30-fold every 10 years. A comparison of B.F. Skinner’s 1954 “teaching machine”<sup>11</sup> to, for example, virtual reality—enabled group learning in an acute care simulation during a present-day CPD event is striking, both in the progress made to date and the possibilities for the future.

Proponents of online learning have argued that this abrupt change to predominantly virtual learning in response to COVID-19 is a welcome and long-overdue development. Parallels have been drawn to historic examples of “silver linings,” beneficial societal changes after pandemics: For example, the Black Death is widely credited with ending centuries of repressive feudalism, when the reduced numbers of able-bodied workers markedly enhanced the collective bargaining power of serfs. Advocates for online education have also claimed that virtual CPD represents a more learner-centric system, with lower registration fees and reduced family disruptions, travel times, and costs involved in attending conferences.<sup>12</sup> Potential benefits also include increased flexibility, better standardization of educational content, and enhanced ability of registrants to hear and see speakers and their presentations. Submitting questions to an online host may also be easier than walking to the microphone in a crowded auditorium. Recordings of CPD events may be reviewed on multiple occasions and in segments that suit the schedules of learners, rather than

event organizers.<sup>12</sup> People for whom travel is difficult may also welcome a transition to online learning. Online learning has also been shown to increase access for health care workers and institutions in lesser-resourced parts of the world, although challenges remain.<sup>13</sup>

In contrast to the benefits listed, observers have also acknowledged some negative aspects of virtual CPD. There are potential logistical challenges in coordinating speakers and attendees from different time zones. Attendee attention and energy spans may also be shorter for digital than in-person events, and screen-time fatigue has been reported as a negative of virtual learning.<sup>12</sup> The loss of person-to-person interactions has also been alluded to as a significant drawback of online learning, owing to the diminution of the “soft” but human benefits of the networking traditionally associated with CPD events. These include mentorship of junior colleagues, peer support regarding shared career-related stresses, and collaboration, both in research activities and clinical initiatives. In response to these interpersonal concerns, initiatives to aid conference interactions, networking, and social events are being developed and evaluated.<sup>12</sup>

However, the issue that has received the most attention is the potential for reducing fossil fuel emissions by reducing airline flights for CPD. This editorial was written after the UN COP26 climate conference, which once again highlighted the emerging, clear mandate for individuals and organizations to reduce unnecessary fossil fuel consumption. Attendance at a 3-day conference has been estimated to increase an individual’s carbon footprint by almost seven times their usual average.<sup>14</sup> This impact is further underlined by an analysis of the impact from individual conferences, such as one in California in 2019, which was estimated to have created the equivalent of 80 000 tons of carbon dioxide from air travel.<sup>15</sup> The Royal College of Obstetricians and Gynaecologists has estimated that their transition to an online format for the June 2021 Royal College of Obstetricians and Gynaecologists World Congress saved approximately 3535 tons of carbon emission, equivalent to driving 32 million miles in a car.<sup>16</sup> Increasingly, climatology leaders are listing alternate online attendance at conferences as an important strategy in reducing our carbon footprint.<sup>17</sup>

For CPD organizers engaged in charting a course through the post-COVID-19 world, all of these issues must be borne in mind, but it is a fraught landscape. Many of the larger-audience CPD events require years of planning and significant financial commitment to secure venues; for annual meetings, multiyear advance bookings may incur

hundreds of thousands of dollars in liabilities. Although there is general uncertainty today as to the future of CPD after COVID-19, it appears likely that CPD will never return to the previous schedule of numerous in-person events at worldwide locations year-round. The two principal challenges for CPD providers in this time of transition continue to be the development and maintenance of up-to-date, robust, and accessible online programs and the need for research into all elements of online CPD in a changing world.

In summary, as in all walks of life, COVID-19 has significantly disrupted every element of health care education, most markedly CPD. The response of many CPD providers has been to pivot to online learning. In the obstetrics and gynaecology CPD program at the University of Toronto, one decision is clear: Although we may include some hybrid events, we will not be resuming in-person-only CPD when the pandemic is over. We believe that our discipline, focused as it is on the care of pregnancy and birth, should act in ways that reflect the needs of future generations and that this small step is a necessary one. We look forward to working with colleagues from information technology, education, and the social sciences to develop and evaluate initiatives that aid digitally enabled knowledge translation in ways that are more sustainable, both personally for attendees and for the planet on which we all live.

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