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Providing Medical Education in a Pandemic: A Personal Experience

N. Cleary

Academic Department, Our Lady's Hospice and Care Services, Harold's Cross, Dublin 6W.

Abstract

The COVID-19 pandemic has challenged our traditional methods of delivering medical education. The face-to-face model of didactic lectures, small group tutorials and bedside teaching were forced to cease to follow public health guidelines in order to prevent the transmission of the virus. This forced an almost overnight transition to virtual learning. This meant that many educators had to rapidly upskill. This has generated a number of technological and non-technological challenges for educators. This is a personal account of my experience as an educator in transitioning to a virtual teaching platform and the personal challenges I encountered.

The COVID-19 pandemic has challenged our traditional methods of delivering medical education. The face-to-face model of didactic lectures [1], small group tutorials and bedside teaching were forced to cease to follow public health guidelines in order to prevent the transmission of the virus [1]. The "unprecedented challenges"[2] posed by the pandemic to medical education included an almost overnight transition to virtual learning[3]. Virtual learning refers to the use of digital platforms for example Microsoft Teams ™ (Microsoft Corporation, Redmond, Washington, USA), Zoom™ (Zoom Video Communications Inc., San Jose, CA, USA) and Collaborate Ultra ™ (Blackboard Inc., Washington D.C. USA) that enable the synchronous and asynchronous delivery[4] of lecture and tutorial material to students. Some of the platforms for example Zoom™ provide a visual medium for the delivery of educational material, a participant or moderator can share their screen if they have prepared material for example a lecture and it has an additional chat function for discussion and questions. Other platforms for example Collaborate Ultra ™ have the additional benefits of extra interactive functions like break-out rooms, polls and multiple-choice questions as well as interactive whiteboards. The platforms have the benefit of enabling recording of sessions if students wish to listen back to the material presented. For me as an educator the shift to virtual teaching was exciting but also a daunting experience.

Like so many other medical educators I had to "rapidly upskill"[4] in the provision and delivery of virtual education. This has generated a number of technological and non-technological challenges.

Prior to the pandemic some medical schools across the world had already established "initiatives for digital transformation…into e-Learning platforms"[5] in particular in Singapore and Canada in response to the SARS (2003)[6] pandemic. However in my institution face-to-face teaching was the norm and it is recognised that embracing any new digital platform is often a challenge for "both first –time users and seasoned users"[7]. In order to quickly improve my skills, I undertook a number of 'how-to' webinars provided by the School of Medicine as well as attending virtual group meetings with other clinical tutors and clinical leads. This helped me to navigate the various available platforms including how to set up and record lectures, how to upload pre-lecture material, how to share screens and upload files etc.

Initial technical issues were inevitable and have been cited by numerous papers [1, 4]. One example was when I first trialled Microsoft Teams™ with one small group. Unfortunately, the microphone on one of the student's laptops was not working consistently and as a result my planned session of quick-fire short cases became rather start-stop and was quite a frustrating and unsatisfactory teaching experience for both the students and I. Another example was a failed attempt at sharing my screen on Collaborate Ultra™. It was my first time using the platform and I had not set aside sufficient time before the session to familiarise myself with the share-screen toolbar. I found that it was difficult to engage the students after this as it was understandably time-wasting and inadequate. In order to mitigate these technical issues, I now set up sessions fifteen minutes before a session is due to start. This enables me to upload files and trial sharing my screen.

Another challenge was adapting my already prepared lecture/tutorial material for a virtual audience. This was very time-consuming but by incorporating interactive and engaging resources for examples polls, multiple choice questions and break-out groups I felt it maintained the students' engagement. It is suggested in the literature[8] that along with taking attendance, interactive activities [9] during lectures promotes students' interest and engagement and "fosters participation" [1].

As the weeks have continued since transitioning to a virtual classroom, I have personally found the students engaging more in comparison to the initial period of transition. I would go further to say that they have engaged even more so than face-to-face teaching. Kanneganti et al.[9] surveyed students on a continuing medical education (CME) virtual programme that was rolled out and feedback suggested the students felt more comfortable asking questions for a number of reasons including reduced fear of public speaking and a perceived reduction in feelings of intimidation compared to the physical classroom. Torda[4] suggests that the virtual classroom has a number of additional benefits including convenience and comfort. In fact it was observed [10] that attendance improved with the increased flexibility and convenience of virtual classrooms. Indeed it may well be that in the post-Covid era (whatever and however that will look like!) the virtual learning platform will be incorporated into medical education infrastructure[1, 4, 9] in particular for pre-clinical education.

Other issues I have encountered included adapting to the working from home environment which included minimising interruptions. Almarzooq et al.[1] suggest that participants should be advised to mute their microphones to reduce unintended interruptions, to video-highlight the speaker and to

advise participants to adjust their background to maximise privacy. One situation which I encountered at the start of my online teaching was when my two –year old son bolted into a teaching session while my husband raced after him apologetically and scooped him up and out the door. Despite the light reprieve that it probably gave the group it was embarrassing. Although I apologised profusely, I felt this unintended interruption was unprofessional on my behalf. Using a generic background has now become part of my routine during virtual sessions to maximise my privacy. Atreya et al (2020) acknowledge that for some participants it may be difficult to find a private space to watch and interact in virtual teaching if other family members are at home. This has become increasingly prevalent with people being advised to work from home where possible or if they are forced to self-isolate with Covid symptoms. Recording sessions is one method to overcome this [1, 8, 9]. In fact this may be another reason to incorporate virtual platforms into medical education in the post pandemic era to facilitate teaching for students who are absent on sick, parental, maternity or paternity leave [1].

The transition to virtual teaching during the Covid-19 pandemic has posed a number of challenges for me as an educator. Numerous papers have described the transition to virtual platforms as well as new, interesting and dynamic teaching activities. A recent systematic review of developments in medical education in response to the pandemic [11] however detailed a paucity of vigorous evaluation. It discussed the need for "robust evaluation"[11] to underpin high quality developments in medical education research. In order to understand if the changes I have made to address these challenges are working or are indeed adequate, the next step is for evaluation. I have commenced a quality improvement project, and this will in turn allow me to reflect on the effectiveness of the changes I have implemented and above all if it will be of benefit to continue post pandemic.

Declaration of Conflicts of Interest:
The author has no conflict of interest to declare.

Corresponding Author:
Dr. Niamh Cleary
Registrar in Palliative Medicine/Clinical Tutor
Academic Department of Palliative Medicine
Our Lady's Hospice and Care Services, Harold's Cross
Email: ncleary@olh.ie

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