



COVID-19: What is the “new normal” for medical education?

Paul Rooprai¹ & Neel Mistry¹

¹Faculty of Medicine, University of Ottawa

Corresponding Author: Neel Mistry (nmist066@uottawa.ca)

Date Submitted: August 31, 2020

Date Accepted: October 2, 2020

Date Published: April 21, 2021

DOI: <https://doi.org/10.18192/uojm.v11i100.4847>

ABSTRACT

This commentary discusses the impact of the pandemic on pre-clerkship and clerkship settings, including approaches to adapting to COVID-19, and investigates future implications of COVID-19 on medical education in North America. The profound effects of the pandemic will forever change how future physicians learn and care for patients. In response to the pandemic, faculty members have quickly transitioned the entire pre-clerkship curriculum to an online format. Medical students in clerkship who are assigned to clinical rotations have faced significant interruption in their core clinical activities. It is imperative that the academic community learns from this experience and prioritizes a forward-thinking and scholarly approach while practical solutions are implemented.

RÉSUMÉ

Ce commentaire traite de l'impact de la pandémie sur les études en pré-externat et externat, y compris les approches d'adaptation à la COVID-19, et étudie les implications futures de la COVID-19 sur l'enseignement médical en Amérique du Nord. Les effets profonds de la pandémie changeront à jamais la manière dont les futurs médecins apprendront et soigneront les patients. En réponse à la pandémie, les membres du corps professoral ont rapidement migré l'ensemble du curriculum du pré-externat à un format virtuel. Les étudiants en médecine de l'externat qui complétaient leurs rotations cliniques ont eux été confrontés à une interruption importante de leurs activités cliniques fondamentales. Il est impératif que la communauté universitaire apprenne de cette expérience et privilégie une approche prospective et académique pendant que des solutions pratiques sont mises en place.

Keywords: *Pre-Clerkship, Clerkship, Curriculum, Medical Education*

The COVID-19 pandemic has become the singular focus of our healthcare system – halting research activities, disrupting patient care, and significantly affecting medical education. In the setting of a global crisis, the need to

prepare future doctors has never been as high a priority as it is now. The profound effects of COVID-19 will forever change how future clinicians learn and care for patients.

COVID-19 presents unique concerns and challenges pertaining to patient safety. It is imperative to recognize that learners may become infected over the course of their training and facilitate the transmission of the virus, especially if they are asymptomatic. This commentary discusses how the pandemic could affect the pre-clerkship and clerkship setting, approaches to adapting to COVID-19, and investigates the future implications of COVID-19 on medical education in North America.

THE EFFECTS OF COVID-19 ON PRE-CLERKSHIP

Pending the development and approval of a vaccine or effective treatment, social distancing is the most effective strategy to prevent the spread of COVID-19¹. Social distancing precludes learners from assembling in lecture halls or small-group rooms. Before the emergence of the pandemic, many faculties were already experimenting with the “flipped” classroom model² – a pedagogical approach focused on learner-centered training – to offer personalized instruction for asynchronous forms of learning. However, students still convened for interactive sessions such as case-based learning, technology-related activities (i.e. point-of-care ultrasound), and clinical instruction involving standardized and authentic patients.

Medical schools across Canada have had to rapidly make changes to the entire pre-clerkship curriculum by transitioning to an online format in response to the COVID-19 pandemic³. Learning activities involving small groups now convene in a virtual setting. Clinical skills sessions occurring online, in some instances, may have been deferred or even cancelled altogether. The delivery of examinations has also been adapted to an online setting. At first glance, updating educational materials for a virtual format may offer benefit, but the end result of these reforms will require subsequent assessment and evaluation. The move from a medical school environment to home was not without drawbacks. The transition resulted in isolation, difficulties in setting boundaries between home and work, and an increased reliance on technology for many⁴. This impacted both students and faculty members alike.

The transition from onsite to the virtual environment has led to changes in teaching that impact the curriculum and the learning process for pre-clerks. Didactic teaching has faced the least disruption during COVID-19 as lectures

that were once given in person are now given in a virtual format. Such a format permits interaction, as students are able to respond to questions posed by the lecturer or ask for clarification via the audio or chat function. Small group teaching such as, clinical skills and problem-based learning, still continue during the pandemic, however, with suitable alterations. Problem-based learning, implemented by most medical schools in Canada, have transitioned to predominately using platforms such as Zoom or Microsoft Teams. The premise of these sessions remains the same despite the online delivery. Clinical skills also use virtual platforms to allow for students to convene. Each group is comprised of 4-5 students, a tutor, and a standardized patient (SP). The sessions consist of a history taking, creating differential diagnosis, management, plan, and assessment. Some Canadian medical schools are offering a few in-person clinical skills sessions in accordance with public health guidelines to provide students with the opportunity to practice their physical examination skills, which is precluded in the virtual setting.

THE EFFECTS OF COVID-19 ON CLERKSHIP

What does the role of the medical student in the clinical setting entail? The ideal representation of this role is that the student is a learner, in a team environment, who requires guidance and supervision. The development of students’ professional identity depends on role modeling and instruction as they learn to appreciate the importance of being selfless and prioritizing the patient. This begs the next question, what degree of student participation during a pandemic best characterizes this prioritization? In other catastrophic occurrences, such as a natural disaster, students were called to action to help in the effort while being able to continue with their learning. Conversely, with the emergence of the highly transmissible COVID-19 pandemic, students may contract or spread the virus inadvertently. Factors that restrain the role of the learner in a clinical setting include unavailability of personal protective equipment (PPE); reduced value of training with the cancellation of routine procedures and appointments, as well as the transition to virtual patient care; and the lack of adequate testing.

Early in the outbreak, medical students were not involved in any capacity with the care of a patient who was confirmed or suspected of having COVID-19, particularly given the

lack of PPE. As the number of infected cases increased, all 17 medical schools across Canada paused clinical placements of students⁵. The Association of American Medical Colleges (AAMC) issued guidelines in March that restricted medical schools from continuing their core clinical rotations⁶. However, differences in the magnitude of cases among regions may lead medical schools to make decisions that best fit their unique circumstances.

What can faculties do to facilitate the learning of students who are traditionally assigned to clinical placements? As the pandemic continually evolves, so do the options that medical schools can offer their learners. These options include generating and utilizing virtual patient cases; deferring clinical rotations; allowing for late entry into the clinical setting by consolidating and shifting online didactic sessions to an earlier period; and integrating students in the telehealth environment to enable them to provide assistance in the COVID-19 crisis while giving them an opportunity to learn at the same time.

It is unclear how long the COVID-19 pandemic will last, and there is increasing awareness that once a “new normal” has been achieved, a second wave may once again impose strict quarantine and social distancing requirements. Under these circumstances, faculty members face the challenge of providing authentic patient experiences for students that allow for core learning objectives to be met. If clinical rotations are deferred, there is the issue of student cohorts overlapping. This would result in a shared clinical environment, potentially leading to adverse effects on education due to the density of learners. Resources regarding accreditation by the Liaison Committee on Medical Education have been provided to aid medical schools⁷.

THE FUTURE OF THE MEDICAL EDUCATION ENVIRONMENT

A preceding outlook that doctors would provide care, despite being unwell, was considered an act of altruism. However, the COVID-19 pandemic is vastly different from anything that the world has seen before; it has brought forth unprecedented challenges. Physicians who provide care for patients while they are ill, as well as those who are infected but are asymptomatic, risk facilitating the spread of the virus. Therefore, the ethos of medicine, concerning altruism, must be adapted and take into account the effects

of conceivable actions even with virtuous intents. The lack of testing, PPE, and limited availability of human resources makes this situation all the more difficult.

Additional unspecified academic matters that will require consideration include standardized tests when centers are inaccessible, the timeline for the Canadian Resident Matching Service (CaRMS) applications, and the ability to satisfy requirements for specific subspecialties prior to applying for CaRMS.

While medical students across the education continuum are unable to join the “frontlines”, they are finding meaning through other avenues by giving back to their communities. A few of the ways students are volunteering their time include calling patients for contact tracing, creating educational materials to keep the public informed, and delivering groceries to vulnerable populations, while adhering to public health guidelines^{8,9,10}.

It is crucial to recognize that the pandemic could result in a shortage of healthcare resources. In this case, students may be required to serve on the “frontlines” and actively partake in the clinical setting. Due to the rapidly evolving nature of the situation, medical schools will need to be flexible in their response. Some medical schools in the United States are considering an approach that involves early graduation of final-year students in order to prepare them to engage in the clinical environment as early as possible¹¹. Early entry into residency may require revised licensing procedures and flexibility in degree conferral by the university.

CONCLUSION

With the onset of the pandemic upending familiar routines and patterns, it is paramount that the academic community demonstrate flexibility by learning from experience. Forward-thinking must be emphasized to implement practical solutions. This process should encompass both reflection and evaluation. In particular, one way in which students can exhibit constructive influence is to adopt the role of an educator. Using tools such as social media outlets in a responsible manner to convey factual knowledge can positively influence health-related behaviours¹².

The evolving challenges that are the result of the COVID-19

pandemic have accelerated the advancement of research protocols, telehealth, and clinical trials with flexible methods in an attempt to positively transform our healthcare system. As well, historical events such as response to previous viral outbreaks have further demonstrated that challenging experiences often lead to novel scientific discoveries and positive changes in patient care. Faculty and learners can support the development of future principles and practices by documenting current changes to the educational milieu. The COVID-19 pandemic has instigated a pivotal moment in medical education, giving rise to new heights in curricular innovation and unprecedented change in the way that doctors learn.

REFERENCES

1. Anderson RM, Heesterbeek H, Klinkenberg D, Hollingsworth TD. How will country-based mitigation measures influence the course of the COVID-19 epidemic? *The Lancet*. 2020 Mar 21;395(10228):931-4.
2. Ramnanan CJ, Pound LD. Advances in medical education and practice: student perceptions of the flipped classroom. *Advances in medical education and practice*. 2017 Jan 13;8:63.
3. Underwood, Nora. Medical schools pivot to prepare and protect students for front-line work [Internet]. *The Globe and Mail*; 2020 Sep 17 [cited: 2020 Oct 20]. Available from: <https://www.theglobeandmail.com/featured-reports/article-medical-schools-pivot-to-prepare-and-protect-students-for-front-line/>
4. Zhou X, Snoswell CL, Harding LE, Bambling M, Edirippulige S, Bai X, Smith AC. The role of telehealth in reducing the mental health burden from COVID-19. *Telemedicine and e-Health*. 2020 Apr 1;26(4):377-9.
5. Houston, P, Bernstein, S, and Radhakrishnan, S. Clerkship Clinical Activities Update [Internet]. University of Toronto, Faculty of Medicine [cited 2020 17 Jul]. Available from: <https://medicine.utoronto.ca/clerkship-clinical-activities-update>
6. Important guidance for medical students on clinical rotations during the coronavirus (COVID-19) outbreak [Internet]. Press release. Association of American Medical Colleges; 2020 Mar 17 [cited 2020 Mar 23]. Available from: <https://www.aamc.org/news-insights/press-releases/important-guidance-medical-students-clinical-rotations-during-coronavirus-covid-19-outbreak>
7. COVID-19 updates and resources [Internet]. Liaison Committee on Medical Education [updated 2020 March 25; cited 2020 March 27]. Available from: <https://lcme.org/covid-19/>
8. Mistry N, Rooprai P. Here's how medical students are helping during the COVID-19 pandemic [Internet]. *inSauga*; 2020 Apr 27 [cited 2020 Oct 20]. Available from: https://www.insauga.com/heres-how-medical-students-are-helping-during-the-covid-19-pandemic?fbclid=IwAR1IJlyAKSDiDnYpIlaqq5aN4XTz2ZpgE8sJ_GqpVNqhtHd6Byilp0XLqaY
9. Huang C. uOttawa MD students pitch in to help frontline health workers during COVID-19. University of Ottawa, Department of Medicine [cited 2020 Oct 20]. Available from: <https://med.uottawa.ca/en/news/uottawa-md-students-pitch-help-frontline-health-workers-during-covid-19>
10. Ngabo, G. Medical Students help health care workers with everyday tasks during the COVID-19 outbreak. *thestar*. 2020 Mar 20 [updated 2020 Mar 31; cited 2020 Oct 20]. Available from: <https://www.thestar.com/news/gta/2020/03/20/medical-students-help-health-care-workers-with-everyday-tasks-during-covid-19-outbreak.html>
11. Harvey A. Covid-19: medical schools given powers to graduate final year students early to help NHS. *thebmj*. 2020 Mar 26;368:m1227.
12. Ventola CL. Social media and health care professionals: benefits, risks, and best practices. *Pharmacy and therapeutics*. 2014 Jul;39(7):491.