Title: Experiences of a London Medical Student in the COVID-19 Pandemic

Author names: Alin-Ioan Suseanu
Degrees: Undertaking MBBS
Affiliations: King's College London

About the author: Alin is a 4th year medical student of King's College London, United Kingdom undertaking a 5-year programme. He has been awarded Merit in "From Science to Clinical Practice".

Acknowledgment: N/A
Financing: N/A
Conflict of interest statement by authors: None
Compliance with ethical standards: N/A, personal experience

Authors Contribution Statement: Conceptualization, Writing – Original Draft Preparation, Writing – Review & Editing: AIS

Manuscript word count: 989 words
Number of Figures and Tables: 0

Personal, Professional, and Institutional Social Network accounts.

- **Facebook:** Alin Suseanu
- **Twitter:** @KingsCollegeLon

Discussion Points:

1. Do you think you learn more from one day in hospital or one day at home studying and watching lectures?
2. To what extent can senior medical students assist in hospitals during COVID-19?
3. The future of medical school examinations is electronic and/or open-book
4. Will the medical system need to adapt in order to accommodate incoming students who have had much less clinical exposure compared to their older counterparts, due to COVID-19?
5. Considering many universities will be making their first term lectures online only, what safety netting will be in place for those who do not have the necessary learning conditions at home?

THE EXPERIENCE.

On the 12th of March 2020, World Health Organisation declared the coronavirus disease 2019 (COVID-19) outbreak a pandemic.[1] At this point, there were 596 confirmed cases of COVID-19 in the United Kingdom a figure that seemed alarmingly high at the time.[2] I had just finished my third rotation of fourth year at medical school in Emergency Medicine and Critical Care and was eagerly awaiting my final rotation in Women's Health. The concern regarding coronavirus was palpable in the hospital but there were still no signs of a lockdown from the government and our placement was scheduled to go ahead.[3] In fact, the only change to our timetable was an hour earlier start to our first induction day to allow for a talk on coronavirus. This day never came.

Around the world, medical students had to adapt to a new norm.[4-6] In my country, the National Health Service (NHS) moved into major incident mode forcing the university to quickly mobilise to deliver an unprecedented online curriculum.[7] Overhauling the delivery of the curriculum is no easy feat as our fourth year is entirely clinical with very few lectures scattered throughout the year. Our time in surgical theatres and outpatient clinics was replaced by laparoscopic videos with detailed voiceovers and interactive lectures; clerking patients in the emergency department was replaced by interactive case-based discussion. All key content was to be provided via videoconference for the foreseeable future. The university has already been using Zoom video-conferencing for occasional teaching sessions so the transition was not as jarring as one would expect. However, I encountered several problems with the transition.

One problem is the sheer size of the year group with some sessions having as many as 250 students in attendance, meaning only the clinician leading the session could interact audio-visually. The students were instructed to interact using an embedded chat tool. I experienced first-hand how overwhelming this could be in case-based teaching. The quality of the discussions was excellent and they remain some of the best teaching sessions I have ever had. Yet despite the fact that I had scored well on my previous exams and felt confident with my learning, I quickly became intimidated. It will always be more difficult to interrupt and ask questions in front of a large group of people such as that, compared to the 5-6 students we would normally have in hospital teaching. Additionally, the speed at which some students were able to answer obscure and challenging questions left me and my colleagues impressed by our fellow students, but also anxious and self-doubting. At times I would struggle to even read the question before answers started filling the chat. It became the perfect environment to compare ourselves to each-other, with some people being negatively impacted and others being positively motivated.

I am writing down my experiences one week after finishing my final year-four exam. The exam was quickly changed to an online format, with extra time being granted. The exam was then made open-book, pushing me into uncharted territory. I stopped memorising obscure paediatric milestones or side effects of rarely used diabetes drugs and instead focused on improving my ability to generate differential diagnoses. Imperial College London was the first to make this change claiming it is not possible to complete the exam by looking things up online.[8] I personally found this to be true. Multi-level questions, which made up most of the exam, worked best in this format. Just as with a real patient, these questions challenged us to figure out the diagnosis, consider the patient's history, and make decisions regarding management. The questions rely on our diagnostic acumen and

cannot be answered by two minutes of internet searching. I think we will see a shift in the direction of online and/or open book exams over time. Coronavirus seems to have only pushed forward the inevitable in terms of incorporating technology into our medical exams. My impression is that the university has recognized the need to train doctors who are able to competently use online resources. For example, in our Objective Structured Clinical Examinations (OSCEs) we have access to both paper copies of our drug dictionary, the British National Formulary, and virtual copies on tablet devices. It only takes one day on the wards to see how often clinicians will use their phones to look up drug dosages, national guidelines or peer-reviewed articles concerning less common conditions.

We also decided as a cohort to scale up our previous exams, essentially making our final year-four exam pass or fail. Changing our exams in this fashion was immensely stress relieving, allowing us to focus on our own wellbeing and the wellbeing of our loved ones during the pandemic without the guilt that we could be studying more. Additionally, it allowed those who wished to contribute to the effort against the virus to do so without it affecting their academic ranking. The Medical Schools Council was very quick to provide us with guidance and the opportunity to work up to 16 weeks in paid volunteer roles in the NHS.[9] I noticed that interest in volunteering was particularly strong as we were inspired by the fifth years graduating early to work in the NHS.[10]

Two months into lockdown and with three months of online learning ahead of us, I find myself thinking of a news article headline I read early in January about 44 confirmed cases of “a mysterious viral pneumonia” spreading in Wuhan.[11] I immediately showed some friends a 2015 TED talk from Bill Gates titled ‘The next outbreak? We're not ready’.[12] Whether our country was ready remains to be seen. What I can say is that our medical school, my fellow medical students, and our clinical teachers were more than ready to ensure we could continue our education. I believe this public health crisis has demonstrated the importance of resilience and adaptability in 21st Century educational institutions and the need for them to instil these same values in our generation of doctors.

REFERENCES.

1. World Health Oorganization (WHO). WHO announces COVID-19 outbreak a pandemic. 2020.. Available from: http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic. Last update 20 March 2020, cited 20 May 2020
2. BBC News. UK coronavirus-related deaths rise to 10. London; 2020. Available from: https://www.bbc.co.uk/news/uk-51845861. Last update 12 March 2020, cited 20 May 2020.
3. Bonilla-Escobar FJ. Leadership and Health: The Scientific Journal's Mission of Spreading Science in Times of Pandemic. Int J Med Students. 2020 Jan-Apr;8(1):9-10.
4. Liu B. Being an American 2nd Year Medical Student in the COVID-19 Pandemic. Int J Med Students. 2020 Jan-Apr;8(1):77-78.
5. Nguyen Tran Minh D, Pham Huy T, Nguyen Hoang D, Quach Thieu M. COVID-19: Experience from Vietnam Medical Students. Int J Med Students. 2020 Jan-Apr;8(1):62-63.
6. Pacheco Carrillo A. The Utility of Online Resources in Times of COVID-19: A Mexican Medical Student Point of View. Int J Med Students. 2020 Jan-Apr;8(1):58-59.
7. NHS England. Redeploying your secondary care medical workforce safely. England.nhs.uk. London; 2020 Available from: https://www.england.nhs.uk/coronavirus/publication/redeploying-your-secondary-care-medical-workforce-safely/. Last update 26 March 2020, cited 20 May 2020.
8. Tapper J, Batty D, Savage M. Medical students take final exams online for first time, despite student concern. the Guardian. London; 2020. Available from: https://www.theguardian.com/education/2020/mar/22/coronavirus-forces-medical-students-sit-final-exams-online. Last update 22 March 2020, cited 20 May 2020.
9. Medical Schools Council. Updated guidance on medical student volunteers in the NHS. Medschools.ac.uk. London; 2020. Available from: https://www.medschools.ac.uk/news/updated-guidance-on-medical-student-volunteers-in-the-nhs. Last update 02 April 2020, cited 20 May 2020.
10. Holt, L. NHS Nightingale North West: A Medical Student on the Front Lines. Int J Med Students. 2020; forthcoming.
11. BBC News. Mystery pneumonia virus probed in China. London; 2020. Available from: https://www.bbc.co.uk/news/world-asia-china-50984025. Last update 03 January 2020, cited 20 May 2020
12. Bill Gates. The next outbreak? We're not ready. TED Talk. Vancouver; 2015. Available from: https://www.ted.com/talks/bill_gates_the_next_outbreak_we_re_not_ready/transcript?language=en. Last update March 2015, cited 20 May 2020.

1 **FIGURES AND TABLES.**