

The Role of Medical Students During the COVID-19 Pandemic

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Coronavirus disease 2019 (COVID-19) has upended medical education. Owing to widespread uncertainty and disagreement about the appropriate roles for medical students during a pandemic, student participation in clinical care has varied across institutions. Some schools forbid any patient interaction, whereas others have recruited students for hospital-based roles or even graduated medical students early so that they can serve as frontline clinicians (1–3). The American Association of Medical Colleges (AAMC) has instructed medical schools to suspend student clerkships and has recommended that “unless there is a critical health care workforce need locally, we strongly suggest that medical students not be involved in any direct patient care activities” (4, 5). We disagree with the AAMC that medical student involvement should be reserved for critical health care personnel shortages. Rather, medical schools should offer students clinical opportunities that would benefit patient care and potentially help to prevent workforce shortages.

TRADITIONAL ROLES OF THE MEDICAL STUDENT

The AAMC frames its guidance by highlighting that “medical students are students, not employees . . . They are not yet MDs” (5). Although true, this framing fails to acknowledge that medical students have roles not only as learners, but also as clinicians-in-training. The primary role of medical students is to learn medicine. However, students are also clinicians who care for patients. They interview patients, call consults, respond to pages, communicate with families, write notes, assist with procedures, and help with care coordination and discharge planning.

During the COVID-19 pandemic, medical students acting solely as learners introduce unnecessary risks for patients and other clinicians. Medical students can act as additional vectors for viral transmission, consume personal protective equipment (PPE)—of which there are serious shortages (6)—and place additional burden on teaching physicians. Medical education alone does not justify these risks.

However, allowing medical students to serve in clinical roles may benefit patients overall. There is precedent for this kind of involvement. During the Spanish flu outbreak of 1918, medical students at the University of Pennsylvania cared for patients in the capacity of physicians (7). In a 1952 polio epidemic in Denmark, groups of medical students were tasked with manually ventilating patients (8). In the current pandemic, medical schools in the United States, Italy, and the United Kingdom are graduating medical students early on the condition that they serve as frontline clinicians (3, 9).

The health care system should not wait until it reaches a breaking point to invite medical students to

serve. Medical students are adept at many clinical roles. Allowing them to serve may improve patient care long before the health care system reaches a personnel crisis, and in some cases may even help prevent such crises from occurring. In this article, we suggest several roles for medical students to play in offsetting the burdens caused by COVID-19.

CLINICAL ROLES FOR MEDICAL STUDENTS DURING THE COVID-19 PANDEMIC

We presume that the AAMC's guidelines stem primarily from concerns about the risks for infection to patients and students, PPE shortages, and associated liability issues. These risks undoubtedly warrant careful consideration, but they can be mitigated. We believe that allowing students to perform clinical tasks may, in specific instances, confer benefits to patients that outweigh the risks associated with students' involvement.

First, medical students can assist with routine outpatient clinical care. Medical students can boost the efficiency of lightly staffed clinics by taking histories, calling patients with laboratory test results, providing patient education, documenting visits, and fielding questions about COVID-19 (2). Even in a pandemic, patients with chronic conditions need ongoing care. Pregnant women need routine check-ins, and discharged patients require follow-up. Many of these tasks can be performed via telemedicine, so there would be no risk for infectious transmission.

Second, students can provide care on inpatient services that do not have patients with COVID-19. Under the supervision of senior residents or attending physicians, advanced medical students (“subinterns”) usually carry their own patients. In the absence of medical students, these patients would need to be covered by house officers, potentially exacerbating the personnel shortage about which the AAMC is concerned. Although this form of involvement would require appropriate PPE, staffing hospital services with upper-level students could maximize the availability of other clinicians to treat patients with COVID-19.

If students are permitted to work in hospitals, they would be at increased personal risk from severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2). However, students are also at increased risk for contracting SARS-CoV-2 while screening visitors entering hospitals, hosting PPE drives, and providing childcare for physi-

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cians, all of which they are already being deployed to do, and some of which require PPE (2). In addition, the risks incurred from student involvement may be lower than the risks to retired clinician volunteers, who are more susceptible to complications of COVID-19 owing to their age (10). However, given that the personal risks cannot be eliminated, we agree with the AAMC (5) that any in-person involvement of medical students should be voluntary.

Finally, medical students can remotely assist in the care of patients with COVID-19. They can monitor patients with mild COVID-19 symptoms who are not admitted; expedite care for admitted patients by reviewing charts, drafting notes, and ensuring tests are performed; and follow-up with patients after discharge. Although all of the roles we have discussed would require physician supervision, they would reduce the overall burden on clinical teams. We believe they would, on balance, improve patient care.

In conclusion, as medical schools decide how to proceed in the time of COVID-19, we are wary of attempts to shelter students from voluntary service. Medical students are clinicians who have responsibilities to patients and who should be allowed to fulfill their duties as such. In addition to the benefits to patients and the health care system, allowing students to participate reinforces important values, such as altruism, service in times of crisis, and solidarity with the profession. Students are willing and able to fight in this historic pandemic and should be given the opportunity to do so.

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References

1. Farber ON. Medical students can help combat Covid-19. Don't send them home. *STAT*. 14 March 2020. Accessed at www.statnews.com/2020/03/14/medical-students-can-help-combat-covid-19 on 20 March 2020.
2. Krieger P, Goodnough A. Medical students, sidelined for now, find new ways to fight coronavirus. *The New York Times*. 23 March 2020. Accessed at www.nytimes.com/2020/03/23/health/medical-students-coronavirus.html on 23 March 2020.
3. Teeman T. 'This is what we signed up for': meet the med school grads fast-tracked to the coronavirus front line. *Daily Beast*. 3 April 2020. Accessed at www.thedailybeast.com/medical-school-graduates-fast-tracked-to-the-coronavirus-front-line-say-this-is-what-we-signed-up-for on 4 April 2020.
4. Whelan A, Prescott J, Young G, et al. Guidance on medical students' clinical participation: effective immediately. Association of American Medical Colleges. 17 March 2020. Accessed at <https://lcme.org/wp-content/uploads/filebase/March-17-2020-Guidance-on-Medical-Students-Clinical-Participation.pdf> on 20 March 2020.
5. Whelan A, Prescott J, Young G, et al. Interim guidance on medical students' participation in direct patient contact activities: principles and guidelines. Association of American Medical Colleges. 30 March 2020. Accessed at <https://lcme.org/wp-content/uploads/filebase/March-30-2020-Interim-Guidance-on-Medical-Students-Participation-in-Direct-Patient-Contact-Activities.pdf> on 31 March 2020.
6. Jacobs A, Richtel M, Baker M. 'At war with no ammo': doctors say shortage of protective gear is dire. *The New York Times*. 19 March 2020. Accessed at www.nytimes.com/2020/03/19/health/coronavirus-masks-shortage.html on 25 March 2020.
7. Starr I. Influenza in 1918: recollections of the epidemic in Philadelphia. 1976. *Ann Intern Med*. 2006;145:138-40. [PMID: 16801626]
8. West JB. The physiological challenges of the 1952 Copenhagen poliomyelitis epidemic and a renaissance in clinical respiratory physiology. *J Appl Physiol* (1985). 2005;99:424-432. [PMID: 16020437]
9. Goldberg E. Early graduation could send medical students to virus front lines. *The New York Times*. 26 March 2020. Accessed at www.nytimes.com/2020/03/26/health/coronavirus-medical-students-graduation.html on 4 April 2020.
10. Murthy S, Gomersall CD, Fowler RA. Care for critically ill patients with COVID-19. *JAMA*. 11 March 2020. [Epub ahead of print]. [PMID: 32159735] doi:10.1001/jama.2020.3633

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