

Protecting Medical Trainees on the Coronavirus Disease 2019 (COVID-19) Frontlines Saves Us All

Many fourth-year medical students who have met requirements and normally would be enjoying time off until graduation in May and June are being called to the frontlines to fight the Coronavirus Disease 2019 (COVID-19) pandemic. Massachusetts became the first state to encourage this practice, enacting plans to issue 90-day provisional licenses to early graduates of all 4 medical schools, transitioning 700 residents and fellows into supervised patient care at least 8 weeks ahead of schedule. Several universities have followed suit in an all-hands-on-deck effort to stop this insidious virus that is cutting a path across the globe, claiming tens of thousands of lives and sickening more than 2 million more.

The issue is that dispatching doctors-in-training to perform patient care outside their clinical competencies is a risk. This is further complicated by the contagion of COVID-19, evolving knowledge about the virus and its behavior in the environment, and a critical shortage of personal protective equipment (PPE). If the outbreak in China is any indication, healthcare workers are 3 times more likely than the general population to contract the disease and be vectors of transmission. For example, more than 600 hospital workers in Massachusetts, both clinical and nonclinical, are infected to date. Some were infected through exposure at work and others through community spread. Residents and fellows—whether because of lack of experience, poor preparation, or lack of training—are particularly vulnerable. Although they receive training, it is unclear whether it is evidence based, standardized, or adequate.

The position of the American Heart Association is clear: Protect medical trainees on the COVID-19 frontlines, or do not send them in: “All medical professionals want to help, but fellows and residents are being asked to do things they are not fully trained to do and that take them longer to perform than attending physicians,” said Mariell Jessup, MD, chief science and medical officer at the American Heart Association. “At the very least, we need to ensure they are protected with proper PPE.”

The Accreditation Council for Graduate Medical Education agrees. As the nation's principal accreditor for residency and fellowship education in medicine, the council has focused on ensuring the safety and supervision of trainees during this crisis.

“Without adequate PPE and access to sufficient viral testing, our physician faculty and residents and fellows now risk becoming vectors of this deadly virus, endangering their patients, fellow health care workers, and all those they contact,” the Accreditation Council for Graduate Medical Education states. “The pledge to ‘first do no harm’ becomes meaningless under these circumstances.”^{1,2}

Robert A. Harrington, MD
Mitchell S.V. Elkind^{ID}, MD
Ivor J. Benjamin, MD



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THE POWER OF PPE

During a virtual news conference in Geneva, Switzerland, Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization, said, “The chronic global shortage of personal protective equipment is now one of the most urgent threats to our collective ability to save lives.”

To put a US face on the problem, New Orleans Mayor LaToya Cantrell and Louisiana Governor John Bel Edwards warned the city on March 27 that they could run out of PPE and ventilators by April 3. Cantrell and 212 other mayors sounded the alarm weeks ago in a nationwide poll³ in which 91% reported a shortage of PPE in the cities they lead.

The situation is so dire that PPE thefts have been reported at hospitals in South Carolina, the University of Washington in Seattle, and The George Washington University in the nation’s capital. Some healthcare workers have resorted to searching for masks at hardware stores, enlisting the help of sewing groups, and soliciting donations on social media.⁴ Many trainees are engaging their families to help in the search.

In a display of ingenuity, medical students at The Johns Hopkins University are among an army of volunteers constructing 5000 plastic face shields daily for use by clinicians fighting COVID-19. From a warehouse in Baltimore, Maryland, owned by Johns Hopkins Health, gloved volunteers work 4-hour shifts cutting, gluing, and stapling using a process vetted by the school’s Hospital Epidemiology and Infection Control/Prevention Office.

Beyond the lack of availability of PPE is the issue of proper training in what to wear, when to wear it, and how to put it on and take it off properly. What can be washed and reused? Should hospitals require the gear and garments of clinical staff and trainees to be cleaned and laundered onsite to mitigate family and community spread? Should the N95 masks be worn during all patient interactions or only under specific circumstances? These are the burning questions on every clinician’s mind, and the absence of clear and consistent answers strikes fear in many trainees who are in the heat of the COVID-19 fight.

HOW WE GOT HERE

The stage for rushing residents into battle was set in Europe’s hardest-hit COVID-19 target—Italy. There, 10 000 medical school graduates skipped their final exams to begin work in the National Health System under provisional licensure. Their duties do not include caring for seriously ill patients but do involve assisting with triage, performing tests, evaluating suspected COVID-19 cases, and supporting general practitioners.

Similarly, the Royal College of Surgeons in Ireland abruptly announced final exams would be administered 6 weeks sooner to accelerate graduation at its medical school and dispatch residents to the health service by April, according to *The Irish Times*.⁵

By comparison, graduating residents in Canada can receive a provisional license and hit the frontlines without taking their certification examination—as long as they have completed postgraduate training, received notice of examination eligibility, and agree to take the examination at their earliest opportunity.

The concept of fast-tracking recent graduates to clinical service began to spread in the United States when New York Governor Andrew Cuomo and New York City Mayor Bill de Blasio announced a Surge Healthcare Force to staff underresourced medical facilities. In response to their highly publicized call for assistance, 40 000 retired physicians, nurse practitioners, physician assistants, nurse anesthetists, respiratory therapists, registered nurses, and licensed practical nurses enlisted. Another 6175 mental health professionals offered their services for free. Eager to help any way they can, fourth-year medical students at New York University Grossman School of Medicine also agreed to join the ranks, becoming the first medical students in the country to do so.

PROTECT THE FUTURE OF MEDICINE

With increased risk of COVID-19 exposure among medical personnel in mind, the American Heart Association implores residency and fellowship programs to immediately abandon the practices of relaxing examination requirements, accelerating graduation, and dispatching newly minted residents and fellows to the frontlines.

We have long urged the federal government to fully invoke the Defense Production Act to ramp up manufacturing of PPE and get supplies in the hands of healthcare systems that desperately need them. On April 2, President Donald Trump finally expanded the federal government’s use of the emergency statute to “facilitate the supply of materials” to 6 companies to make much-needed ventilators. The announcement came a day after the administration reported the federal stockpile of PPE is nearly depleted. There is still no resolution to this conundrum.

The American Heart Association applauds “Project Airlift,” a partnership between the US federal government and US healthcare distributors including McKesson Corp, Cardinal, Owens & Minor, Medline, and Henry Schein Inc., which delivered a planeload of PPE to New York on March 29 in the first of 51 planned flights. Cargo included 130 000 N95 masks, nearly 1.8 million surgical masks and gowns, more than 10.3 million gloves, and more than 70 000 thermometers. Most

supplies will be distributed in New York, New Jersey, and Connecticut, with the rest dispatched to nursing homes in the region and other high-risk areas across the country.⁶ This is an important first step but far from a sweeping solution.

We will continue supporting bipartisan, coordinated, government-backed efforts and private-public initiatives that ensure this nation's frontline healthcare workers are protected as they labor to save lives. Just as the youth embody our hopes for tomorrow, medical trainees hold in their hands the health of generations to come. We must make protecting them a priority.

ARTICLE INFORMATION

Correspondence

Mitchell S.V. Elkind, MD, Columbia University, Neurological Institute of New York, 710 West 168th Street, New York, NY 10032. Email mse13@columbia.edu

Affiliations

Stanford University, CA (R.A.H.). Columbia University, New York (M.S.V.E.). Medical College of Wisconsin, Milwaukee (I.J.B.).

Disclosures

Dr Harrington serves on the American Heart Association's Board of Directors (unpaid); he also served on the Stanford Healthcare Board of Directors from 2016 to 2018 (unpaid). Dr Elkind receives ancillary funding from Roche and study drug in-kind from the Bristol-Myers Squibb–Pfizer Alliance for Eliquis for

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REFERENCES

1. Accreditation Council for Graduate Medical Education. The ACGME Common Program Requirements and COVID-19. <https://www.acgme.org/Newsroom/Newsroom-Details/ArticleID/10169/The-ACGME-Common-Program-Requirements-and-COVID-19>. Published March 27, 2020. Accessed April 3, 2020.
2. Accreditation Council for Graduate Medical Education. The ACGME encourages the White House to protect the profession of medicine, patients with personal protective equipment. <https://www.acgme.org/Newsroom/Newsroom-Details/ArticleID/10178/The-ACGME-Encourages-the-White-House-to-Protect-the-Profession-of-Medicine-Patients-with-Personal-Protective-Equipment>. Published March 27, 2020. Accessed April 3, 2020.
3. The United States Conference of Mayors. Shortages of COVID-19 emergency equipment in U.S. cities: a survey of the nation's mayors. <https://www.usmayors.org/issues/covid-19/equipment-survey/>. Accessed April 3, 2020.
4. Budd K. Where is all the PPE? *AAMC News*. <https://www.aamc.org/news-insights/where-all-ppe>. Published March 27, 2020. Accessed April 3, 2020.
5. O'Brien C. Coronavirus: hundreds of medicine students fast-tracked into fight against Covid-19. *The Irish Times*. <https://www.irishtimes.com/news/education/coronavirus-hundreds-of-medicine-students-fast-tracked-into-fight-against-covid-19-1.4205676>. Published March 18, 2020. Accessed April 3, 2020.
6. Holland S. White House-led airlift of urgently needed medical supplies arrives in New York. *Reuters*. <https://www.reuters.com/article/us-health-coronavirus-trump-airlift/white-house-led-airlift-of-urgently-needed-medical-supplies-arrives-in-new-york-idUSKBN21G0LB>. Published March 29, 2020. Accessed April 3, 2020.

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