

Education in a Crisis: The Opportunity of Our Lives

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In a few short months, the novel coronavirus SARS-CoV-2 has spread across the world, and illness caused by coronavirus 2019, or COVID-19, now affects every corner of the United States.¹ As healthcare systems prepare to care for a wave of affected patients, those with a teaching mission face the added challenge of balancing the educational needs and safety of trainees with those of delivering patient care. In response to concerns for student welfare, medical and nursing schools have suspended classroom-based education and clinical rotations.² The Accreditation Council for Graduate Medical Education (ACGME) and American Association of Colleges of Nursing (AACN) have emphasized the importance of adequate training in the use of personal protective equipment (PPE) for their trainees.³ The National League for Nursing has called on training programs to allow flexibility for graduating students who may have been removed from clinical rotations because of safety concerns.⁴

These decisions have precedent: During the SARS-CoV epidemic in 2003, medical and nursing student education was temporarily halted in affected areas.⁵⁻⁶ Healthcare trainees described concerns for their safety and reported adverse emotional impact.⁷⁻⁹ In the current pandemic, there is variation in how countries around the world are approaching the role of learners, with options ranging from removing learners from the clinical environment to encouraging early graduation for students in hopes of ameliorating the impending physician shortage.¹⁰⁻¹³ The need to balance educational goals with ethical concerns raised by this pandemic affects health professions trainees broadly.

Despite the challenges, there are unique educational opportunities at hand. In this Perspective, we will draw on our collective experience, multiple informal interviews with educational leaders across the country, and educational literature to create a framework for health professions education during a crisis. From this framework, we will propose a set of recommendations to assist educational policymakers and those working directly with learners to navigate these issues effectively.

KEY EDUCATIONAL ISSUES

Patient and Hospital Welfare

There are significant concerns about nosocomial spread of SARS-CoV-2. Having learners directly see COVID-19 patients

can increase the risk of nosocomial spread. In one of the original case series, 29% of those infected were healthcare workers and 12.3% were patients hospitalized prior to infection.¹⁴ Additionally, preserving supplies of personal protective equipment (PPE) for healthcare workers has been a commonly cited reason for suspending student presence on clinical rotations. Insufficient supply of PPE has forced hospitals to relax PPE guidelines for those seeing patients under investigation and liberalize quarantine requirements for exposed healthcare workers, so many hospitals have reduced provider-patient interactions to only those considered essential.

Learner Welfare

As educators, we have a duty to keep our learners safe and psychologically well. The COVID-19 pandemic poses a risk of illness, permanent injury, or death among those infected. In some instances, the risks of exposure may be greater than the educational benefits of remaining in that clinical setting; however, health professions trainees at many institutions play such a central operational role that their absence could seriously impair overall care delivery. Furthermore, trainees are usually younger and healthier than supervising clinicians, which could leave them feeling an obligation to conduct a disproportionately large share of the direct patient contact. Despite these valid concerns, those being removed from the clinical environment for their safety could misinterpret it as a sign that their contributions or educational interests are not valued.

Educational Experience

Canceled clinical rotations will have significant negative educational effects on undergraduate learners. Depending on the extent of the pandemic's effects, for example, third-year medical students may lack core rotations prior to applying for residency training. Other health professions face similar challenges—nursing students in their final year are likely missing their last opportunity for hands-on clinical training before graduation. Advanced practice nursing students may not be able to complete the required number of contact hours or clinical experiences mandated for accreditation. Graduate training programs must accommodate and adapt to these disparities when reviewing their applicant pools.

Absence from the clinical front lines, though, risks failing to capitalize on the unique educational opportunities presented by this pandemic. Students might miss the chance to learn about a new clinical entity and its increasingly varied clinical

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presentations, crisis medicine, infection control measures, emergency preparedness, ethics in the setting of scarce resources, public health and community response, communication in the setting of uncertainty and fear, and professionalism in the response to this singular situation. Trainees at all levels may miss the opportunity to stand alongside their teachers and peers to give care to those who need it most.

Heterogeneity of COVID-19 Responses Across the Country

The diversity of training sites in US health professions education has led to a wide range of responses to these challenges. In addition to regional variations, sites within individual academic programs are creating different educational and clinical polices, including the role of learners in the care of COVID-19 patients and even PPE requirements. Although educational accreditation bodies have offered guidance, implementation of creative responses has been left to individual schools, programs, and hospitals, which has created important differences in learner training and experience.

A FRAMEWORK FOR PANDEMIC HEALTH PROFESSIONS EDUCATION

Given these challenges, we offer four broad principles to guide health professions education in response to this pandemic. Within this framework, we offer multiple suggestions to individual educators, health professions programs, healthcare systems, and educational policymakers.

1. Prioritize healthcare system welfare: Patients are the core of our professional responsibility, and their needs take precedence. First and foremost, plans for our learners must always promote and support the proper functioning of the health system and its individual healthcare workers. To support care delivery, healthcare systems should do the following:

- Ensure educational activities minimize the risk of nosocomial transmission and adverse effects on patient safety. For example, hospitals can modify bedside care to reduce exposure by using phone or video for patient-trainee contact, performing selective physical examination only, and, when needed, prioritizing a single skilled examiner.
- Ensure learner use of PPE does not negatively affect availability for others, both now and as the pandemic unfolds.
- Engage learners in authentic, value-added healthcare activities outside of direct patient contact: telemedicine, meeting with families, or spending video time with inpatients not under their direct care.

2. Promote learner welfare: Educators have a duty to ensure the physical and psychological safety of learners across the health professions continuum. By virtue of power differentials in the hierarchy of the teaching environment, learners can be particularly vulnerable. To promote learner wellbeing, educators should do the following:

- Deploy technology to maximize opportunities for and quality of non-face-to-face clinical, didactic, and interprofessional learning.
- Ensure learners have access to and proper training in the use

of PPE, independent of whether they may be using PPE as part of clinical responsibilities, while remaining aware of the potential supply constraints during a pandemic.

- Deliberately include stop points during teaching for dialogue regarding fears, stress, resilience, and coping.¹⁵ Deploy additional resources for support, including in-person or virtual psychological and psychiatric care and crisis intervention counseling.
- Maintain flexibility regarding trainee's educational needs. For example, welcome trainees from other services joining inpatient medicine or ICU teams. Acknowledge the stress they may feel and support them as they learn and adapt. This can be a unique opportunity for lessons in professionalism, teamwork, and communication.

3. Maximize educational value: Efforts must be made to preserve educational quality and content, limit educational cost, and leverage unique opportunities that may only be available during this time. Educators and programs should do the following:

- Adapt teaching to reflect changes in the hospital environment. A student may have spent more time on the phone with a patient; the nurse may have examined the patient; a resident may have vital signs and lab data; the attending may have spoken to the family or know about local policy changes affecting care. The usual modes of rounding should adapt, focusing on sharing and synthesizing multisource data to generate rapid, intelligent plans while mitigating risk.
- Turn the potential challenge of diminished access to previously routine diagnostic testing into an opportunity for trainees to assertively develop clinical skills often underutilized in practice environments without resource limitation.
- Discuss learning opportunities for healthcare ethics. Multiple aspects of this pandemic raise ethical issues around allocation of scarce resources and principles such as contingency and crisis standards of care: the availability and application of testing, potential changes to patient triage standards in which patients sicker than ever may be sent home, and crisis allocation of life support resources.
- Highlight opportunities to support interprofessional education and collaborative practice. As traditional professional boundaries are temporarily blurred, we may find nurses asking gowned physicians to perform nursing tasks (eg, inflate blood pressure cuffs). Physicians may ask nurses for patient-related information (eg, physical examination findings), all to limit collective risk, maximize efficiency, and minimize the use of scarce PPE.
- Teach telemedicine. This is an opportunity to create a cadre of clinicians adept with this type of practice for the future—even outside pandemics. Now may be the time for virtual visits to be better integrated into clinical practice, which has been of interest to patients and providers for some time, and to address the constraints of reimbursement policies.
- Provide explicit role modeling to ensure learners recognize and learn from the key components of faculty activity—modeling communication skills, engaging in clinical reason-

ing, or navigating clinical and professional uncertainty.¹⁶ For example, faculty could share their clinical reasoning regarding diagnosis of respiratory complaints. While COVID-19 may be the most urgent diagnostic consideration, educators can emphasize the risk and implications of anchoring bias as an important cause of diagnostic errors.

- Identify opportunities for educational scholarship around these and other changes resulting from the pandemic. Seek to engage learners in this work.

4. Communicate transparently: Learners must be witness to decision-making processes; this will demonstrate that their safety and education are valued. Wherever possible, include learners in decision-making discussions and in the process of disseminating information.

- At the institutional level, generate, modify, and share communication regarding the ways that education is changing and the values and goals behind those changes.
- Invite trainees as active contributors to intellectual exchanges regarding changes in the learning environment.
- Limit the negative impact of the “rumor mill” by replacing it with frequent, targeted, and accurate messaging that relies on evidence to the greatest extent possible.
- Strive for consistency in communication content but diversity in distribution to reach the learners in the most effective ways. In times of uncertainty and stress, err on the side of overcommunication.

SUMMARY

Healthcare and medical education face a challenge unprecedented in our lifetimes. The COVID-19 pandemic will touch every aspect of how we care for patients, train the next generation of health professionals, and keep ourselves safe. By highlighting key issues facing health professions educators, offering a framework for education during pandemics, and providing specific suggestions for applying this framework, we hope to provide clarity on how we may advance our teaching mission and realize the educational opportunities as we face this crisis together.

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