

# COVID-19: Challenges and Opportunities for Educators and Generation Z Learners



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The coronavirus disease 2019 (COVID-19) pandemic has and will continue to have a dramatic effect on the world and how we function as communities and societies. One area that has been substantially affected is education at all levels, including both undergraduate and graduate medical education. Medical students in their first and second (preclinical) years have been transitioned to partially or fully electronic curricula at many medical schools, and students in their third and fourth (clinical) years either have been removed from clinical rotations all together or at least have their clinical exposure significantly reduced. Developing and sustaining high-quality methods of education for students no longer enrolled in the traditional medical school classrooms and ward experiences is a major challenge for medical educators. It is also essential that we are successful at responding to this challenge, as the educational development and success of our future physicians depends on it.

Much has been written about generational differences in medical education, often framed as a “culture clash” between baby boomer/generation X educators and generation Y (millennial) learners. The millennial generation, born between 1981 and 1996, was the first to grow up with almost lifelong access to the Internet and has been described as “highly educated, optimistic about their future” and invested in “integrity and social responsibility.”<sup>1</sup> However, many of our current medical students, especially preclinical students in their first and second years, are no longer in the millennial generation but in fact part of generation Z (born in 1997 or later). Generation Z is “hyperconnected and facile with computers and the internet,” has “expectations of global learning

opportunities,” and consists of “active problem solvers, independent learners, and advocates for social justice...”<sup>1,2</sup> Generation Z medical students are projected to prefer more technological integration into learning spaces than previous generations, hope to use their skills to develop ways to address the underlying causes of problems using entrepreneurial and technological approaches, and have a higher need for student counseling services because of increased rates of psychological distress.<sup>3</sup> Additionally, evidence establishes that while current medical students frequently use social media for educational purposes, educators often perceive Web-based media as “unsuitable” and even those media viewed more favorably are rarely used as learning tools.<sup>4,5</sup>

The characteristics of generation Z learners will certainly affect education in the COVID-19 pandemic. In fact, many of the preexisting qualities and preferences of generation Z described above may lend themselves to positive developments in this otherwise stressful time. Preclinical students have been transitioned to almost exclusively online learning, which fits well with their preference for technological integration into learning spaces. This is an opportunity for medical educators to build on existing technological platforms (Blackboard,<sup>6</sup> video lectures, podcasts, etc). Companies focused on educational technology have a considerable opportunity to partner with educational institutions, physician educators, and students to develop new electronic content. Student involvement would allow those with entrepreneurial tendencies to have input into their own educational environment and satisfy generation Z's need to problem-solve.

Students in their clinical years who have been removed from ward rotations should

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not be left without clinical learning opportunities. As physicians begin to use telehealth (phone calls, video visits, and communication over online medical record applications) to communicate with their patients, students should be included (and instructed) in this learning environment. It is likely that telehealth will persist long after the pandemic recedes—perhaps even as a preferred method of the physician-patient interaction in some situations. Therefore, it is essential that students graduate from medical school well trained in telehealth including technological aspects as well as learning the most professional models of the physician-patient distance interaction. Enterprising students may wish to develop new platforms for telehealth interactions with patients and other medical professionals. This is also an opportunity for innovation and disruption in the area of student evaluation. Use of technologies such as artificial intelligence to classify student—(simulation/real-life) patient teleinteractions as “positive” or “negative” (using “master clinicians” as the criterion standard judge) may allow the identification of clinical and professional behaviors that can be modeled for future learners in telehealth.

Finally, our response to student moral distress in the COVID-19 pandemic is essential to address. At baseline, medical students experience high rates of burnout and depression than does the general US population related to their learning and working environments.<sup>7,8</sup> The COVID-19 pandemic will likely lead to increased distress given that students’ learning environments and plans for the future changed dramatically in a short period of time. It is essential that educational institutions and medical educators with leadership positions have an active involvement in student distress management. Supportive leaders can work to normalize stress as a response to rapidly changing life circumstances and emphasize that seeking professional help for stress management is a healthy adult response to distress. Schools must also provide adequate (ideally free) access to clinicians trained in stress management. Additionally, as students move to primarily electronic means of

communication, online support communities can be developed for both mentorship and leadership updates from educational leaders as well as peer support tools and engagement tools for students. Social networking sites receive positive feedback from medical student learners at baseline,<sup>9,10</sup> and this is an opportunity to develop specialized support communities that will help students manage their emotional and social needs during this period of increased stress. Future studies should address sources of distress during the pandemic and interventions that were particularly successful in mitigating distress, so that these interventions can be adopted by medical educators for future challenging situations.

As the medical community fights the COVID-19 pandemic together, we must nourish and protect not only our practicing health care workforce but also our medical trainees, who will become the next generation health care workforce. Generation Z medical students are ready to learn and seek support in new and innovative ways. As educators, we must be ready to help them.

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