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My Thoughts / My Surgical Practice

Navigating the virtual medical school experience during COVID - What comes next?



1. Introduction

During spring 2020, COVID-19 imposed an abrupt halt to in-person gatherings and unmasked face-to-face interactions. In a matter of weeks, medical students at every level experienced significant shifts in their UME curriculum while navigating an ever-changing social and home environment. We aim to describe the perspective of trainees on the impact of this abrupt transition on UME and the unique opportunities for innovation of UME in the post-COVID era.

2. Impact of the COVID-19 pandemic on medical students and residents

To optimize student safety while maintaining optimal learning, UME quickly transitioned to an online learning platform. In pre-clerkship years, this included recorded/live lectures, virtual small groups, and virtual anatomy labs. Due to shortage of PPE, limited available COVID testing, and increased infection rates, clerkship students nationwide were transiently removed from clerkships. Alternatively, their learning took place through virtual case-based lectures, telehealth training, and/or rescheduled clerkships.

As Zoom became the classroom for medical students, students became largely isolated within their homes.¹ Consequently, family distractions, technological difficulties, and a lack of work space became more influential barriers to learning and exacerbated mental stressors.¹ Multiple surveys assessing medical students' perceptions of online teaching during the pandemic have corroborated concern and struggle with poor mental health during this time.^{1,2} These increased feelings of isolation manifested as decreased motivation, greater social withdrawal, less engagement during virtual courses, and even decreased academic performance leading to a growing concern of decreased clinical skills and career development.^{1,2} First-year students that author Brazelle peer-instructed as an MS-4, comment on their experience: "Learning virtually has blunted the development of our social skills with patients, but also has created a lack of unity and camaraderie amongst medical students and our community. Despite this, we appreciate both patients and the medical education team for teaching us good foundational skills, particularly with history taking."

Isolation appears to have negatively impacted surgical residency training as well, according to Ellison et al. in which they analyzed pandemic check-in surveys of surgical trainee educators. Within surgical residencies, they found that although interventions to adapt education reduced severe disruption, learner well-being was constantly impacted despite increased coping assistance resources.⁴ One participant commented, "Resources are offered but not sure how deep such support truly

goes." Continued feedback and data collection regarding the effectiveness of various wellness initiatives at all levels of medical training will help guide targeted resources and promote feelings of support.⁴

3. The importance of optimizing emotional awareness and well-being

Optimizing emotional and physical well-being positively impacts scholastic performance.³ When struggling with motivation and focus, it can be difficult to achieve emotional awareness and the adoption of healthy habits (i.e., prioritizing healthy meals, exercise, and quality sleep), critical to excel as a student. In fact, it is the difficulties apart from school (e.g., the COVID-19 pandemic, death of a loved one, financial difficulties, relationship woes) in addition to the stress of medical training that compete for students' mental and emotional attention. Thus, there is a need to pay close attention to emotional well-being in order to maximize longevity and prevent burnout.

Stress management through healthy coping strategies can be achieved in many ways and takes time to become proficient. It has been explained that resilience, which is key to motivation, is the ability to grow in response to difficulties/challenges, becoming stronger through adversity.⁵ While resilience aids in the technical learning process, coping is a necessary component to help improve well-being. Positive strategies such as problem-focused coping have proven to be more beneficial than the more negative abandonment coping strategies.^{5,6} However, not all coping strategies are healthy: distractions do not necessarily help trainees resolve emotional stress. It is important to note that there is always the potential for growth in emotional awareness, although no singular approach is best, with considerable heterogeneity in individual approaches.

4. Harnessing the momentum of innovation in UME during the post-COVID era

In addition to expanded virtual lecture resources, some UME institutions have experienced success in utilizing virtual platforms to conduct patient interview sessions with both real and standardized patients. For clinical students, educators have created and/or expanded virtual clerkships and away rotations,⁷ morning reports, patient interviews, tele-medicine opportunities, webinars, case discussions, and pre-recorded scenarios. Moving forward, utilizing virtual resources in conjunction with in-person sessions through team/problem-based learning would offer the convenience of technology, while ameliorating the isolating effects of prolonged, exclusive use of virtual platforms. Gamifying virtual sessions via anonymous live polling for

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multiple-choice and open-answer responses may be further explored to optimize engagement. Anonymous live polling also may offer benefit in guiding discussion sessions on sensitive topics – such as culture, disparities, biases in UME and practice.⁸ These topics are recognized areas of concern for students during surgical clerkships, thus anonymous live-response guided discussion sessions may be an opportunity to address and ameliorate negative perceptions.⁸ Despite hands-on clinical learning generally being the most impactful,² the relative success of novel virtual clerkships shows promise for further exploration of virtual elective opportunities to facilitate broader exploration among surgical specialties specifically.⁷ As healthcare trends toward the utilization of telemedicine and remote monitoring modalities, virtual skills gained will be valuable to serving patients of the present and future.⁹ Most importantly, we should nurture the exponential growth of online academic communities via social media platforms, as this encourages inter-institution and international collaboration.

The transition to virtual teaching has not been smooth for all medical students, educators, or institutions. Though we look forward to reinstating in-person opportunities in the future, virtual learning will undoubtedly serve a more prominent role than before the pandemic. Medical institutions will have to continue to use their ingenuity to uphold the standards of medical education and maintain a non-dilutive curriculum for the next generation of physicians.

Declaration of competing interest

We have no conflict of interests to disclose.

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