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Mentorship: A Millennia-Old Remedy for Learner Success Amidst the COVID-19 Pandemic



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The ongoing pandemic has severely disrupted medical education and graduate medical training. Coronavirus disease 2019 (COVID-19) has rendered long-established educational paradigms and traditional teaching modalities obsolete. The threat of students and educators falling ill resulted in the temporary suspension of most, if not all, face-to-face educational interactions¹. Consequently, medical schools and hospitals had to promptly adopt new strategies to continue meeting institutional as well as national pedagogical milestones.

For millennia, mentorship has been an integral component of medical education and an indispensable tool in shaping the professional character of young students and medical graduates. Currently, no one-size-fits-all mentoring program exists. On the contrary, there are dozens of distinct mentorship

models, each geared towards satisfying unique institutional objectives^{2,3}. Regardless of program structure, high-quality mentor-mentee interactions has been demonstrated to increase student scholarly productivity, future career satisfaction, and improve student acclimation to new learning environments². Importantly, mentorship has shown to positively impact the professional outlook of minority students, particularly for those interested in pursuing surgical careers⁴. In today's healthcare climate, mentors have an opportunity to significantly influence trainees' transition to what is considered the "new normal." Students and junior residents have had to cope with educational setbacks, social isolation, financial hardships, and the continuous stress of potentially contracting the virus⁵. Given these challenges, how can mentor-

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Table 1 – Challenges Faced by Medical Students/Trainees During the COVID-19 Pandemic: Description of common challenges, key examples, and possible interventions.

Challenges Faced by Medical Students/Trainees During the COVID-19 Pandemic

Major Challenges:	Key Examples:	Possible Interventions:
Decreased Technical Training Opportunities	Sharp decline of elective surgical procedures Access restrictions to certain hospital units Cancellation of didactic sessions and training collaborations	Place greater emphasis on clinical didactics (pre/post/surgical ICU) Proper redistribution of surgical cases among trainees to promote balance among the resident team Create resident specific training curriculums to mitigate deficits in specific clinical areas Create workshops to reinforce key skills (e.g., suturing, intubation, central line placement, ACLS scenario management, etc.) Medical schools should hold workshops to help third/fourth year student practice history taking, physical exams, and procedures
Reduction in Major Career Advancement Opportunities	Cancellation of academic conferences/collaborations Strict limitations to in-person hospital audition rotations/job interviews Postponed summer research projects Delayed tenure or promotions	Increase online research collaboration Promote scientific work on areas which do not require hands data gathering (e.g., epidemiology, education, systematic reviews, social determinants of health, etc.) Changes to institutional requirements for tenure and promotions
Changes to Vital Training Program Milestones	Cancellation of clinical clerkships Disruption of board examination scheduling	Providing intensive clinical training to medical students Modifying medical school graduation requirements Extending deadlines and expanding testing locations
Negative Implications on Wellness and Mental Health	Long-term Social isolation Fear of becoming ill or transmitting the virus Major disruptions to career and personal agendas	Creating peer-to-peer mentorship programs Increasing school counselor access and outreach Creating virtual institutional wellness sessions Allowing fully vaccinated students to interact in live settings while following CDC guidelines Dedicated academic planning sessions to re-establish career goals and expectations

ship help supplement the current professional and personal needs of medical students, residents, and fellows? Likewise, how will mentors operate in the ongoing COVID-19 pandemic environment, and will the functional role of mentors change?

The authors will address the important interplay of mentorship in the current COVID-19 pandemic educational environment. As such, this work will discuss: (1) significant effects of the COVID-19 pandemic on undergraduate and graduate medical education; (2) how mentorship may help to address current learners needs; (3) how peer-mentoring can help mitigate the effects of social isolation and increase group morale.

Common Challenges Faced by Medical Students and Trainees During the COVID-19 Pandemic

As it stands, the United States is trending towards 34 million reported coronavirus cases with a harrowing death toll north of 590,000 citizens⁶. While the immediate and long-term consequences of the COVID-19 pandemic on the American healthcare system are vast, it is imperative to recognize that medical education was profoundly affected as well^{7,8}. Table 1 demonstrates some of the major sequelae of the COVID-19 pandemic across medical education and postgraduate training. The current pandemic has severely interrupted trainees' educational experiences across the board⁹. Medical schools have been affected as their curricula have been dramatically

interrupted. For example, medical students have had to rely on virtual sessions to learn what was originally designed for the clinic, hospital, or classroom. To protect faculty and students, medical schools initially decided to withdraw senior students from clinical settings as suggested by the Association of American Medical Colleges. Limitations such as decreased number of non-essential workers from hospitals, lack of senior supervision, and the threat of students being COVID-19 vectors prompted many schools to suspend practically all in-person clinical experiences¹⁰. For third- and fourth-year students, the clinical years serve to transition from classroom didactics to bed-side learning and it is an essential period for developing their professional identity. The clinical training years are a gateway for students to explore career options, cultivate clinical acumen, and interact with faculty and residents in prospective residency programs. Of urgent concern is the adequacy of substituting bed-side learning with other contactless modalities and the potential deleterious effect on the competency of recently graduated senior medical students¹¹. Post-graduate trainees have also encountered a series of challenges to include reassignment towards providing immediate patient care. Fellows and residents were called upon to supplement a chain of overstrained physicians who were faced with limited supplies in overcrowded hospital units¹². Many learning opportunities for residents and fellows such as academic conferences, research projects, elective surgical procedures as well as national and international collaborations were sus-

Table 2 – Classical Mentorship: Barriers and Potential Solutions during the COVID-19 Pandemic: Describes important barriers to traditional mentorship along with possible solutions.

Classical Mentorship: Barriers and Potential Solutions during the COVID-19 Pandemic	
Barriers:	Solutions:
In-Person Meetings	Encourage the use of ubiquitous video conference applications (e.g., Zoom, WebEx) to increase collaboration and data sharing Maximize meeting turnout by allowing virtual meetings to take place outside of institution (e.g., library, clinic, home, etc.) Facilitate training for mentors who may not be comfortable using virtual platforms Assist student with financial hardship by providing institution sponsored technology (e.g., laptops)
Outreach limited by classical dyad	Gauge student interest and personal characteristics to generate mentee groups Promote mentor-mentor partnerships to increase outreach and available support/expertise Encourage a peer-referral system where students can refer classmates to mentors Institution may reallocate monies previously allotted for conference travel, faculty dinners, wellness days, etc., to fund group projects
Increasing time constraints	Utilize shared electronic calendars to decrease scheduling conflicts Maintain electronic group agendas with record of salient meeting points Utilize digital content sharing to maximize efficiency during project reviews/discussion Make use of virtual platforms increase meetings attendance
Students ought to initiate relationship	Implementing institutionally led mentorship outreach programs Create virtual meet and greet events to increase faculty-student interactions Generate directory with available and willing mentors along with respective academic interest Create initiatives to train young faculty which can supplement diminished mentor pool Build an alliance between academic advisors and mentors to help identify struggling students Develop minority mentorship programs to encourage students/trainees to seek out mentors from similar backgrounds

pended or severely reduced¹³. Furthermore, important educational milestones such as board examinations, meeting surgical case quotas for certification, and residency/fellowship interview opportunities have been profoundly affected by the COVID-19 pandemic.

The Role of Mentorship During the COVID19 Pandemic

The magnitude of stress generated by COVID-19 continues to strain the mental health of students and junior physicians. Recent reports and publications note a significant rise in physician stress and anxiety, exacerbating the pre-pandemic national crisis of student and resident burnout^{14,15}. Presently, medical education is facing a shortage of mentors, particularly for women, minorities, and students from disadvantaged socioeconomic backgrounds^{3,8,16}. Alike, mentors many of whom are frontline workers, have been forced to take on additional clinical and administrative responsibilities depleting their time to participate in mentorship, research, and other educational activities¹⁷.

Nevertheless, mentors are uniquely suited to help guide mentees along their professional paths amidst these stressful times. Historically, mentors have served to impart wisdom, provide critical feedback, council on pivotal professional decisions, and act as role models for students and budding physicians¹⁸. The COVID-19 pandemic has created substantial hindrances in how traditional mentor-mentee dyads operate. The classical mentor-mentee model relies heavily on personal contact, student networking, and institutional collaborations all of which have been disrupted. [Table 2](#) summarizes

several barriers imposed by the COVID-19 pandemic on traditional mentorship along with potential solutions.

However, the pandemic has also generated new opportunities to build upon the strengths of traditional, fact-to-face guidance, as well as a chance to remedy some of the inefficiencies of typical mentoring strategies. The advent of new technological resources, particularly in the realm of digital communication, have re-invigorated medical education during the pandemic. Despite some unique drawbacks, virtual education has proven to be an effective platform brimming with collaborative capabilities¹⁹. Mentors can seize this opportunity and utilize digital platforms to restore fractured mentor-mentee relationships as well as help reach students and trainees in need of guidance. For instance, a typical barrier to traditional mentorship is the difficulty of aligning busy mentors schedule with student availability. Furthermore, traditional mentorship relies on students actively seeking willing faculty mentors. The latter is particularly challenging for minority students and for those without experience in previous mentor-mentee collaboration. Team mentorship is another advantage of virtual communication. Using a team mentorship format, a single mentor may provide guidance to a group of mentees, thus optimizing outreach and simultaneously building a system of support amongst mentees²⁰. In essence, mentorship may in fact thrive in the age of digital interactive platforms by restituting its most coveted premise: communication.

Mentors can make their presence felt by contacting students and junior doctors to discuss ongoing concerns and help ease apprehension. Faculty-mentors can help reduce trainee's anxiety by reaffirming their loyalty to resume pre-pandemic research projects, clinical opportunities, and assistance with important professional activities. Moreover, institutional initiatives can play a key role in the effectiveness and outreach

capabilities of mentorship programs. Medical schools and post-graduate training programs will benefit from creating a mentorship infrastructure intended to maximize mentor-mentee interactions as well as capture the needs of vulnerable and underrepresented learners^{8,16}. This can be achieved by identifying faculty liaisons, creating mentorship groups, matching faculty with students/trainees based on mutual interest, empowering minority faculty to take on mentorship roles, and encouraging peer mentorship at all institutional levels.

Peer-Mentoring and Program Morale

The practice of medicine mainly occurs in a team environment where the sum total of individual skills and experiences are key to producing optimal patient outcomes. Peer-to-peer mentorship may be at the core of restituting individual and group morale. As it stands, peer mentorship confers academic as well as psychosocial advantages independent and often complementary to faculty mentorship²¹. The peer-to-peer dynamic presents a seamless opportunity for students to create a web of personal support and academic resources within and outside of their organizations. Utilizing peer mentorship programs during the COVID-19 pandemic can help drive camaraderie by reconnecting a fractured student body. Most importantly, peer mentoring can promote academic collaboration by introducing students and trainees to each other's professional and scientific interests. Peer-to-peer mentoring can be a powerful asset in regenerating student enthusiasm, engagement, and leadership between the student ranks.

Post-Pandemic Mentorship

As vaccine efforts make headway and physicians become more adept with different management options COVID-19 will eventually cease to be a threat. Consequently, student and medical graduates are likely to resume their respective pre-pandemic training curricula. In the meantime, committed mentors will be essential in helping young learners mitigate some of the deleterious effects of COVID-19. Mentorship works best in a continuum. It has become evident that some aspects of traditional mentorship, such as frequent in-person meetings and intimate one-on-one guidance, were barriers and led to greater isolation during the pandemic. Thus, in a post-pandemic world we ought to build on what we have learned. First, digital communication platforms allow for efficiency and greater collaboration. In addition, institutions should continue to encourage more group and peer-to-peer mentorship to improve outreach and generate robust support networks. Lastly, empowering minority mentors and junior faculty-educators will grow the mentor pool and serve to uplift medical students and young graduates as well as ensure their professional realization.

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