


Rebuilding Graduate Medical Education After a Crisis: Perspectives of Medical Residents in the United Arab Emirates

Fatma Mahmoud ¹

Aiat Ghadban¹

Thana Harhara²

Halah Ibrahim ²

¹Education Institute, Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates; ²Department of Medicine, Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates

Abstract: Pandemics create unprecedented public health challenges that require comprehensive and coordinated responses from health care systems and can, thereby, cause substantial and prolonged disruption to residency training. The coronavirus 2019 (COVID-19) pandemic has impacted medical education worldwide. Currently, there is a gap in the literature from the trainee's perspective, and little advice on resuming post-pandemic operations. As internal medicine residents serving on the frontlines of a COVID-19 designated government hospital in the United Arab Emirates, we also faced significant challenges and uncertainties during the pandemic. We are fortunate to have overcome the initial surges and have spent the past 6 months navigating a new reality. We believe that the COVID-19 crisis provides an opportunity for graduate medical education programs worldwide to implement targeted changes that can lead to sustainable improvements in the system. In supporting learning during these times, our residency program has adopted flexible scheduling, focused on frequent and transparent communication, incorporated different strategies to build community and promote psychological wellbeing, and advanced virtual teaching modalities. The aim of this article is to share the strategies that have helped us to move forward in the aftermath of the first phases of the pandemic, whilst we prepare for the uncertainty of the future. We hope that the lessons we have learned can help inform other programs as they react and adapt to the global after-effects of this crisis.

Keywords: COVID-19, pandemic, crisis response, medical education, internal medicine, residents

Residency programs operate within healthcare systems that serve communities. A crisis that affects the community, from natural disaster to mass casualty event to infectious disease outbreak, can have a profound and enduring effect on its healthcare systems and training programs. Events, such as Hurricane Katrina, the Pulse Nightclub shooting, and the recent explosion in Beirut, demonstrate the vulnerability of training programs to respond to these crises and to adequately deal with the aftermath.¹ Studies have shown that 30% of surgical residents who responded to the Pulse Nightclub shooting in 2016 suffered from burnout, major depression and post-traumatic stress disorder for months after the event.¹ Pandemics create unprecedented public health challenges that require comprehensive and coordinated responses from health care systems and can, thereby, cause substantial and prolonged disruption to residency training.² The coronavirus 2019 (COVID-19) pandemic has impacted medical education worldwide. There is a large

Correspondence: Fatma Mahmoud
Tel +971555006525
Email famahmoud@seha.ae



and growing literature documenting the challenges faced by training programs, including cancellation of elective procedures, loss of clinical and operative experience, increased tele-medicine with less hands on clinical care, redeployment to non-specialty services, and rapid and complete transition to virtual learning.³⁻⁵ Moreover, trainees describe significant stress and anxiety related to the pandemic's effects on their personal and professional lives.^{3,6} A study of medical and surgical residents in a large urban academic center in the United States showed that 50% of the respondents thought that the COVID-19 pandemic had affected their medical experience negatively, but that their experience could be compensated in the future.³ Academic medical centers have a responsibility to provide care to large surges of COVID-19 patients, whilst mitigating disruptions to education and ensuring resident safety and wellbeing. The Accreditation Council for Graduate Medical Education (ACGME) has encouraged a multi-pronged approach to supporting residents during the pandemic. Key target areas include (1) meeting the basic physical needs of trainees; (2) maintaining effective communication; (3) promoting coping skills and peer support; (4) caring for trainees in distress; (5) encouraging connection; (6) facilitating access to mental health services; and (7) focusing on the clinical learning environment.⁷ In response, institutions have implemented various strategies. In Singapore, lessons learned from prior experiences with the severe acute respiratory syndrome (SARS) and Middle Eastern respiratory syndrome (MERS) outbreaks enabled the rapid development of a "pandemic response team" that enabled an efficient and systematic approach to help minimize education disruption, while prioritizing transparency and trainee wellbeing.⁸ In an academic medical center in the Midwest United States, trained psychiatry residents provided easily accessible, on demand peer support. With the support of faculty supervisors, the residents offered counseling to other trainees dealing with the chronic stress of working as frontline physicians during the pandemic.⁹ To date, however, there is limited literature on the effectiveness of these interventions, and resident reactions to these contingency plans remains largely unknown.³

As internal medicine residents serving on the frontlines of a COVID-19 designated government hospital in the United Arab Emirates, we also faced significant challenges and uncertainties during the pandemic. We have worked extra shifts and extended hours and provided care under highly stressful conditions for many months. Our electives

and vacations were indefinitely postponed and academic sessions cancelled or transitioned to virtual learning activities. Board examinations were postponed and changed in structure. The sheer clinical volume and social distancing restrictions translated into less time for formal teaching and the near disappearance of bedside rounds. The surge in patient volume and acuity mandated that even junior residents cared for large numbers of critically ill patients. The uncertainty of this novel virus meant that, for the first time in our training, we were on the same learning curve as our faculty and could no longer rely on their trusted expertise. The emotional and physical exhaustion brought on by this experience is undeniable, and compounded by the physical isolation from family members and the personal trauma of experiencing the illness of family, friends and colleagues. Despite these challenges, we recognize the important role we played in our institution's COVID-19 response. We are proud of our continued commitment to patient care, and know that we have witnessed true professionalism and resilience in our colleagues and in ourselves. Recognizing that the pandemic is unpredictable and that the duration and magnitude of its impact on our training is still unknown, we are fortunate to have overcome the initial surges, and have spent the past 6 months navigating a new reality. Although there are numerous publications describing the pandemic's impact on postgraduate medical training, with recommendations on care delivery and educational reorganization, there is a gap in the literature from the trainee's perspective, and little advice on resuming post-pandemic operations. We believe that the COVID-19 crisis provides an opportunity for graduate medical education programs worldwide to implement targeted changes that can lead to sustainable improvements in the system. The aim of this article is to share strategies that have helped us to move forward in the aftermath of the first phases of the pandemic, whilst we prepare for the uncertainty of the future. We hope that the lessons we have learned can help inform other programs as they react and adapt to the global after-effects of this crisis.

Prioritize Residents' Wellbeing

We cannot underestimate the physical and emotional toll this pandemic has had on trainees. Anxiety, depression and insomnia have been documented in healthcare workers during the Middle East Respiratory Syndrome (MERS) and Severe Acute respiratory Syndrome (SARS) outbreaks, with one study noting higher levels of PTSD and distress in healthcare staff from hospitals that treated

SARS patients up to two years after the outbreak.^{10,11} A recent survey of healthcare workers in China managing COVID-19 patients revealed high rates of insomnia, depression, and distress.¹² Similarly, in a cross-sectional survey of over 600 health care providers at a large hospital in New York, 75% of respondents reported high levels of distress, primarily due to fear of transmitting COVID-19 to family or friends.¹⁰ The pandemic may intensify the existing epidemic of resident burnout and depression.¹³ In the face of this surge, attention to the physical and psychological health needs of residents and other health care workers is vital. It is essential to provide residents with different outlets for counseling and support. In addition to group de-briefing sessions conducted by mental health and trauma experts, we have access to individual confidential counseling. Psychiatry residents in our institution operate a 24/7 psychological support hotline. Weekly online yoga classes are available for all healthcare workers. An easily implementable change is the provision of healthy, accessible daily meals. Onsite gyms, relaxation spaces in the hospital and mindfulness training are other interventions that can help reduce resident stress. Also, residents are encouraged to take time off whenever possible to limit fatigue and re-energize. Although scheduling is sometimes challenging and requires flexibility to accommodate last minute requests, it is important to support residents while maintaining continuity of patient care.

Incorporate Leadership Training into the Curriculum

Given that residents provide the bulk of hands-on, direct patient care, we were empowered to lead our clinical teams during the pandemic. During the influx of patients, internal medicine residents led interdisciplinary health teams, with junior residents often supervising and delegating tasks to senior surgical and subspecialty attendings deployed to the COVID wards. As frontline practitioners, we were directly involved in managing patient workflows and learned important lessons in resource optimization. The unpredictability of the situation also required versatility and a high tolerance for uncertainty. Chief residents served a unique additional leadership role, operating as liaisons between the program directors and the residents. Chief residents are not only entrusted to ensure the safety and health of trainees in developing schedules and training activities, but they are also expected to display leadership and role model professionalism and resilience during these

difficult times.¹⁴ Many of our colleagues showed quick growth in professionalism, adaptability and communication skills. A survey of residents in a tertiary care center in the United States found that many senior residents reported increased confidence in leadership skills developed during the COVID-19 pandemic.³ The pandemic has highlighted the importance of formal and holistic leadership training, especially for senior and chief residents. Webinars and on-line modules can provide this training virtually.

Establish Frequent and Active Communication

Communication frameworks to effectively engage communities during crisis response have been developed. For example, the Centers for Disease Control and Prevention's Crisis and Emergency Risk Communication model encourages providing accurate and timely information, displaying honesty in acknowledging uncertainty, demonstrating empathy and caring, and providing support and reassurance.¹⁵ In our program, daily, clear, open and transparent communication between the residents and program leadership was critical during the patient surge and beyond. Though large group meetings are still prohibited, daily emails and conversations on social media and group chats can facilitate clear and timely communication. This helps to minimize uncertainty and halt the spread of misinformation. These communications focus on COVID-19 local and national updated guidelines, scheduling concerns, and emerging issues, but also include encouraging messages and fun facts. These interactions provide residents with a chance to reflect about their experience and brainstorm ideas to help identify problems and suitable solutions. Fears, worries and uncertainties are always addressed and dealt with in a timely fashion.

Continue to Build Community – Even Virtually

Residents miss their family, friends and pre-pandemic lives.⁶ Yet, physical distancing restrictions and the fear becoming ill or transmitting the virus to others have disrupted social gatherings. Fostering community among residents is a critical part of building teamwork and professional collaboration. Our program has a resident WhatsApp group chat to disseminate important information, but also post jokes, share pictures and send well wishes. Morning Zoom coffee meetings or

Netflix movie nights can provide additional opportunities for group bonding.

Embrace Technology

Residents are concerned about deficits in their clinical training.⁵ Early in the pandemic, our program rapidly switched from traditional lectures to web-based teaching. E-learning formats provide many benefits, including improving time management skills.⁵ Further, multi-institutional academic collaborations provide residents the opportunity to attend sessions led by regional or international experts.^{2,5} Online curricula and large databanks of medical questions can augment self-study. In a survey of over 500 ophthalmology residents from 32 countries, trainees felt that webinars, web-based simulation, and tele-mentoring were worthwhile and should be continued in conjunction with traditional teaching models post-pandemic.⁵ We expect that online learning will continue to be an important part of our curriculum.

Every Day, Small Gestures Can Have a Large Impact

We anticipated and welcomed the daily check-ins from the program director and chief residents to offer encouragement and express their pride in our response efforts. Multiple stores and cafes offered special discounts to residents and healthcare employees. A local food delivery app renamed our hospital “superhero headquarters” on its map. These small gestures made us proud of our roles in this historic moment. Social distancing protocols can lead to feelings of isolation and loneliness; our program continuously works to enable connection amongst the residents, and between trainees and our facility, which resulted in the sense of community and unity within our program despite the challenges.

In conclusion, the COVID-19 pandemic has had an unprecedented impact on the education and wellbeing of medical trainees. In supporting learning during these times, residency programs have adopted flexible scheduling, focused on frequent and transparent communication, incorporated different strategies to build community and promote psychological wellbeing, and advanced virtual teaching modalities. We are hopeful that these interventions will be long lasting. This pandemic will undoubtedly be a defining moment in our careers and our lives. We not only learned to be better physicians; the experience has made us better human beings. We shared the

same fears and worries of our patients and their families and became more compassionate; we grew more patient, flexible and understanding. We were taught important lessons in courage and teamwork. COVID-19 is not the first, and will certainly not be the last, major health emergency that we will encounter in our careers as health professionals. The COVID-19 pandemic may indeed be a transformative event in medical education. From this experience, we have learned not to fear the unknown, but to grow from the process and rebuild stronger.

Disclosure

The authors report no conflicts of interest in this work.

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