

Reengineering GME in a Pandemic — Looking Back, and Forward

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Covid-19's seismic impact on health care has profoundly disrupted graduate medical education (GME). As the pandemic unfolded and demands of patient care eclipsed other hospital pri-

orities, resident and fellow training diverged from curriculum-based plans; supporting trainee well-being became more challenging than ever; teaching and assessment required rapid reengineering; and approaches to trainee recruitment were transformed. Discussions with GME leaders nationwide, as well as my own experience, have illuminated the pandemic's key effects on GME (see figure) and led me to some recommendations for moving forward.

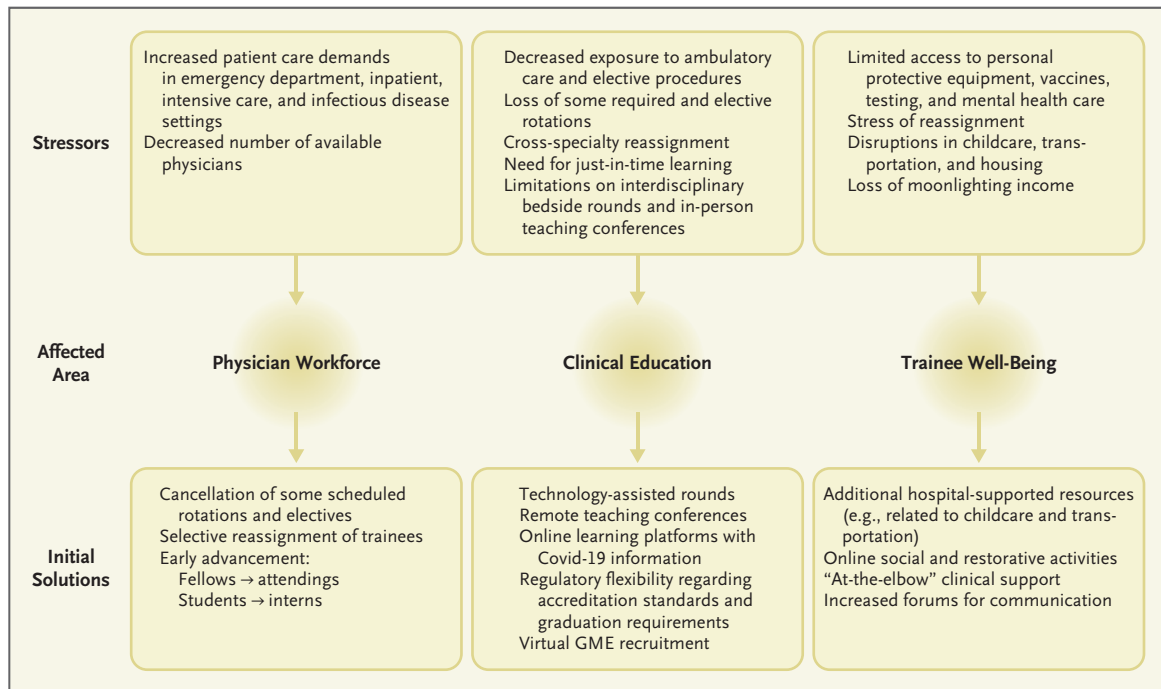
Physician workforce considerations were an early challenge as U.S. teaching hospitals confronted Covid-19. While patient care demands surged, some physicians were sidelined by illness or quarantine after SARS-CoV-2 exposure or travel. Visa delays and immigration restrictions blocked others — especially incoming trainees — from fulfilling scheduled responsibilities. In addition, some physicians with underlying health risks pulled out of direct care roles, and many medical schools

temporarily excluded students from clinical services, either for their protection or to preserve stock of personal protective equipment (PPE).

Teaching hospitals' reliance on GME trainees, which was heavy at baseline, intensified. Filling coverage gaps in high-need areas often meant canceling required rotations or planned electives. As operating rooms and ambulatory clinics emptied of routine care, trainees were redeployed to emergency departments, inpatient services, and ICUs. Controversy swirled around how reassignment decisions were made. Should interns be prioritized for cross-specialty assignments, given their proximity to more general clinical training and their greater opportunity to make up missed rotations later in training? Should pregnancy or underlying health conditions be considered? Some institutions developed guidelines or scheduling algorithms to support fairness and transparency.¹

Bolstering the workforce also involved promoting qualified subspecialty fellows to attending status, on the basis of board eligibility in their specialty, which allowed them to deliver care without supervision. Massachusetts and other state licensing authorities facilitated such promotions by issuing emergency (“full”) medical licenses. Medical schools including the NYU Grossman School of Medicine and the University of Massachusetts Chan Medical School granted M.D. degrees several weeks early so that new graduates could begin providing care.

The content and process of clinical education were also affected. Dramatic skews in clinical learning opportunities included reduced exposure to procedural and routine care, a greater focus on health equity and cross-cultural care, and new challenges in doctor–patient–family communication. Traditional teaching rounds were upended: in-person teams were limited to essential clinicians, and judicious use of tele-rounding preserved PPE and allowed remote team members to facilitate patient care with order writing, literature searches, and other contributions. Teaching con-



Overview of the Covid-19 Pandemic's Initial Impact on Graduate Medical Education.

ferences pivoted successfully to electronic platforms, enhancing access and efficiency. Just-in-time learning, especially important for cross-specialty trainee reassignments, was supported by Covid-focused modules.²

The Accreditation Council for Graduate Medical Education (ACGME) provided helpful flexibility in meeting accreditation standards to institutions that were hit hard by Covid.³ In addition, a joint statement from the ACGME and the American Board of Medical Specialties addressed the loss of required training time and specified experiences, acknowledging “the authority and judgment of Clinical Competency Committees and training program directors to determine readiness for unsupervised practice . . . when traditional time- and volume-based educational standards may be challenged.”⁴

GME recruitment was also transformed, as virtual visits replaced required in-person inter-

views. Programs and institutions created marketing videos, offered online information sessions, and used technology platforms to support tele-interviews. A silver lining was that avoiding travel expenses allowed financially strapped applicants to apply to more programs, including “long shots,” and many institutions noted a welcome increase in applicant diversity. “Audition electives” for senior medical students were shut down by the pandemic — another change that promoted fairness, since access to visiting-student rotations is limited and pursuing them is often costly.

Concerns about trainee well-being increased during the pandemic. Before vaccines were available, the fear of getting Covid and of transmitting it to family members was a major stressor, especially amid early shortages of PPE and limited access to Covid testing. Criteria for exemptions from clinical work have been controversial and variable;

some programs or hospitals require official occupational health exemption, while others have allowed trainees to opt out because of pregnancy, immunocompromised household members, or other factors.

Many trainees volunteered to work on Covid services, while others called for “hazard pay.” Some hospitals suspended trainees’ moonlighting privileges, cutting off an expected income stream. Trainees without life or disability insurance urgently sought such coverage for the first time. Requests for alternative housing (to avoid transmitting Covid to family members), subsidized transportation (to avoid mass transit), funding for back-up or home-based childcare, and free on-demand Covid testing outstripped hospitals’ ability to deliver these benefits and subsidies. In December 2020, access to Covid vaccination was particularly sensitive, as hospitals developed hierarchies for distribution.

Physical and emotional exhaustion have plagued trainees as well as other clinicians. Hospitals have sponsored appreciation events and online restorative activities, but efforts to facilitate access to mental health services have been most important.

As noted, cross-specialty reassignment — radiologists and psychiatrists redeployed to a medical ICU, dermatologists and orthopedists working in an emergency department — was a key source of stress for trainees. My former institution, Mass General Brigham, provided online Covid-related modules, at-the-elbow consultation, and supervision by faculty in the clinically relevant specialty. Trainee feedback suggests that these interventions were successful in supporting cross-specialty care; some trainees reported enhanced camaraderie and newfound cross-specialty respect as benefits. Forums that allowed frequent communication were also appreciated.

Similarly, enhanced collaboration and sense of community among GME leaders within and across teaching institutions emerged as a positive outcome of the pandemic. Mass General Brigham initiated weekly Zoom meetings for program directors and coordinators, which continued for more than a year, with robust participation. More broadly, GME leaders from throughout



An audio interview with Dr. Weinstein is available at NEJM.org

the United States connected informally to share ideas and experiences, and Covid spurred the ACGME to initiate ongoing virtual meetings of “designated institutional officials.”

Both the challenges and bright spots of Covid’s impact on GME provide important lessons. We can mine lessons learned during this crisis to better protect trainees and their education during fu-

ture emergencies and to improve GME overall. Actions can be taken by regulatory organizations, teaching hospitals, and individual GME programs as outlined below. Additional input from trainees, program directors, and other educators can help to refine these suggestions and guide local implementation.

First, I recommend that regulatory organizations maintain, update, and extend emergency-preparedness policies developed during the pandemic, including those aimed at maximizing clinician availability by supporting early graduation from medical school, residency, or both. In addition, processes for issuing emergency medical licenses should be implemented in all jurisdictions, and pathways for expediting physician visas should be developed.

Teaching institutions should articulate principles for the delivery of care that involves significant health risks to clinicians, clarifying the circumstances in which providers — especially trainees — can withdraw from direct care responsibilities and specifying any foreseeable situations in which resources (e.g., transportation, accommodations, or stipends) might be provided. Algorithms for clinician reassignment during emergencies should also be developed and shared. Of note, the pandemic reminds us that facilitated access to mental health is essential for trainees and must be ensured at all times by all teaching institutions.

Training programs should create systems for tracking missed rotations and learning opportunities to ensure that essential experiences are provided after the crisis has passed. Educators should also study and implement competency-based advancement, based on responsible assessments, so

that crisis-driven training deficits will not result in unnecessary extension of training or in deficient physicians.

In addition, our experience with Covid argues for formalizing telehealth as a required competency, linked to an explicit curriculum and assessments; routinely using electronic platforms for teaching conferences; and continuing to refine telerounding and remote engagement on inpatient teams. Finally, as the Coalition for Physician Accountability has indicated,⁵ maintaining “virtual” GME recruitment even after the pandemic should be seriously evaluated.

Crises often highlight both the strengths and vulnerabilities of systems we rely on, stimulating valuable innovations. Even as the Covid crisis continues, we should evaluate and apply emerging lessons — not only to strengthen GME trainees’ resilience (and contribution to care) in a crisis, but also to improve GME fundamentals for the future.

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Expanded Lung and Colorectal Cancer Screening — Ensuring Equity and Safety under New Guidelines

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In 2021, the U.S. Preventive Services Task Force (USPSTF) recommended major expansions of the populations that should undergo routine screening for lung or colorectal cancer. Both recommendations are evidence-based and, if implemented effectively, will most likely save lives. The changes were made with an eye toward reducing inequities in rates of early cancer detection among women and people who identify as Black, Indigenous, or Latinx. The guidelines, however, were released without adequate attention to how they would be implemented. Efforts to deploy complex, highly personalized screening methods using the patchwork approach that is typical of the U.S. health system could backfire, unless health care organizations, payers, and policymakers invest in preventive care infrastructure.

We believe regulatory and policy solutions are necessary to prevent unintended consequences associated with these important expansions in cancer-screening eligibility. To combat systemic racism and promote safety in ambulatory care, health care systems could collect and report data on disparities in preventive care, and they could design and deploy safety nets to ensure timely follow-up after abnormal screening results. In addition, we need policies that explicitly support equity and safety in preventive care.

When layered atop an already inequitable care delivery system, a substantial increase in the volume of preventive screening could exacerbate inequities in access based on race and other factors and lead to missed or delayed cancer diagnoses because of inadequate follow-up. Twenty million people between 45 and 49 years of age are newly eligible for routine colorectal cancer screening under the guidelines. Another 6.4 million people are newly eligible for lung cancer screening. The recommended age for starting lung cancer screening in current or former smokers dropped from 55 to 50 years, and the recommended number of pack-years of smoking history before screening is initiated dropped from 30 to 20 — which nearly doubles the population of eligible adults.¹

Even before these changes, the preventive care system wasn't functioning well. Under the previous USPSTF screening guidelines, only 5% of eligible people received lung cancer screening, and 69% of adults were up to date for colorectal cancer screening. Eligible populations now include younger people, who have historically had lower preventive-screening rates, are more racially and ethnically diverse, and are more likely to be underinsured than older people. Inequities in screening rates, cancer incidence, and mortality have persisted for decades, in part because health

care systems haven't invested in preventing systemic racism in the delivery of routine preventive care and don't have functional systems to consistently follow up after test results indicating moderate or high cancer risk.² Purposeful action will be required to overcome these challenges to meet the goals of the expanded USPSTF guidelines.

We believe the first step is for health care systems to create equity dashboards that report data on disparities in screening rates by race and ethnic group, sexual orientation and gender identity, and language. Because we can't improve what we don't measure, equity dashboards tracking key process and outcome measures should become part of the standard performance-management tools deployed throughout the U.S. health system. Our perspective could then shift from caring for only the individual patients who come into our offices to having a more complete understanding of the health of our populations, so that we can begin to systematically address the barriers our patients experience and promote the facilitators our patients need. Such an approach is critical to delivering on the potential of the new guidelines, and it will be required to begin addressing systemic racism and other inequities in our health care systems. Of course, reliable equity dashboards will not be possible