The Burden of COVID-19

The Effects of COVID-19 on Women Physicians

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The COVID-19 pandemic has had profound and far-reaching impacts on health care workers in the United States. This burden has, in many ways, been disproportionately shouldered by women, who make up approximately 75% of the health care labor force in this country. Many of these women, caregivers both at work and at home, are finding their professional and personal responsibilities increasingly incompatible. This has forced some American women to scale back their professional pursuits while they prioritize the needs of their families and has had a worrisome psychological effect on many. As sociologist Jessica Calarco observed, "Other countries have social safety nets. The U.S. has women." And they have paid dearly over the last year (asamonitor.pub/32LY70R).

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Shecession

The disparate loss of jobs between women and men provides perhaps the most dramatic example of the impact of the pandemic on women, and it represents a significant departure from the trends seen in prior recessions – so much so, in fact, that C. Nicole Mason, President and Chief Executive of the Institute for Women's Policy Research, has dubbed the current economic downturn a "shecession" (asamonitor.pub/3xq8PrS). Over the first 10 months of the pandemic, women in America lost 5.5 million jobs, 1 million more than men. This trend is particularly pronounced among women of color, and in the month of December, Black, Hispanic and Asian women accounted for *all* jobs lost. This trend is, in part, due to the high number of women who work in service industries such as health care. It is compounded by the unequal domestic obligations many women carry. For example, in a recent survey of over 5,000 Americans conducted by the Understanding America Study, 33% of employed mothers took primary responsibility for childcare during COVID-19-related school closures, as compared to only 7% of employed fathers (asamonitor.pub/3xpyuRt). This leaves women in a precarious and highly vulnerable position.

Although some in health care have worked longer hours than ever before caring for patients suffering from COVID-19, the industry as a whole has struggled significantly as a result of the pandemic. According to the Bureau of Labor Statistics, health care has lost a net of nearly 550,000 jobs since February 2020, with massive losses of over 1 million jobs per month seen in the early days of the pandemic. The vast majority of jobs lost were held by women.

Women physicians make up more than half the graduating medical students in the U.S. and account for an increasing number of practicing physicians. Although the exact number of women physicians who have left the workforce during the last year is difficult to pinpoint, it is clear that many women's careers have suffered. For a start, many of the jobs lost are contract, non-tenure track positions – those often held by women. Among women physicians who have retained their jobs, the pandemic has had a negative impact on both academic and clinical productivity. As an example, one study found that the proportion of papers in scientific journals with a woman first author was 19% lower in 2020 than among the same subset of journals in the previous year (*Elife* 2020;9:e58807). The same was not true for men, indicating that the research productivity of women, particularly early-career women, has been negatively affected by COVID-19 more so than it has for their male counterparts.

Long-term effects

Given the importance of publications in the promotion and tenure process, there is reason to believe this development may have long-lasting ramifications. In a survey by the Association of American Medical Colleges last year, 46% of women medical students voiced concern about the threat the pandemic poses to their careers, as compared to only 36% of their male classmates (asamonitor.pub/2RW0bRw).

Women physicians encounter unique challenges related to their gender, including conscious and unconscious gender bias, compensation inequity, sexual harassment, decreased rates of promotion, and inequitable distribution of domestic duties. The pandemic has added new concerns to that list – chief among them the fear of contracting the virus themselves or transmitting it to their loved ones. All of these factors lead to a higher risk for physician burnout among women, and new data confirm that COVID-19 has only exacerbated the problem. The 2021 Medscape National Physician Burnout & Suicide Report was compiled with the results of surveys from 12,339 physicians of all specialties between August 30-November 5, 2020. Women had a 51% rate of burnout compared to 36% for men. Pre-pandemic, 69% of participants reported being happy or very happy; during the survey period, only 49% did (asamonitor.pub/3u65MTP).

Women physicians also experience depression and suicidality at higher rates than their male colleagues. Although recent data is harder to come by, one study in 1999 suggested that the incidence of depression among women physicians may be as high as 19.5% (*Am J Psychiatry* 1999;156:1887-94). Physicians in general are much more likely to commit suicide than the general public, and once again, women have much higher rates of suicide completion – up to 130% higher than non-physician women (*Am J Psychiatry* 2004;161:2295-302). The stressors associated with the current pandemic are predicted to worsen this trend, and indeed, a rapid scoping review of 31 studies focused on the mental health impacts of the pandemic on health care workers reported that women in health care are at significantly increased risk for stress, burnout, and depression (*Front Glob Womens Health* 2020;1:1-8). Another study identified that being female, young, single, having less work experience, and working on the frontlines are all associated with higher rates of depression, anxiety, and stress during the pandemic (*Psychiatry Res* 2020 Aug;290:113130). Unfortunately, physicians are often reluctant to seek assistance with mental health issues due to fears about licensure and credentialing issues, stigma, and job loss.

Lorna Breen, MD, an ER physician working in New York City, cared for overwhelming numbers of patients infected with COVID, and eventually contracted the disease herself. She recovered and returned to work, anxious to do her part to help an impossibly burdened health care system despite lingering fatigue from her own illness. Devoting every waking hour to patient care,

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Women Physicians

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she quickly began to show signs that she was increasingly overwhelmed and detached. Her family and coworkers became concerned about her mental health, though she had no previous history of mental illness, and encouraged her to seek care. She took a leave of absence and was admitted to an inpatient program at a psychiatric hospital. Shortly after her discharge, Dr. Breen committed suicide (asamonitor.pub/3eASbNs). Her story highlights the unimaginable toll of this pandemic for health care workers on the frontlines.

Health care workers' lives will be permanently changed as a result of the pandemic, and emerging literature is beginning to report on the serious mental health effects on frontline health care workers as a result of COVID-19. But it is not only the frontline workers who are at risk. Health care workers as a whole are losing jobs due to financial cutbacks by institutions and are facing new and significant stressors. The vast majority of these workers are women.

The unintended consequences of the COVID-19 pandemic have impacted every area of the lives of women physicians and have created a host of novel challenges, including:

1. New childcare/home education responsibilities
2. New caregiving roles with aging family members
3. Job loss with increased furlough rates compared to male physicians
4. Income loss
5. Increased domestic responsibilities
6. Loss of academic productivity
7. Providing care in novel patient settings.

In addition to these, many health care workers are coping with a lack of social support, organizational factors such as limited access to PPE or high workload, and systems-level factors, such as the prevalence of COVID-19, rapidly changing public health guidelines, and a lack of recognition at work. It is imperative that women are supported adequately to offset these challenges, or our country will face a tremendous backslide in the diversity of its health care workforce. ■

The Changing Landscape of Medical Education in a Pandemic

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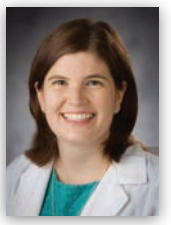
The COVID-19 pandemic has changed all of our lives, and the impact on medical education has been remarkable. The forced rapid implementation of virtual curriculums and the heterogenous clinical experiences have had major impacts on our medical students and trainees. Educators should be applauded for the tremendous efforts made quickly to preserve clinical rotation integrity. Students and trainees have endured the changes with flexibility, grace, and resilience. Many of these changes were applied without prospectively determining if they are beneficial and will have long-lasting effects.



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Clinical education impact

Early in the pandemic, the suspension of elective surgeries and lack of PPE resulted in a significant loss of clinical experience for medical students and trainees. The Association of American Medical Colleges released recommendations in March 2020 that encouraged all medical schools to remove students from direct patient care. Schools had to quickly revise their clerkship programs, and many shifted to virtual, case-based learning to meet clinical objectives. However, lack of a clinical component of a clerkship will affect the educational experience of these students. Many medical students were unable to complete anesthesiology rotations. The lack of exposure may result in fewer students choosing the specialty in the future. For those applying in the specialty, the limited clinical experience created anxiety about the inability to obtain letters of recommendation for residency applications.

For anesthesiology trainees, the reduced caseload and subspecialty experience, the redeployment to telemedicine and ICU locations, and the loss of procedural experience (given recommendations for experienced practitioners to perform airway management), had both positive and negative effects (*Br J Anaesth* 2020;125:450-5). Certainly the innovation in creating protocols for patient care, such as using anesthesia machines as ICU ventilators, developing airway teams, and the rise and fall of intubation boxes, clearly demonstrated anesthesiologists' leadership, judgement, creativity, and adaptability. However, given the schedule changes or need to quarantine, many residents and fellows struggled to meet their required case and procedure numbers, or failed to meet milestones at an appropriate time (*Br J Anaesth* 2020;125:450-5). Even as hospitals resume surgeries, some patients are more hesitant to seek care for non-COVID conditions (*JAMA* 2020;324:1033-4). Achieving rigorous clinical experience for our trainees may be challenging given lower case numbers and acuity. The impact on trainees in regard to clinical education depends on their training program and hospital's resources and will vary greatly in this current cohort.

Non-clinical education impact

Arguably the greatest change to medical education during the pandemic has been the widespread adoption of virtual and e-learning experiences (*Anesth Analg* 2021;132:585-93). There is no doubt that virtual learning will have a stronger presence in medical education curriculums moving forward. The use of learning management systems and virtual meetings has strengthened the use of adult learning techniques, including the flipped classroom and simulation, and also allowed greater multi-institutional collaboration for educational efforts (*Anesth Analg* 2021;132:585-93; *Reg Anesth Pain Med* 2021;46:188-9). However, just as with clinical education, the impact on students and trainees is heterogenous. Institutions and programs with greater resources can subscribe to established learning management systems or shift education to increased simulation and technical skills training, particularly with an interdisciplinary focus. The need for small groups due to COVID-19 restrictions requires more time of faculty, who may already be stretched thin with their clinical responsibilities. Financial deficits from reduced clinical volume, as well as social distancing requirements, have resulted in decreased ability to access simulation labs and conferences and little to no compensation to faculty for development of new teaching materials.

The concept of virtual lectures or meetings via Zoom, WebEx, Microsoft Teams, or other platforms is its own double-edged sword. Certainly learners appreciate the improved quality of life that comes with the ability for on-demand learning in any location of their choosing, resulting in increased attendance and the ability to spend time away from work. However, many educators have become frustrated by the limited social interaction in these platforms and the decline of professionalism exhibited. It can be

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