

Front-line physicians stressed and anxious at work and home

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3D print of a spike protein of SARS-CoV-2, the virus that causes COVID-19—in front of a 3D print of a SARS-CoV-2 virus particle. The spike protein (foreground) enables the virus to enter and infect human cells. On the virus model, the virus surface (blue) is covered with spike proteins (red) that enable the virus to enter and infect human cells. Credit: NIH

Amid the COVID-19 chaos in many hospitals, emergency medicine physicians in seven cities around the country experienced rising levels of anxiety and emotional exhaustion, regardless of the intensity of the local surge, according to a new analysis led by UC San Francisco.

In the first known study to assess stress levels of U.S. physicians during the coronavirus pandemic, doctors reported moderate to severe levels of anxiety at both work and home, including worry about exposing relatives and friends to the virus. Among the 426 [emergency physicians](#) surveyed, most reported changes in behavior toward family and friends, especially decreased signs of affection.

"Occupational exposure has changed the vast majority of physicians' behavior at both work and home," said lead author Robert M. Rodriguez, MD, a professor of Emergency Medicine at UCSF. "At home, doctors are worried about exposing family members or roommates, possibly needing to self-quarantine, and the effects of excess social isolation because of their work on the front line."

The results, which appear July 21, 2020, in *Academic Emergency Medicine*, found slight differences between men and women, with women reporting higher stress. Among male physicians, the median reported effect of the pandemic on both work and home stress levels was 5 on a scale of 1 to 7 (1=not at all, 4=somewhat, and 7=extremely). For women, the median was 6 in both areas. Both men and women also reported that levels of emotional exhaustion or burnout increased from a pre-pandemic median of 3 to a median of 4 after the pandemic started.

Lack of PPE was associated with the highest level of concern and was also the measure most often cited that would provide greatest relief. The doctors also voiced anxiety about inadequate rapid diagnostic testing, the risk of community spread by discharged patients, and the well-being of coworkers diagnosed with COVID-19.

But the survey also showed clear-cut ways of mitigating anxiety:

- Improve access to PPE;
- Increase availability of rapid turnaround testing;
- Clearly communicate COVID-19 protocol changes;
- Assure access to self-testing and personal leave for front line providers.

The responses came from faculty (55 percent), fellows (4.5 percent), and residents (about 39 percent), with a median age of 35. Most physicians lived with a partner (72 percent), while some lived alone (nearly 15 percent) or with roommates (11 percent). Nearly 39 percent had a child under age 18.

The study involved healthcare providers at seven academic emergency departments and affiliated institutions in California, Louisiana and New Jersey. Researchers noted that the majority of study sites were in California, which at the time of the survey had not yet experienced the large surges of patients seen in other areas of the country. But the study found that median levels of anxiety in the California sites were similar to those in the New Orleans and Camden sites, which were experiencing surges at the time.

"This suggests that the impact of COVID-19 on anxiety levels is pervasive and that measures to mitigate stress should be enacted universally," Rodriguez said. "Some of our findings may be intuitive, but this research provides a critical early template for the design and implementation of interventions that will address the mental health needs of emergency physicians in the COVID-19 pandemic era."

The study is longitudinal, with this first phase focused on the early "acceleration" phase of the pandemic. Subsequent studies will address stressors that have arisen throughout the course of the pandemic,

including childcare and homeschooling demands, the economic impact of fewer patients overall in the ER, and possible development of long-term post-traumatic stress.

More information: Robert M. Rodriguez et al. Academic Emergency Medicine Physicians' Anxiety Levels, Stressors, and Potential Stress Mitigation Measures During the Acceleration Phase of the COVID-19 Pandemic, *Academic Emergency Medicine* (2020). [DOI: 10.1111/acem.14065](https://doi.org/10.1111/acem.14065)

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