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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Covid-19 symptoms at 6 months. New research on what we've learned about the long-haul.

Covid-19 is not the only acute illness that can cause long-term suffering. Far from it. As medical care has become more advanced, and more patients survive previously universally fatal ailments, a condition known as post-intensive care syndrome has become more common and better understood. When we are fighting for our lives, the body becomes a battlefield. Often, what is left behind in the aftermath is a kind of scorched Earth.

New research in *The Lancet* followed-up with over 1,700 covid-19 patients who were hospitalized and then released. Six months later, the frequency of bothersome and disabling symptoms, findings on CT scans of the lungs, and pulmonary function severity was reported. Researchers grouped these results into three categories according to the severity of the patients' initial illnesses: patients who did not require supplemental oxygen, patients who did, and patients who needed more intense oxygen such as high-flow nasal oxygen, non-invasive devices (similar to CPAP machines), and invasive mechanical ventilation (i.e. intubated and on breathing machines).

At six months, 76 percent of all patients had at least one of the listed symptoms, which range from fatigue/muscle weakness (63 percent), difficulty sleeping (26 percent), hair loss (22 percent), difficulty with smell and taste (11 and 9 percent), and trouble with mobility (7 percent). When comparing the sickest patients to those who did not require supplemental oxygen, Fatigue/muscle weakness was 2.7 times more likely. Chest pain was also more likely (2.6 times). Mobility was compromised in 14 percent of the sickest group, 2.5 times more likely than the least sick group. Of note, anxiety and depression was present in 23 percent of these survivors, and nearly one third of the sickest cohort had these symptoms at 6 months. Among all of these symptoms disease severity and female gender were the most meaningful predictors.

Radiographic findings and pulmonary function tests were also impressive, though these by themselves do not necessarily mean that patients continue to suffer. Some patients have clear CT scans and feel terrible, while for others the opposite may be true. Symptoms that patients notice tend to be more meaningful than these "doctor-centered" findings, though they may portend to long-term lung problems. We just do not know.

Of interest, this study also studied levels of immunity. While blood levels of many types of antibodies dropped, giving the researchers concern that re-infection may eventually be possible, there is no known threshold for this. It is possible that even very low levels of antibodies and other immune markers may still provide protection.

This study adds to a growing body of literature about long-term symptoms after covid-19. Earlier studies looked at two-month outcomes. That so many patients have symptoms at six months is concerning. But it is not surprising, It is likely that similar findings would be found as a result of a great many number of severe acute illnesses. The problem is that SARS-CoV-2 is so out of control, that these findings appear to be far

more frequent. Though a comparison to a group of similarly ill non-covid-19 patients would be informative, that was not provided in this study, which is a major weakness in its design and therefore in what we can say we have learned about covid-19 from it.

Why is all of this happening? We are only beginning to ask the question and answers are not available. But in an effort to explain the mental health findings, the authors posited that the "underlying mechanism of the psychiatric consequences of COVID-19 is likely to be multifactorial and might include the direct effects of viral infection, the immunological response, corticosteroid therapy, ICU stay, social isolation, and stigma." But in reality, the very same thing could easily be said of almost all long-term covid-19 symptoms, not just those related to mental health. When the body combats a serious illness, the ramifications don't simply cease to exist just because the first and most important battle has been won.

—Jeremy Samuel Faust, MD MS

POLICY BRIEFING

Vaccinations expand. New York opens the gates to the next wave.

According to the US Centers for Disease Control and Prevention, nearly 9 million doses of the SARS-CoV-2 vaccine have been administered, of the 25.5 million distributed. That's around 36 percent, though many people are just now coming up for their second dose.

At the same time, New York announced the next phase in its vaccine rollout, and is now using a website to allow people initiate the process of scheduling a vaccination appointment. (A hotline at 877-VAX-4NYC is also being used). The site has a form which walks users through a series of questions to determine eligibility. For users determined to be eligible, a follow-up email provides scheduling information.

Phase 1a, already underway for weeks, included healthcare workers. The next one, Phase 1b, began yesterday and includes people over age 75 as well as a variety of other public-facing workers including teachers, corrections officers, transit employees, and others (for a full list, visit https://forms.ny.gov/s3/vaccine).

One of the major concerns in the vaccine rollout has been inadequate logistics. The New York system also has an online tool to help would-be jab-getters find a convenient location. Currently, vaccines are being given out 13 hours per day (8am-9pm) with plans to expand to 24 hours per day soon.

While there will certainly be kinks in the system, the effort appears superior to those in Florida. There, scenes of elderly residents camped out overnight outside of vaccination centers made headlines, in a rollout that was at times described as "sort of lawless."

—Jeremy Samuel Faust, MD MS

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