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BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Compassionate Use of Remdesivir for Patients with Severe Covid-19. A [paper](#) recently published in *The New England Journal of Medicine* describes the use of the anti-viral medication remdesivir in the treatment patients with severe covid-19. Remdesivir works by blocking viruses from reproducing. In this paper, a “severe” infection was defined as a patient who had low oxygen levels or needed supplemental oxygenation to maintain safe levels. But in reality, many patients in this study were far sicker. Almost 50 percent of patients required mechanical ventilation, and four patients were on lung bypass machines (“ECMO”). Of the 61 patients given remdesivir, data was only available for 53 patients. The results of the study are nebulous: 68 percent of patients required less oxygen support *while* on the medication, while 15 percent of patients became more ill while on the medication. The authors point out that patients who were not as sick—including those not requiring mechanical ventilation or ECMO—did well while on remdesivir. In contrast, patients who were on mechanical ventilators, and those older than 70 years of age had worse outcomes.

Should we be excited by this paper? Should doctors be routinely using remdesivir for patients with severe covid-19? It’s far too soon to say. This study was not even a clinical trial, *per se*. It was, in essence, a qualitative and quantitative description of 53 patients with SARS-CoV-2 who were given a particular medication of potential interest. It was not a randomized clinical trial. As a result, we cannot determine infer whether remdesivir helps patients, causes harm, or has no effect. What we do know is that covid-19 is a “self-limiting” illness for most people. This means that many patients improve with little to no medical intervention needed.

Analysis: Patients in this study who did not require mechanical ventilation and those who were younger than 50 years old (i.e. patients with less severe illness and fewer baseline risks) had better outcomes. This is not surprising and the results likely have nothing to do with remdesivir. However, some commentators on social media have noted that the mortality rate in this cohort of patients is lower than those reported in Wuhan, China and Italy. While true, the cohort of patients that is analogous to Wuhan (patients on mechanical ventilation) and Italy (patients requiring mechanical ventilation and who are much older) did pretty poorly in this study, consistent with data from abroad. The slight improvement in mortality seen in this study appears to be driven primarily by patients who were younger and not as sick. Finally, at the time that the paper was published, over 50 percent of patients were still in the hospital. So, the outcomes for these patients is yet to be determined. While a medication that improves clinical outcomes for our sickest covid-19 patients is greatly needed, we can’t yet say that remdesivir is the answer. We eagerly await the results of randomized clinical trials. For another critique of this study, see the [post](#) by Dr. Joshua Farkas on Emcrit.org entitled, “Eleven reasons the NEJM paper on remdesivir reveals nothing.”

--Joshua Niforatos, MD, Research Section Editor.

POLICY BRIEFING

Broader financial support for businesses. The passage of the CARES Act empowered the Small Business Administration to issue loans to businesses with fewer than five hundred

employees. In addition, the Federal Reserve has now [announced](#) the creation of the Main Street Lending Program (MSLP), a new initiative aimed at further limiting the economic disruption caused by the pandemic. Under the MSLP, when a qualified bank issues a four-year loan, it would retain a five percent share. The remainder would be purchased by a Federal Reserve bank using a newly-established fund of six hundred billion dollars. The terms allow a one-year deferral on principal and interest payments and may be stand-alone or in conjunction with existing loans. Entities pursuing these loans must have fewer than ten thousand employees or less than two and a half billion dollars in revenue. Additionally, the intent of the loan must be to preserve payroll and retain workers. *The Federal Reserve*.

--Joshua Lesko, MD.

When will this all be over?

The Trump Administration's current guidelines call for sheltering in place until April 30th. With rumors that the peak may have come and gone without fanfare, or that we are already on the road to recovery, the question of if most of the economy will re-open for business on May 1st is being widely discussed. A recent analysis by the U.S. Department of Health and Human services [suggests](#) that if the country re-opens for “business as usual” on May 1st, a resurgence of cases this summer is far more likely, and the national toll from covid-19 could surpass 200,000 deaths, or approximately ten times the current death toll. President Trump reiterated this weekend that he will not lift the guidelines until he is certain that the country will be safe. However, it is unclear what metric he will use to make that determination. *New York Times*.

Reduce, reuse, recycle.

Shortages of personal protective equipment have become common for hospitals battling the covid-19 pandemic. Masks that once were labeled disposable are now being used by workers for days, or weeks at a time. In attempt to make this process as safe as possible, the Food and Drug Administration [issued](#) a second emergency use authorization for a process designed to safely recycle N95 respirators. The device approved under this EUA uses hydrogen peroxide steam to sanitize masks. The hope is that the process is able to sanitize masks without compromising their filtration ability. N95 masks rely on physical filtration as well as electromagnetic filtration. *Food and Drug Administration*.

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Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health policy, and public policy.