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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

The Covid-19 pandemic and suicide. Data from 21 high- and upper-middle-income nations suggests lower or unchanged rates.

Six months ago, my colleagues and I became the first group to publish a rigorous analysis of suicide deaths during a covid-19 shelter-in-place. We found that in Massachusetts, which had one of the longest shelter-in-place periods of any jurisdiction in the United States, suicide rates had not deviated from pre-pandemic projections.

We then collaborated with a group of scientists from around the world, adding data from Louisiana to the mix as well. The data from this international collaborative were published last week in *Lancet Psychiatry*. The findings were again reassuring. In no nation were suicides increased during the early pandemic period, in data covering the beginning of the pandemic through the end of July 2020. In a dozen nations, suicide rates went *down.* Moreover, in the time since this manuscript was accepted, data from the United States as a whole have become available, with reliable data through the end of August 2020. My team assessed those numbers and found that US suicides also were statistically *lower* than pre-pandemic trends would have predicted, amounting to around a 10 percent decrease, or approximately 2,400 fewer suicide deaths in the US than predicted from March through the end of August.

There is no doubt that the pandemic has taken a mental health toll. The extent of that is difficult to measure, though, especially given how differently people are using mental health resources and the unique stressors brought about by the pandemic. For some, the sudden move to telehealth has made it easier for people to get help, meaning that bar for those seeking psychiatric treatment may be lower. But for others, telehealth is not a viable option; in-person care is harder than ever to obtain. Additionally, the stressors of the pandemic have mounted in ways that are difficult for public health researchers to capture. That's why my collaborators and I chose to assess suicide deaths in particular. On one hand, suicide deaths represent a relatively uncommon though especially tragic outcome among those with mental health struggles. On the other, suicide deaths are relatively objective and "easier" to track; we have decades of statistics, making comparisons and trends easier to track. In addition, unlike many medical deaths, suicide deaths are all investigated. In most cases, the determination of a suicide death is relatively straightforward for medical examiners. In fact, suicide deaths often have among the longest reporting lags of any of the majors causes of death. But they're also seen as being among the most accurate and reliable.

—Jeremy Samuel Faust, MD MS

POLICY BRIEFING

FDA revokes emergency use authorization for monoclonal antibody bamlanivimab.

Monoclonal antibodies designed to directly bind and block SARS-CoV-2, the virus that causes covid-19, from entering cells have been touted as a potentially powerful medicine. However, mostly the data have been disappointing. While some experts have spun the results as positive, the reality is that the data supporting the use of these medications, made by Regeneron and Eli Lilly, stand on shaky ground.

On Friday, the US Food and Drug Administration announced that it was revoking its previous emergency use authorization (EUA) for Eli Lilly's coronavirus monoclonal antibody bamlanivimab. A similar product, made by Regeneron, remains under an active EUA.

It turns out that a rapidly increasing fraction of sequenced viruses are now resistant to bamlanivimab. Just three months ago, around 5 percent of the viruses found and sequenced in the United States were found to have developed resistance to the medication, which targets proteins on the surface of the virus. By the middle of March, just two months later, that number rose to around 20 percent. The fear is not just that the drugs represent an unnecessary expense (though they come in at around $1,250 per dose), but also that the use of such medications could in effect create a selective pressure that favors variants that can avoid its effects. That could mean that these medications have the potential to *contribute* to vaccine resistance; the monoclonal antibodies were developed to attack the "wildtype" or "original" SARS-CoV-2, which is also the version of the virus that was targeted by the major vaccines currently in use.

But the FDA's action is not the end of the story for the monoclonal antibodies. In fact, Eli Lilly requested that the FDA take this step. Why? Likely two reasons. First, Eli Lilly's scientists are likely concerned about the resistance issues. But we also cannot help but note that Eli Lilly's combination of bamlanivimab and etesevimab *remains* on the market under its own EUA. The cost of that duo of antibodies arrived on the market more recently and is even more expensive than bamlanivimab alone. The US government paid $210 million for 100,000 doses of the combination, or around $2,100 per dose. Together, the US government has spent nearly $1 billion on Ely Lilly monoclonal antibodies. And yet, a well-controlled major trial with sufficient data to justify the price tag has not yet been published.

—Jeremy Samuel Faust MD MS

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