BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Suicidal thoughts on the rise during the covid-19 pandemic.

A recent paper published in *Psychiatric Research* assessed trends in suicidal thoughts during the covid-19 pandemic. Using a national survey software platform—Amazon's Mechanical Turk (AMT)—researchers from Arizona surveyed participants between April 9-10, May 11-14, and June 10-13, 2020. Participants were located in areas all around the country and included English speaking adults over the age of 18.

The main outcome of the study was prevalence of suicidality—which refers to thoughts of suicide, as opposed to any actual attempt or specific planning. Suicidality was measured using the Patient Health Questionnaire-9 (PHQ-9), which is a previously validated survey that is used as a screening tool for major depressive disorder (MDD). One of the questions of the PHQ-9 is "in the last two weeks, how often have you had thoughts that you would be better off dead, or hurting yourself in some way?" Other questions asked by the researchers included self-reported information on lockdown restrictions ('under lockdown' and 'sheltering-in-place') related to covid-19.

A total of 3,120 participants responded to the survey during the above-mentioned time periods. The prevalence of suicidal thoughts for survey participants not under lockdown restrictions at the time of the survey did not statistically change over the three month time period (16 percent in April to 17 percent in June). But, for individuals who self-reported being subject to lockdown restrictions, the prevalence of suicidal thoughts increased significantly from nearly 18 percent in April to around 31 percent in June.

There are some limitations to this study, that render the findings somewhat less conclusive. The AMT population, while nationally represented, is skewed towards a slightly younger, more educated, and more affluent patient population who have access to technology. Additionally, it is uncertain whether the authors were able to survey the same participants during each time period to assess individual trends that occurred over time. It is more likely that data reported from each time period is a "cross-sectional" sampling of the population at that time point. This limits our ability to assume any causality between under lockdown/sheltering-in-place orders and suicidal thoughts. Also, the amount of time a shutdown occurred may have unexpected effects. Longer shutdowns that quelled the virus (making it safer for the economy to re-open) may have been associated with better mental health, compared to shorter shutdowns which have led to longer economic fallouts. That was not assessed in this paper. Finally, this study did not include non-English speaking individuals. All of these issues limit certainty and wider applicability of the findings from this study.

Nevertheless, the results of this study have face validity—meaning that it "makes sense" intuitively. It is not hard to imagine how lockdown restrictions and the associated downstream effects—loss of work, food insecurity, lack of access to transportation—would have an adverse effect on the mental health of the population. The findings are a reminder that we should all try to occasionally check-in with family, friends, coworkers, health care providers, and others during the covid-19 pandemic, especially if we live in an area with active lockdown restrictions. Many people are likely suffering in silence. *15 September 2020*. —*Joshua Niforatos, MD, Research Section Editor*

Tracking covid-19 infections through donated blood. A new paper published in *JAMA* provides an lens into the changing infection rate of SARS-CoV-2. Given the growing yet controversial evidence regarding convalescent plasma to treat covid-19, the American Red Cross initiated national testing for donated plasma. All donated blood was tested for the SARS-CoV-2 antibodies between June 15 to August 23, 2020. Nearly 954,000 blood donations to the American Red Cross were tested for SARS-CoV-2 antibodies of which 1.8 percent were positive for antibodies. Donors were more likely to have antibodies to the SARS-CoV-2 virus if they were ages 18 to 24 years, Black or Hispanic, and located in the

Northeast when compared to donors over the age of 55, who were White, and located in the West. The rate of positive blood donations increased weekly during the study period from 1.2 to 2.6 percent of all donated blood. Regionally, the greatest increase in the rate of positive blood donations over the study period was noted for those located in the South, an unsurprising finding. It is difficult to know if these findings are generalizable or represent previous infection rates within the United States. Additionally, those who donate blood may not represent the overall population of individuals who have had covid-19. Despite these limitations, these results are important insofar as they provide insight on infection rates among younger adults and ethnic/racial minorities, who are less likely to have been tested than other demographics. *18 September 2020*. *—Joshua Niforatos, MD, Research Section Editor*

Immunity to common coronaviruses is short-lived. Will SARS-CoV-2 be different? Many are looking to the development of a safe and effective vaccine or herd immunity or as possible ways out of the covid-19 pandemic. Regardless of which strategy is pursued, a key question remains: does immunity confer lifelong protection? Studies published this year suggested the possibility of re-infection after less than 1 year with certain coronaviruses. A study released as a brief communication in *Nature Medicine* this week, shares results based on moore than 205 years of continuous follow-up data. Dutch researchers followed 10 young adult patients over the course of more than 35 years each. Starting in 1985, healthy subjects from the Amsterdam Cohort Studies on HIV infection and AIDS were repeatedly assessed for antibodies to four species of seasonal coronavirus infections, each of which cause respiratory tract infections. Based on the large variation of these four variants, the authors suggest that they could be representative of all coronaviruses. One of the main outcomes examined was the reinfection time period for these viruses. Reinfection time frames ranged from six to 105 months, with the most common time frame being 12 months. Based on this data, it is possible that SARS-CoV-2 could follow similar patterns and unfortunately any protective immunity would be short-lived, possibly necessitating the need for a yearly vaccine. *16 September 2020*. *—Christopher Sampson, MD FACEP*

Certain risk factors help predict which covid-19 patients will return to the ER. Early in the covid-19 pandemic, for those patients suffering from moderate symptoms, it was not clear who was safe to send home from the ER rather than admit to the hospital. A new study in *Academic Emergency Medicine* offers some guidelines for how to manage patients who fall in the gray zone. The authors wanted to know which patients returned to the ER after discharge, and which signs, symptoms and test results might predict a "bounce back" to the ER. The researchers retrospectively evaluated return admissions at 72 hours and one week among 1,419 adult patients discharged from five US EDs with confirmed covid-19. By 72 hours, 8.6 percent of such patients had returned to the ED and 5 percent were then admitted to the hospital. A total of 8 percent of patients were admitted to the hospital within 7 days of the initial ED discharge. With regards to risk factors, patients aged 60 or older had over four times the odds of admission compared to 40-year-olds. Patients with fever, abnormal chest x-rays or oxygen saturations of 95 percent during the first ED visit also carried an increased risk of return to the hospital. At seven days, in addition to aforementioned variables, patients 40 and above, and those with a history of hypertension or obesity all had an increased risk of admission. This study demonstrates that while most patients discharged from the ED do not need to come back to the hospital, a subset of patients are at a higher risk of returning.
Abbreviated from Brief19 for 14 September 2020. *—Lauren Westafer, DO MPH MS*

Kane Elfman PhD, Publishing and design. *Anna Fang, Week in Review.*
Jeremy Samuel Faust MD MS, Editor-in-Chief.

http://www.brief19.com/ *Twitter: @brief_19* *submissions@brief19.com*

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.