Rapid Reviews COVID-19

Review 3: "Deaths of Despair and the incidence of excess mortality in 2020"

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RR:C19 Evidence Scale rating by reviewer:

- **Misleading.** Serious flaws and errors in the methods and data render the study conclusions misinformative. The results and conclusions of the ideal study are at least as likely to conclude the opposite of its results and conclusions than agree. Decision-makers should not consider this evidence in any decision.

Review:

This paper analyzes excess mortality not directly attributed to COVID-19 in 2020, arguing that it reflects the effects of social distancing and the pandemic recession on so-called “deaths of despair” (from drug overdose, suicide, and alcohol abuse). The author starts by decomposing excess deaths into reported COVID deaths, unreported COVID deaths, and non-COVID excess deaths. He then shows that non-COVID excess deaths are highest in the demographic group with the greatest pre-pandemic burden from deaths of despair, which he interprets as evidence that non-COVID excess deaths reflect a surge in deaths of despair. Finally, he reports rising overdose mortality in three cities in 2020. None of the three analyses specifically support the author’s conclusions.

It is easiest to start with the city time-series evidence and work backward. The author graphs monthly time series of fatal opioid overdoses in Chicago and San Diego. These time series reveal higher opioid mortality in 2020 than in previous years. Additionally, Chicago peaked in May 2020, during the most intense period of social distancing. At face value, these patterns are consistent with the author’s argument. However, in both cities, the rising trend in opioid mortality began in mid-to late-2019, well before the pandemic. Additionally, opioid mortality in San Diego peaked in March 2020, half of which preceded the large-scale onset of social distancing. These patterns suggest causes beyond social distancing. The author also informally describes the experience of San Francisco, with accidental drug overdoses 59 percent higher in the first 8 months of 2020 than in 2019. But San Francisco may have been on the same rising pre- pandemic trend as Chicago and San Diego. The experiences of these three cities do not rule out a role for pandemic slowdowns, but neither do they substantiate it.

The same applies to the author’s comparison of non-COVID excess deaths in 2020 with deaths of despair in 2017-18 by age and sex. He finds that both mortality measures

were highest in middle-aged men, in the 35-44 and 45-54 year old age groups. The coincidence of pandemic-era excess deaths with pre-pandemic deaths of despair in the same demographic group does loosely suggest that the latter may account for some of the former. But turning this loose suggestion into compelling evidence requires further probing. Are any other causes of death disproportionately high among middle-aged men? Were deaths of despair already trending upward disproportionately in this demographic group? Does the geographic pattern of excess deaths (by demographic group) line up with the geographic pattern of deaths of despair?

The estimates of non-COVID excess deaths are based on the author's decomposition of overall excess deaths into reported COVID deaths, unreported COVID deaths, and non-COVID excess deaths. He distinguishes the latter two categories by assuming that all COVID deaths have been correctly reported since week 18 of the pandemic. Unreported COVID deaths may plausibly account for a smaller share of excess mortality later in the pandemic, but the timing of that decline is unclear.

If the paper's point is that some of 2020's excess mortality is due to distancing protocols—which reduced elective health care use economic activity while increasing social isolation—that point is plausible. However, none of the evidence here pinpoints the causes of those deaths.