

Longitudinal Study of COVID-19 Stay-At-Home Orders' Impact on Deaths of Despair in the United States, January 2019 to December 2020

The COVID-19 pandemic led to an increase in mental health problems and substance misuse, particularly during the 'lockdown' period, which included stay-at-home orders. One potential consequence was an increase in deaths of despair, which refers to deaths because of self-harm secondary to pain and distress. Deaths of despair typically include those due to drug overdose, alcohol liver disease, or suicide. A gap in literature is that current research on deaths of despair (suicide and drug overdose) has not considered the role of 'lockdown' measures during the pandemic. The goal of this study was to determine the impact of COVID-19 stay-at-home orders on deaths of despair using population-level data.

Citation:

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Methods:

Data Collection:

- Publicly available quarterly suicide and drug overdose mortality data from January 2019-December 2020 was assembled using National Center for Health Statistics' (NCHS) Vital Statistics Rapid Release Program.
- For each quarter, data were available for 51 jurisdictions (50 states and District of Columbia).
- Deaths from suicide were identified using underlying cause-of-death ICD-10 codes for intentional self-harm. Deaths from drug overdose were identified using codes for accidental and intentional poisoning and exposure to drugs.
- Policy data from BallotPedia captured the quarterly duration in days of jurisdiction-level stay-at-home orders put in place in response to the pandemic.
- Quarterly rates of deaths of despair were averaged for jurisdictions and stratified by the total number of days in 2020 in which a jurisdictional stay-at-home order was placed (no order, 1-45, 46-60 and >60 days).

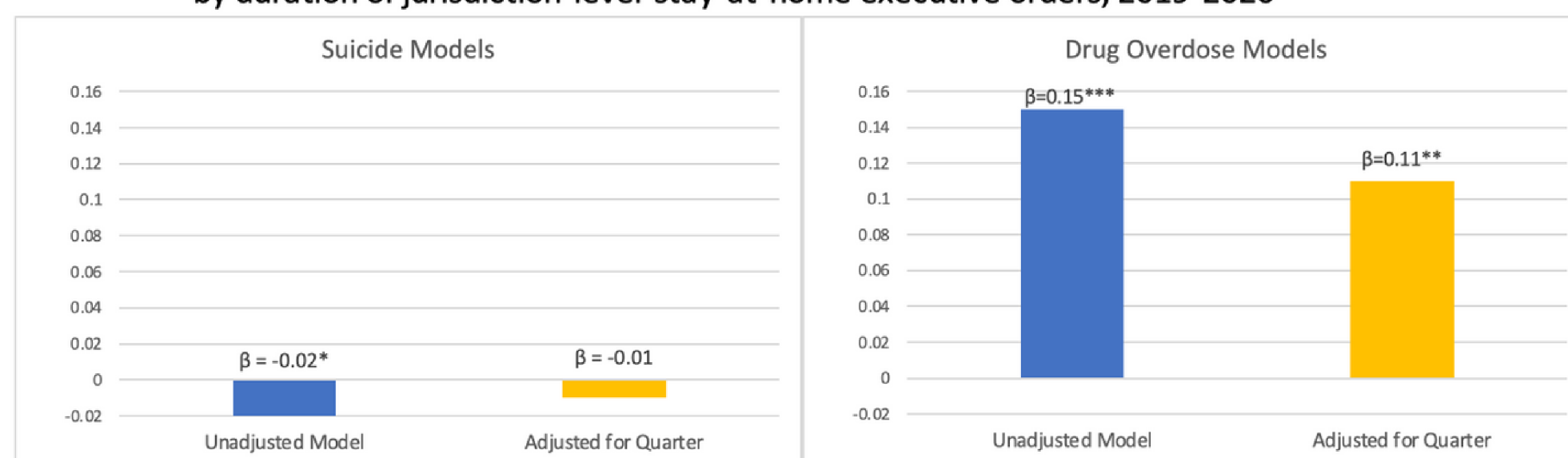
Analysis:

- To examine the effect of duration of jurisdictional stay-at-home orders on each outcome, fixed-effects models were estimated, adjusting sequentially for time-invariant jurisdiction differences and then for the seasonality using a quarterly indicator variable.
- Potential sources of bias were addressed by adjusting for jurisdictional level fixed-effects and seasonality.

Findings:

- Average drug overdose death rates increased after the implementation of stay-at-home orders, especially comparing jurisdictions with stay-at-home orders to those without.
- The duration of stay-at-home order was positively associated with drug-overdose death rates.
- The findings did not demonstrate an association between stay-at-home orders and death by suicide.

Panel 2: Fixed effects for jurisdiction-and-cause-specific mortality rates per 100,000 by duration of jurisdiction-level-stay-at-home executive orders, 2019-2020



*p < 0.05, **p < 0.01, ***p < 0.001

Discussion

Study findings suggest the duration of jurisdictional COVID-19 stay-at-home orders may have contributed to an increase in age-adjusted drug-overdose death rates in the United States from 2019 to 2020. This could be due to a variety of mechanisms including increases in economic distress and reduced access to treatment programs when stay-at-home orders were in effect. The results of this study suggest that during public-health crises, systemic and comprehensive strategies should be implemented that aim to prevent self-injury mortality.