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States' COVID-19 Restrictions were Associated with Increases in Drug Overdose Deaths in 2020

Douglas A. Wolf, Shannon M. Monnat, Jennifer Karas Montez, Emily Wiemers, and Elyse Grossman

Drug overdose rates surged in the United States during the first year of the COVID-19 pandemic. There were 91,799 fatal drug overdoses in 2020, up 30% from 70,730 in 2019. Public health experts raised concerns in the pandemic's early months about how the pandemic and the policies enacted to stem it might increase overdose risk.

Several states quickly adopted various policies intended to prevent the spread of COVID-19 and reduce the severity of infections, including stay-at-home orders, travel restrictions, and business and school closures. While there is evidence to suggest that these policies dramatically reduced COVID-19 deaths,¹ such policies may also have increased overdose risk through negative effects on employment and economic wellbeing, isolation, and mental health; reduced access to substance use treatment and harm reduction services; insufficient supply of emergency medical providers; and increases in solitary drug use. Concurrently, states adopted several policies aimed at counteracting the negative economic consequences of the pandemic, such as increasing unemployment benefits and pausing housing evictions and mortgage foreclosures. These economic support policies may have reduced overdose risk by reducing economic and housing stress.

This brief summarizes the findings of our [recent paper](#) that used national data to identify how states' COVID-19 policies affected drug

KEY FINDINGS



Drug overdose deaths surged in the early months of the COVID-19 pandemic.



States that adopted more aggressive in-person activity restrictions (e.g., business closures, travel restrictions) experienced larger increases in overdose mortality in 2020.



Economic support policies intended to mitigate the consequences of these restrictions (e.g., unemployment benefits, pauses on evictions) helped reduce overdose mortality, but not enough to offset the effects of the in-person activity restrictions.



While policies that restricted in-person interaction may have reduced COVID-19 mortality rates, our results suggest they may have had the unintended consequence of increasing drug overdose deaths.

overdose rates among U.S. males and females ages 25-64 during the first year of the pandemic.

Drug Overdoses Surged in the Pandemic's Early Months

COVID-19 was declared a national emergency in March 2020. That same month, the number of deaths attributed to drug poisoning began a sharp rise above the gradual upward trend from the prior year. However, by October 2020 the

monthly number of drug overdose deaths had returned to the pre-pandemic trend. These patterns are illustrated in Figure 1, which shows the monthly count of drug overdose deaths in 2019 and 2020, separately for males and females, along with the respective trend lines for each sex. Drug overdose deaths are more prevalent among males, and males also had a slightly steeper upward trend in the pre-pandemic period.

We used a 0-to-100 “stringency” index of the inclusiveness and intensity of COVID-19 control policies in our research.² This index summarized state-imposed requirements to close various retail and service establishments, limit social gatherings, and otherwise restrict in-person interactions. While primarily aimed at preventing the spread of the coronavirus, these policies appear to have increased the risk of drug overdoses. We found that a 10-point increase in the stringency index was associated with a 15% increase in drug overdose mortality for males and a 14% increase for females.

State Policies that Restricted In-Person Activities Led to Increases in Drug Overdoses

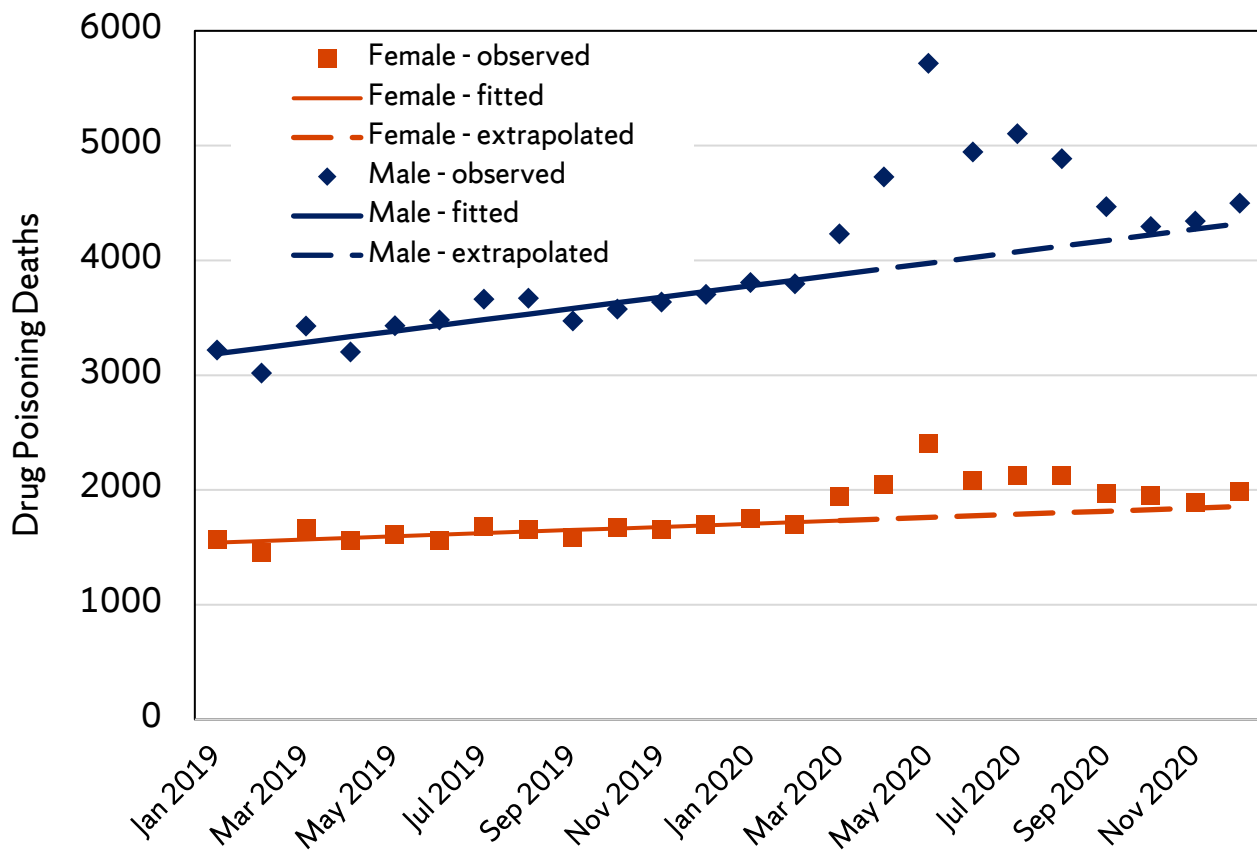


Figure 1: Numbers and Trends in Monthly Drug Overdose Deaths in the United States, by Sex, 2019 and 2020

Data Source: Author calculations based on data from National Vital Statistics System, Underlying Cause of Death Files.

Note: the “fitted” (solid) lines track actual month-to-month deaths from January 2019 through February 2020, while the “extrapolated” (dashed) lines show how the trends would likely have continued in the absence of the COVID-19 pandemic. The diamonds (males) and squares (females) show actual death counts.

State Policies that Provided Economic Supports Helped Reduce Drug Overdoses

We used a similar 0-to-100 economic support index that summarizes states' efforts to mitigate the economic harms brought on by the pandemic, using tools such as more generous and lengthy periods of unemployment benefits and prohibitions on rental evictions and mortgage foreclosures.² We found that a 10-point increase in the economic support index was associated with a 3% reduction in overdose deaths for males and a 4% reduction among females.

The Benefits of the Economic Support Policies were Insufficient to Offset the Unintended Harms of Containment Policies

The levels and durations of states' COVID-19 related policies varied widely throughout the period March-December 2020. However, no

state adopted economic support policies at levels sufficient to outweigh the unintended harmful consequences of the stringency policies they adopted. Nevertheless, our calculations indicated that if all states had pursued a low-stringency but high-economic support policy mix, national drug overdose mortality rates could have been 18% lower than the levels actually observed during this period.

Considerations for the Next Pandemic

If the U.S. were to face another pandemic, policymakers should consider the potential negative effects of policy decisions on other population health outcomes. While policies that restricted in-person interaction certainly reduced COVID-19 mortality rates,¹ results from our analyses suggest they may have had the unintended consequence of increasing drug overdose deaths. While challenging, policymakers must weigh the harms as well as the benefits of public health interventions.

Data and Methods

The main data sources for this study were death records obtained from the National Vital Statistics System, population counts obtained from the U.S. Census Bureau, and COVID-19 policy indices produced by The Oxford COVID-19 Government Response Tracker project.¹ Our models controlled for month COVID-19 severity in each county's immediate area using the COVID-19 death rate for a county and all of its neighbors. We also controlled for county metropolitan status, percent poverty in 2019, and the percentage of votes received by Donald Trump in the 2016 Presidential election. Full methodological details can be found in the [published paper](#).

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