

# Racial disparities in Good Samaritan Laws' effects on overdose mortality

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## Introduction

By providing limited legal immunity from low-level drug violations, Good Samaritan Laws (GSLs) aim to encourage overdose bystanders to call 911, and to in turn reduce overdose mortality. However, fear of police involvement is a common barrier to 911-calling at overdose events; given persistent racism in policing and “drug war” policies, this barrier may be greater in Black people. As a result, GSLs may be less successful at supporting 911-calling in Black compared to white people.

## Study design and methods

Causal inference regarding GSLs is complicated by a number of factors, including frequent co-enactment of naloxone access laws, co-occurring fentanyl surges, and a lack of comparators in recent years, as GSLs have been enacted by nearly every U.S. state. More generally, the parallel trends assumption required by the frequently used difference-in-differences approach is often difficult to satisfy. To address these challenges, we used a novel approach—a variant of the synthetic control method—to evaluate the impact of GSLs on overdose mortality in two states, Ohio and Michigan, overall and by Black/white race. We used 2015-2019 mortality data from the National Center for Health Statistics; we modeled quarterly overdose mortality.

The synthetic control method avoids the parallel trends assumption; it generates a counterfactual (what *would* have happened in the post-period had the GSL not been enacted) using a weighted average of control states. The weights are selected using pre-period data: the optimal weights are those that generate a counterfactual with the closest fit to the observed pre-period data. The estimated effect is then the difference between observed overdose mortality and what the synthetic control “expected” (i.e., the counterfactual) in the post-enactment period.

We wanted to examine the effects of GSLs in recent years, because the rise of fentanyl has dramatically affected the overdose landscape. However, this created a key challenge: by 2018, nearly all states had enacted a GSL, leaving few comparison states. To address this, we modified the synthetic control method: rather than comparing enactment states to states that did not enact, we compared states that had GSLs throughout 2015-2019 to those that enacted one during that period (Ohio and Michigan). To do this while meeting the requirements of the synthetic control method, we had to “invert” time; i.e., the last quarter of 2019 was treated as the first time point. In effect, we estimated the effect of Ohio and Michigan “losing” their GSL (or the inverse of gaining it).

We selected Ohio and Michigan as enactment states because they were among the few that did not co-enact a GSL and naloxone access law (i.e., within four quarters of one another).

## Challenges and opportunities

As we describe above, causal inference regarding GSLs is difficult, as with many legal interventions that co-occur with other policy and societal changes. We hope that our approach, which uses synthetic control method, carefully selected enactment states, and the “inversion” of time to circumvent common threats to

## METHODS BRIEF

causal inference, will inform future researchers. However, this approach precludes evaluation of GSLs in all states, limiting the generalizability of our findings. It is unclear how to obtain more global estimates without reintroducing some of the confounding and other challenges.

While we observed apparent effects of the GSL in white but not Black people in Ohio, the estimates for Black people were less stable, possibly due to smaller sample size. We're considering strategies to improve the quality of those estimates, to better discern whether there are indeed racial disparities in the effects of the law in that state.

### Discussion questions

- What other methodological strategies can/should we as researchers be using to evaluate the effects of real-world policy change, given confounding and other pervasive challenges for causal inference?
- If GSLs are indeed benefiting Black people less than white people, and if this is due to (legitimately) greater concern among Black people about police involvement, what can we as researchers do to inform practice? Is there hope for moving to a reality in which police are not dispatched to overdose events, and if so, what meaningful role can researchers play in moving toward that reality?
- More broadly, what are some of the ingredients of a legal epidemiology research study that is most likely to inform or change practice?