

# Study finds unintended consequences of state, opioid policies

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In response to the increase in opioid overdose deaths in the United States, many states have implemented supply-controlling and harm-reduction policy measures aimed at reducing those deaths. But a recent

study from Indiana University found the policies may have had the unintended consequence of motivating those with opioid use disorders to switch to alternative illicit substances, leading to higher overdose mortality.

"Literature from [public health](#) to social sciences has presented mixed and contradictory findings on the impact of [opioid](#) policies on various opioid adverse outcomes," said Byungkyu Lee, assistant professor of sociology at IU and co-author of the study. "Our findings suggest that the so-called opioid paradox—the rise of opioid-related deaths despite declines in opioid [prescriptions](#)—may arise from the success, not the failure, of state interventions to control [opioid prescriptions](#)."

Researchers used the National Vital Statics System and Optum Clinformatics DataMart to look at drug overdose mortality data from 50 states and claims data from 23 million commercially insured patients in the U.S. between 2007 and 2018. They then evaluated the prevalence of indicators of prescription opioid abuse, opioid use disorder and overdose diagnosis, and the prescription of medications-assisted treatment and drug overdose deaths before and after implementation of six state-level policies targeting the opioid epidemic.

Policies included prescription drug monitoring program access, mandatory prescription drug monitoring programs, pain clinic laws, prescription limit laws, naloxone access laws and Good Samaritan laws.

The study, published in the *JAMA Network Open*, found that supply-controlling policies were associated a lower proportion of patients who take opioids, have overlapping claims, receive higher opioid doses and visit multiple providers and pharmacies. They also found that harm-reduction policies were associated with modest increases in the proportion of patients with overdose and opioid use disorder. Additionally, the proportion of patients receiving medications-assisted

treatment drugs increased following the implementation of supply-controlling policies.

Brea Perry, professor of sociology at IU and co-author of the study, said these findings demonstrate the power of big data to provide insights into the opioid epidemic and how to best reverse it.

"Our work reveals the unintended and negative consequences of policies designed to reduce the supply of opioids in the population for overdose," Perry said. "We believe that policy goals should be shifted from easy solutions such as dose reduction to more difficult fundamental ones, focusing on improving social conditions that create demand for opioids and other illicit drugs."

In terms of overdose mortality, the study found that all overdose deaths increased following the implementation of naloxone access laws, especially deaths attributable to heroin, synthetic opioids and cocaine. Good Samaritan laws were also associated with increases in overall overdose deaths.

Furthermore, mandatory prescription drug monitoring programs were associated with a reduction in overdose deaths from natural opioids and methadone, and the implementation of pain clinic laws was associated with an increase in the number of overdose deaths from heroin and cocaine. However, having a prescription limit law was associated with a decrease in overdose deaths from synthetic opioids.

"Our work demonstrates that there is no easy [policy](#) solution to reverse the epidemic of opioid dependence and mortality in the U.S.," Lee said. "To resolve the opioid paradox, it is imperative to design policies to address the fundamental causes of overdose deaths, such as lack of economic opportunity, persistent physical, and mental pain, and enhance treatment for drug dependence and [overdose](#) rather than focusing on

opioid analgesic agents as the cause of harm."

**More information:** Wanying Zhao et al, Systematic Evaluation of State Policy Interventions Targeting the US Opioid Epidemic, *JAMA Netw Open*. 2021;4(2):e2036687. [DOI: 10.1001/jamanetworkopen.2020.36687](https://doi.org/10.1001/jamanetworkopen.2020.36687)

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