

State prescription drug monitoring programs: The rise and fall in heroin fatalities

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A new study at Columbia University Mailman School of Public Health found a consistent association between the adoption of state Prescription Drug Monitoring programs (PDMP) and death rates from heroin poisoning. However, the research showed that rates vary by program type. States with Proactive Prescription Drug Monitoring programs, which are more likely to report outlying prescribing and dispensing and provide broader access to law enforcement, reported a 6 percent reduction in heroin poisoning mortality by the program's third year. Findings are published online in the *International Journal of Drug Policy*.

PDMPs are state-level databases of information collected on controlled prescription medications dispensed in a particular state. As of December 2017, all U.S. states except Missouri had an operational monitoring [program](#). Heroin poisonings in the United States have increased nearly 5-fold from 2010 to 2017.

Researchers from Columbia, NYU Langone Health, and UC Davis studied these programs for the years 2002 to 2016 and classified them into latent classes (Cooperative, Proactive, and Weak) for each state and year, across three time intervals (1999-2004, 2005-2009, 2010-2016). The researchers then examined associations between the probability of PDMP latent class membership and the rate of county-level heroin [poisoning](#) death.

The data showed that states with Cooperative prescription drug monitoring reported 19 percent higher heroin poisoning rates compared to states with Weak PDMPs. Cooperative PDMPs share data with other states, include more drug schedules and require more frequent reporting.

"On the one hand, our findings raise questions about the potential for certain types of drug monitoring programs to support efforts to decrease heroin overdose risk, on the other hand, there are types of PDMPs associated with a decrease in heroin poisoning mortality," said Silvia Martins, MD, Ph.D., associate professor of epidemiology and director of PHIOS (Policies and Health Initiatives on Opioids and Other Substances) at Columbia Mailman School, and the study's lead author.

Another finding showed there is a consistent, positive association between state electronic PDMP adoption and heroin poisoning mortality. By the third year of implementation there was a 22 percent increase in heroin poisoning rates.

"It's pretty striking that this is the second study where we have found that PDMPs with robust features such as sending unsolicited alerts about outlying prescribing and dispensing patterns to PDMP users, and providing more open access to PDMP data, are associated with a small decline in opioid overdose deaths," noted Magdalena Cerdá, DrPH, associate professor and director of the Center for Opioid Epidemiology and Policy at NYU Langone Health, and the study's senior author. "In our prior study we found that these types of PDMPs were associated with a decline in prescription [opioid overdose deaths](#), and this new study suggests Proactive PDMPs may also have a downstream protective effect on heroin overdose risk."

"While colleagues have studied PDMPs, none of the prior research examined specific characteristics of PDMP programs in the level of detail that we examined in our study, and most did not take into account

variation across time and across states," noted Martins. "To the best of our knowledge, this study is the first to identify specific classes of PDMP characteristics that are most strongly associated with changes in rates of fatal heroin poisonings. We believe those authorized to access the data should be trained to protect individual privacy and confidentiality and ensure that it is used only to improve care for the patient."

Martins projects that monitoring programs which provide feedback about potentially problematic dispensing and prescribing practices may help change inappropriate prescribing and help to better identify patients in need of treatment for opioid use disorder, thus decreasing the potential probability of transition from prescription opioid into [heroin](#) use.

More information: Silvia S. Martins et al, Prescription drug monitoring programs operational characteristics and fatal heroin poisoning, *International Journal of Drug Policy* (2019). [DOI: 10.1016/j.drugpo.2019.10.001](https://doi.org/10.1016/j.drugpo.2019.10.001)

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