

Implementation of post-overdose programs associated with decrease in opioid fatality rate

March 15 2023



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New research from Boston Medical Center and Boston University School of Public Health found that municipalities with high numbers of

opioid-related emergencies that introduced post-overdose programs were associated with lower opioid related death rates over time when compared to those that did not implement these programs. Published in *JAMA Psychiatry*, the study showed that implementation of these outreach programs was also associated with a significant and gradual reduction of opioid emergency response rates.

Driven by fentanyl's presence in the illicit drug supply, annual overdose deaths exceeded 100,000 Americans in 2021. Surviving an overdose is one of the strongest risk factors for fatal overdose, so reaching out and engaging overdose survivors in overdose prevention, like naloxone rescue kits, and substance use care, like medications for opioid use disorder, is a critical opportunity to prevent future overdose.

Specifically, post-overdose outreach programs emerged in Massachusetts since 2013 as an approach to engaging recent survivors, using [contact information](#) from emergency responses to connect to survivors and their social networks. In the days after a person survives an overdose, an outreach team will attempt to contact them by phone or visiting their home to proactively offer overdose prevention guidance, referral and navigation to treatment, and other [community services](#). The team often offers support to the family as well.

While more and more widespread, these post-overdose programs have not been thoroughly evaluated and no study has examined the association between the implementation of these programs and overdose deaths or emergency call rates. The rollout of programs at the municipal level over time provided the opportunity to conduct an observational natural experiment to test the hypothesis that the implementation of these programs would be associated with declines in overdose rates.

Between 2013 and 2019, among 93 Massachusetts municipalities that had at least 30 overdose emergency calls in 2015, those municipalities

that had implemented post-overdose outreach programs had a 6% lower annual opioid fatality rate than the municipalities that had not implemented any programs. Implementation of these programs was similarly associated with a 7% lower annual opioid-related emergency encounter rate than municipalities that had not.

No immediate change in overdose was detected after implementation. These rate reductions were gradual and observed over time after implementation. Because municipalities have diverse characteristics, the analyses controlled for many municipal-level factors, including demographics, substance use treatment access, naloxone distribution, interactions with the criminal-legal system, and the proportion of fentanyl-involved opioid deaths.

"Because nonfatal opioid overdose is a leading risk for fatal overdose, post-overdose outreach programs offer a unique opportunity to address overdose among high risk people—providing the critical access to harm reduction or treatment they need," said senior author Alexander Walley, Clinical Addiction Research and Education Unit at Boston Medical Center's Grayken Center for Addiction and Professor of Medicine at Boston University Chobanian and Avedisian School of Medicine.

"The results of this research are encouraging and set the stage for further work to learn how these programs work and how they can work best."

"This study provides new evidence that post-overdose outreach program as an emerging public health strategy can be effective in reducing opioid overdose rates across communities," said lead author Ziming Xuan, Professor of Community Health Sciences and Epidemiology at Boston University School of Public Health.

"While communities across the country have ramped up their efforts in recent years to implement post-overdose outreach programs, a concerted

effort by community stakeholders and federal public health agencies—including the Centers for Disease Control and Prevention and the National Institute on Drug Abuse—is essential to maximize the potential benefits of these programs."

Researchers believe that components of the program, such as the role of law enforcement, how to maintain privacy, and program costs, must be further evaluated to understand how to operate post-overdose programs best. Post-overdose programs should be designed with awareness of racial, educational, and economic disparities in opioid overdose.

Legal concerns of privacy, eviction, child protective services and other issues may also affect how outreach efforts are perceived and experienced, which may negatively impact help-seeking behaviors.

"More studies are needed to examine the roles of these distinct program characteristics on overdose prevention in order to inform post-[overdose](#) outreach practices in various community settings," said Xuan.

More information: Ziming Xuan et al, Association of Implementation of Postoverdose Outreach Programs With Subsequent Opioid Overdose Deaths Among Massachusetts Municipalities, *JAMA Psychiatry* (2023). DOI: [10.1001/jamapsychiatry.2023.0109](https://doi.org/10.1001/jamapsychiatry.2023.0109)

Provided by Boston Medical Center

Citation: Implementation of post-overdose programs associated with decrease in opioid fatality rate (2023, March 15) retrieved 8 April 2023 from <https://medicalxpress.com/news/2023-03-post-overdose-decrease-opioid-fatality.html>

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