

Study examines opioid use among Massachusetts adolescents, trends in opioid prescriptions

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Opioid-related overdoses and deaths remain a major public health concern in Massachusetts, yet adolescents who experience opioid-related

nonfatal overdose (NFOD) have been rarely studied. Using public data, Brigham investigators recently unearthed several important ways in which the opioid crisis is playing out differently among young people versus adults.

Performed in collaboration with colleagues at the Boston University School of Medicine and Massachusetts Department of Public Health, the analysis examined data on adolescents in Massachusetts, ages 11 to 17, who experienced an opioid-related nonfatal overdose between 2012 and 2014. In addition to understanding how prevalent these events were in [young people](#) compared to adults, researchers also found differences in how adolescents receive medication to treat [opioid use disorder](#) after experiencing a nonfatal overdose. The team's results were recently published in *Drug and Alcohol Dependence*.

Among the findings were that [adolescent girls](#) were more likely to experience an opioid-related nonfatal overdose—the opposite of what has been observed in adults—although the reasons for this remain unclear. Additionally, investigators discovered these events were, overall, far less common in young people in the period studied, occurring in 195 adolescents versus 22,311 adults.

"This evidence will help guide the conversation about adolescent opioid abuse. In a lot of ways, this study raises more questions than answers, such as why more adolescent girls are overdosing than boys," said Avik Chatterjee, MD, MPH, first author and associate epidemiologist in the Division of Global Health Equity at the Brigham. "The ability to bring attention to a population that has been understudied with regard to the [opioid epidemic](#) will help researchers and physicians explore ways to treat this epidemic in adolescence."

An opioid-related nonfatal overdose occurs when an individual uses an opioid, sometimes in conjunction with other drugs, and becomes

mentally altered or sedated to the point that immediate, lifesaving treatment is necessary.

"A nonfatal overdose might be an opportunity to intervene," said Chatterjee. "People are using opioids so much that they are at risk of dying, so this could be a time when health care professionals could step in and help the person obtain treatment before a fatal overdose occurs."

To examine the [adolescent](#) and adult NFOD rates in Massachusetts, researchers analyzed data from 2012 to 2014, pooled from the entire state as part of Chapter 55 of the Acts of 2015. This dataset represents 98 percent of Massachusetts residents and includes non-identifiable medical information from hospitals, ambulance systems, substance-use systems, health insurance companies and homeless shelters.

Researchers were interested in examining whether adolescents received medication—methadone, buprenorphine or naltrexone—to treat an opioid use disorder within 12 months of experiencing a nonfatal overdose. They found that only 8 percent of adolescents were prescribed one of these medications within a year of the overdose.

"Adolescents have not received as much focus as adults in the [opioid crisis](#)," said senior author Sarah Bagley, MD, an assistant professor and primary care physician at Boston Medical Center. "However, these data illustrate that in Massachusetts, adolescents have not been spared and that they are not receiving timely treatment."

The authors note that these numbers may be low because many people now have access to opioid [overdose](#) reversal drugs outside of a health care setting.

"This analysis took advantage of a unique tool developed by the Massachusetts Department of Public Health (DPH) to enable us to

access linked, multi-year data for analysis of fatal and non-fatal opioid overdoses, as well as for other health priorities and trends," said Dana Bernson, DPH Assistant Director, Special Analytic Projects. "These results highlight the importance of our partnerships with researchers from academic, non-profit, private and government agencies in using data to respond to the [opioid](#) epidemic."

More information: Avik Chatterjee et al. Non-fatal opioid-related overdoses among adolescents in Massachusetts 2012–2014, *Drug and Alcohol Dependence* (2018). [DOI: 10.1016/j.drugalcdep.2018.09.020](https://doi.org/10.1016/j.drugalcdep.2018.09.020)

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