

Naloxone Disparities in Adolescents: Access Laws Are Not Enough

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ABBREVIATIONS NALs, Naloxone Access Laws

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In addressing overdose morbidity and mortality in the United States, one population seems to be left out of the spotlight: adolescents. Overlooking this group is of great detriment from a public health standpoint, given that the increase in overall overdose mortality seen in adolescents has been greater than the population at large: between 2019 and 2020, adolescent overdose mortality increased by 94%, as opposed to 29.5% in the overall population.¹ Between 2020 and 2021, overdose mortality in adolescents increased by 20%, and in the overall population by 11.5%.¹ Following trends of the greater population, adolescents also saw an increase in overdose mortality due to fentanyl beginning in 2019 and continuing through to 2021, when 77.1% of adolescent overdose deaths were positively identified as involving opioids.^{1,2} Between 2019 and 2021, median monthly overdose deaths among adolescents increased by 109%, and deaths involving fentanyl almost doubled in jurisdictions with available data, from 22 to 62 (182%).² In 2021, 73% of overdose deaths in the general population involved illicitly manufactured fentanyl, while 84% of deaths in adolescents involved illicitly manufactured fentanyls, indicating that not only has the overdose mortality due to fentanyl been rising in adolescents, but also it has done so at a higher rate than in the general population.²

Naloxone is an opioid antagonist that is effective for rapid reversal of an opioid overdose. Programs dedicated to overdose education and naloxone distribution have been associated with decreased rates of fatal opioid-related overdoses.³ Prompt administration of naloxone is critical in preventing overdose morbidity and mortality, but data suggest that naloxone is administered in less than a third of fatal adolescent drug overdoses.² While fatal and nonfatal overdoses among adolescents have risen in recent years, the circumstances in which these overdoses are occurring present a specific set of challenges for clinicians and public health officials to address, particularly as it relates to the access to and use of naloxone. To increase the prescription, distribution, and administration of

naloxone, individual states and the District of Columbia have passed a variety of Naloxone Access Laws (NALs), which have seen some success: 14% lower incidence of opioid-overdose deaths among men, 23% lower incidence among the black non-Hispanic population, and 16% lower incidence among individuals 35 to 44 years of age.⁴ However, in individuals aged 15 to 24 years, implementation of NALs did not result in a statistically significant decrease in the incidence of opioid overdose deaths.^{4,5} This suggests that additional efforts outside of NALs are needed to promote adolescent naloxone access and use.

One factor that may limit naloxone's effectiveness in curbing overdose deaths in adolescents may be related to how adolescents misuse substances. Fifty percent of adolescents being assessed for substance use disorder treatment reported using substances alone, with prescription drug misuse occurring most frequently alone (51%), and alcohol use occurring alone least frequently (26%).⁶ This would render the very presence of naloxone ineffective because there would be no one to administer the medication. Additionally, even if bystanders are present, there is evidence that many are unaware that an overdose is taking place, highlighting a need for bystander education, particularly in adolescents.^{2,7}

Interestingly, despite the rising numbers of adolescent overdoses, only a small percentage of that group has a history of opioid use disorder (35%) or previous overdose (14.1%).² This lack of experience may lead to adolescents underestimating the risk of using opioids, in addition to lacking the physical tolerance seen in regular users.^{2,8} The lack of history of opioid use and overdose could also prevent traditional harm reduction initiatives that typically target high-risk individuals from engaging with this population effectively. Adolescents may also engage with harm reduction initiatives at a lower rate out of fear of parental discovery. Additionally, the prevalence of mental health conditions among adolescents who die from a drug-related overdose is high (41%), potentially reflecting an unmet need

for mental health services that is contributing to the overdose mortality rate in this population.²

Another concerning trend is that counterfeit pills containing fentanyl are increasingly being found at the scene of overdoses for both adolescents and adults,^{2,7} suggesting that these individuals were not seeking to use fentanyl but were unintentionally exposed. This may hamper naloxone administration because there may not be a clear history of exposure to opioids. Another aspect of naloxone access initiatives is co-prescribing of naloxone with opioid prescriptions; however, most adolescents do not obtain opioids via their own prescription (55.7% obtained them from friends or relatives),⁸ making this of limited utility.

In March 2023, the US Food and Drug Administration approved Narcan (naloxone HCl) for over-the-counter sales, with the hope of reducing barriers to access. Unfortunately, adolescents may not fully realize these benefits owing to continued stigma regarding adolescent drug use. One study found that approximately half of pharmacy employees incorrectly stated that there was a minimum age requirement for dispensing naloxone,⁹ possibly preventing adolescents from taking advantage of measures intended to make naloxone more accessible. In addition to being misinformed about age requirements, some of the pharmacies in the study did not have naloxone in stock.⁹ There may also be financial barriers in accessing naloxone via purchase, because over-the-counter formulations may not be covered by insurance (in which case, costs can average at \$62.94).¹⁰ If it is covered by insurance, concerns may also exist that parents could be alerted if the product is billed to insurance or if there is a prescription record. Even if they can obtain it, adolescents may be hesitant to keep naloxone on hand owing to fears of parental discovery. These barriers can be overcome by programs that provide naloxone in hand to adolescents at little to no cost, without electronic health record documentation or insurance billing.

Most adolescents see a pediatrician for their primary care, but one study found that pediatricians prescribed only around 5% of the total naloxone dispensed, and that naloxone-dispensing rates to youth remain far below dispensing rates to adults.¹¹ Even following an emergency department visit for an overdose, naloxone-prescribing rates for all ages are low.^{12,13} This represents a critical missed opportunity for physicians to intervene and help prevent future overdose mortality.

Additionally, perhaps owing to stigma or reluctance to disclose usage, there is still a lack of screening and education for adolescents on opioid use. Possible measures to reduce mortality must include the education of adolescents on topics such as recognizing signs of substance use, the high prevalence of counterfeit pills, how to effectively respond to an overdose, and education on safer use practices if they chose to continue to use substances. Emphasis needs to be placed on

education around naloxone use, as well as how to gain access to it, with the educational content being specifically catered toward adolescents and their parents to facilitate communication. Such education can be incorporated into pediatrician visits, following an acute overdose, and into school curriculums, as well as other outreach programs.

The number of fatal and nonfatal adolescent opioid overdoses have increased over time. Despite an effective antidote in the form of naloxone, increasing access to the vital drug has lagged in the adolescent population. Increased attention needs to be directed toward this disparity, but additional interventions are needed because expanded access to naloxone may not be enough. Educational efforts grounded in adolescent-specific circumstances should aim to increase awareness of the risks of opioid overdose and promote naloxone use. Finally, attention to the worsening mental health crisis is needed given the high prevalence of mental health disorders among individuals who die from drug overdoses and limited access to treatment for adolescents with opioid use disorder. Unless concerted efforts are made not only to educate adolescents on the dangers of drug misuse, but also to put naloxone directly in their hands, the upward trend in adolescent mortality will likely continue unchecked.

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