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Methamphetamine-involved overdose deaths nearly tripled between 2015 to 2019, NIH study finds

Patterns of methamphetamine use have become riskier, diversified across U.S. population

Overdose deaths involving methamphetamine nearly tripled from 2015 to 2019 among people ages 18-64 in the United States, according to a study by the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health. The number of people who reported using methamphetamine during this time did not increase as steeply, but the analysis found that populations with methamphetamine use disorder have become more diverse. Published today in *JAMA Psychiatry*, the study suggests that increases in higher-risk patterns of methamphetamine use, such as increases in methamphetamine use disorder, frequent use, and use of other drugs at the same time, may be contributing to the rise in overdose deaths.

“We are in the midst of an overdose crisis in the United States, and this tragic trajectory goes far beyond an opioid epidemic. In addition to heroin, methamphetamine and cocaine are becoming more dangerous due to contamination with highly potent fentanyl, and increases in higher risk use patterns such as multiple substance use and regular use,” said NIDA Director Nora D. Volkow, M.D., one of the authors of the study. “Public health approaches must be tailored to address methamphetamine use across the diverse communities at risk, and particularly for American Indian and Alaska Native communities, who have the highest risk for methamphetamine misuse and are too often underserved.”

In 2020, more than 93,000 Americans died from drug overdoses, marking the largest one-year increase in overdose deaths ever recorded, according to provisional data from the U.S. Centers for Disease Control and Prevention. This increase has largely been driven by rising overdoses involving synthetic opioids, primarily fentanyl. Overdose deaths involving psychostimulants, and particularly methamphetamine, have also risen steeply in recent years, and many of these deaths involved use of an opioid at the same time. However, questions remain on how trends in methamphetamine use contribute to greater risk for overdose deaths.

To address this gap, the study authors analyzed data on overdose deaths involving psychostimulants other than cocaine from cause of death files in the [National Vital Statistics System](#) from 2015 to 2019. They also assessed the methamphetamine use patterns of U.S. adults ages 18 to 64 – the age group at highest risk of substance use and overdose deaths – from the [National Survey on Drug Use and Health \(NSDUH\)](#), which provides annual information on tobacco, alcohol, and other drug use, mental health, and other health-related issues in the United States.

The researchers found that from 2015 to 2019, the number of overdose deaths involving psychostimulant drugs other than cocaine, (largely methamphetamine), rose from 5,526 to 15,489, a 180% increase. However, the number of people who reported using methamphetamine only increased by 43% over the same period.

In addition, the data show that people reporting frequent methamphetamine use (100 days or more per year) rose by 66% between 2015 and 2019, and people reporting the use of methamphetamine and cocaine together increased by 60% during this period. The researchers also found that since 2017, more

people who reported using methamphetamine in the past year also reported higher-risk use patterns (i.e., had methamphetamine use disorder and/or injected methamphetamine) than reported lower-risk use patterns (i.e., did not meet criteria for methamphetamine use disorder and/or inject methamphetamine). These findings indicate that riskier use patterns may have contributed to the increased numbers of methamphetamine-involved overdose deaths during this time period.

The researchers also noted shifts in the populations using methamphetamine between 2015 and 2019. Whereas, historically, methamphetamine has been most commonly used by middle-aged white persons, this analysis found that American Indians/Alaska Natives had the highest prevalence of methamphetamine use, as well as methamphetamine use disorder and methamphetamine injection. Previous studies have found that American Indians/Alaska Natives also had the greatest increases in methamphetamine overdose deaths in recent years.

This analysis also found that prevalence of methamphetamine use disorder among those who did not inject the drug increased 10-fold among Black people from 2015 to 2019, a much steeper increase than among white or Hispanic people. Like frequency of use, methamphetamine use disorder is a measure used to capture escalating methamphetamine use. Methamphetamine use disorder without injection quadrupled in young adults ages 18 to 23, a substantially greater increase than in older age groups. This is of particular concern, as young adulthood is a critical period of continued brain, social, and academic maturation, and having methamphetamine use disorder during this vulnerable period could have long-lasting consequences.

Methamphetamine use has also been linked to HIV transmission, as infectious diseases can spread by sharing injection equipment and through heightened unprotected sexual activity that is often associated with methamphetamine use. Previous studies have reported high rates of methamphetamine use among men who have sex with men, who also face higher rates of HIV transmission. This study found that the prevalence of methamphetamine injection was the highest among homosexual men. Moreover, methamphetamine use disorder without injection more than doubled among homosexual or bisexual men. It also more than tripled among heterosexual women and lesbian or bisexual women, and more than doubled among heterosexual men, further emphasizing the expansion of use across different groups.

“What makes these data even more devastating is that currently, there are no approved medications to treat methamphetamine use disorder,” said Emily Einstein, Ph.D., chief of NIDA’s Science Policy Branch and a co-author of the study. “NIDA is working to develop new treatment approaches, including safe and effective medications urgently needed to slow the increase in methamphetamine use, overdoses, and related deaths.”

Reference: B Han, et. al. [Trends in methamphetamine use, use disorder, and related overdose deaths among adults in the United States](#). *JAMA Psychiatry*. DOI: 10.1001/jamapsychiatry.2021.2588 (2021).

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