NDEWS
National Drug Early Warning System

Psychostimulant-Involved Deaths Increasing Across the United States

NDEWS| National Drug Early Warning System
Funded at the Center for Substance Abuse Research
by the National Institute on Drug Abuse

August 2020

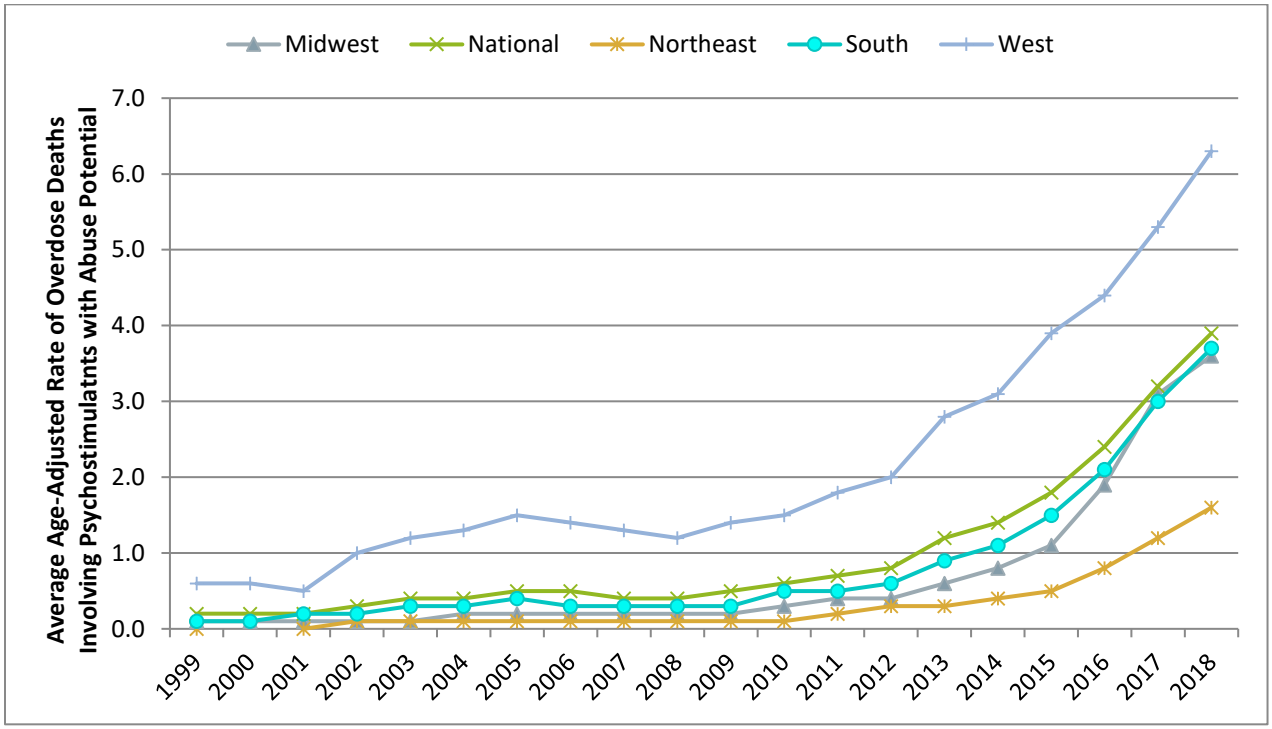
Introduction

Since the release of our original report in late 2018, *Methamphetamine: A Regional Drug Crisis*, the NDEWS Coordinating Center has continued to monitor indicators of the availability and use of methamphetamine nationwide and in the NDEWS Sentinel Community Sites (SCSs). A combination of public health and law enforcement indicators were used to highlight national, regional, and polysubstance trends. This update focuses on national and regional trends in drug poisoning deaths monitored by the Centers for Disease Control and Prevention (CDC) National Center for Health Statistics (NCHS) National Vital Statistics System (NVSS).

Rate of U.S. Drug Overdose Deaths Involving Psychostimulants with Abuse Potential Increased 30% per Year from 2012 to 2018

Since our 2018 report, drug overdose death data for 2018 and provisional through December 2019 have been released by the CDC. Although use has been low relative to that of other drugs, there are indications of nationwide increases in drug poisoning deaths that involved psychostimulants, which includes methamphetamine. As shown in Figure 1, the average age-adjusted rate of overdose deaths involving psychostimulants with abuse potential reached 3.9 per 100,000 in 2018, up from 0.2 per 100,000 in 1999. The most significant increase over this time period was from 2012 to 2018, when the rate increased on average by 30% per year (Hedegaard, 2020). The CDC reported that the actual number of these overdose deaths increased steadily from 2,635 in 2012 to 12,676 in 2018 (Hedegaard, 2020; Figure 2). Approximately half (50.5%) of the psychostimulant-involved deaths in 2018 also involved opioids (CDC, 2020). Provisional drug overdose death counts through December 2019 from the CDC NCHS data dashboard indicate psychostimulant overdose deaths in the United States have continued to increase (Ahmad et al., 2020; Figure 2).

Figure 1: Regional Trends in Average Age-Adjusted Rate* (per 100,000) of Overdose Deaths Involving Psychostimulants with Abuse Potential, 1999-2018**

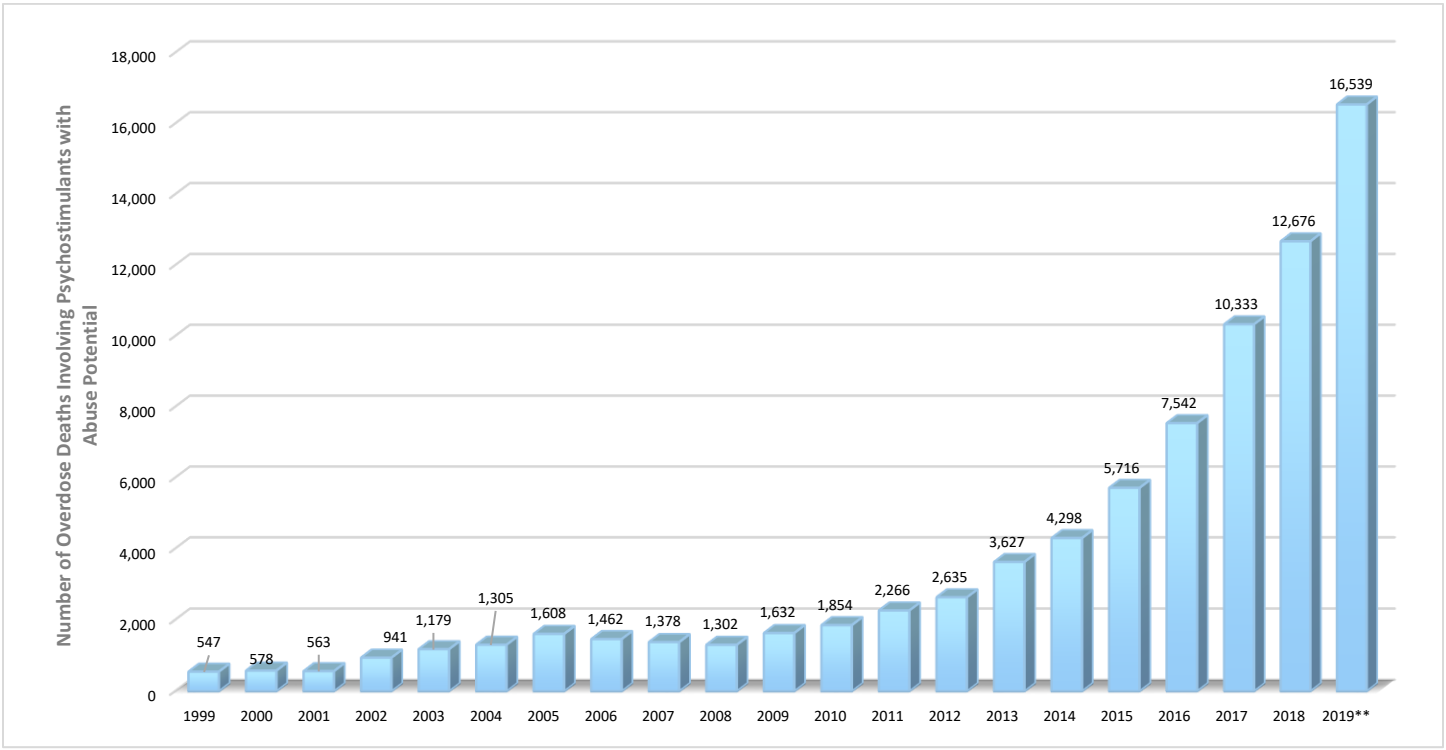


*Age-Adjusted Rate: Age-adjusted rates are weighted averages of the age-specific death rates, where the weights represent a fixed population by age (2000 U.S. Population). Age adjustment is a technique for removing the effects of age from crude rates, so as to allow meaningful comparisons across populations with different underlying age structures. Age-adjusted rates should be viewed as relative indexes rather than as direct or actual measures of mortality risk. See http://wonder.cdc.gov/wonder/help/mcd.html for more information.

**Drug Poisoning Deaths Involving Psychostimulants with Abuse Potential: Drug poisoning deaths, defined as deaths with underlying cause-of-death codes from the World Health Organization's (WHO's) International Classification of Diseases, Tenth Revision (ICD-10) of X40-X44, X60-X64, X85, and Y10-Y14 and ICD-10 multiple cause-of-death code T43.6.

Source: Adapted by the NDEWS Coordinating Center from data taken from the Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple cause of death 1999–2018, available on the CDC WONDER Online Database, released in 2020. Data compiled in the Multiple cause of death 1999–2018 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved April 24, 2020, from http://wonder.cdc.gov/mcd-icd10.html

Figure 2: U.S. Overdose Deaths Involving Psychostimulants with Abuse Potential*, 1999-2019**



*Drug Poisoning Deaths involving Psychostimulants with Abuse Potential: Drug poisoning deaths, defined as deaths with underlying cause-of-death codes from the World Health Organization's (WHO's) International Classification of Diseases, Tenth Revision (ICD-10) of X40-X44, X60-X64, X85, and Y10-Y14 and ICD-10 multiple cause-of-death code T43.6.

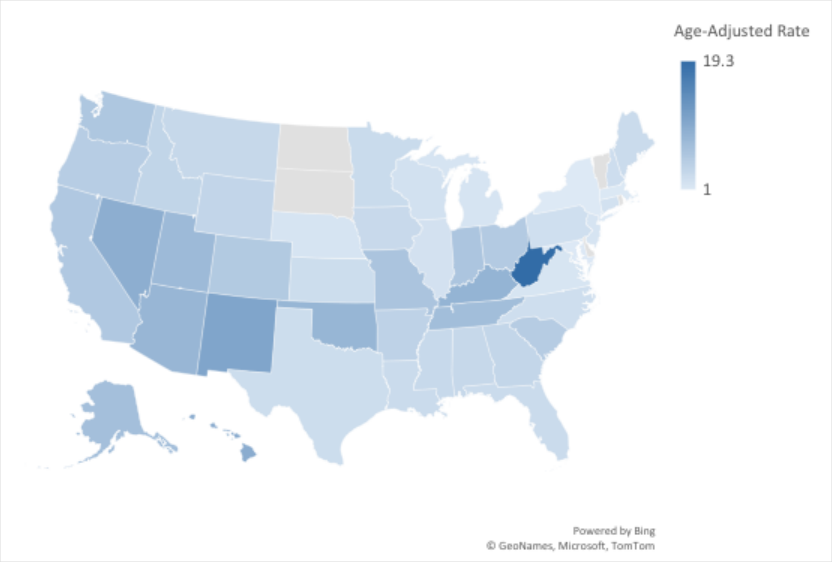
**Predicted provisional counts represent estimates of the number of deaths adjusted for incomplete reporting. Number of deaths in this report may not match final reported data, which are reported by the jurisdiction of residence and are limited to US residents, but the discrepancy is typically small. As of July 24, 2020, 0.18% of cases are pending investigation for 2019.

Source: Adapted by the NDEWS Coordinating Center from data taken from the Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple cause of death 1999-2018, available on the CDC WONDER Online Database, released in 2020 (retrieved April 24, 2020, from http://wonder.cdc.gov/mcd-icd.html), and from data taken from the Centers for Disease Control and Prevention, National Center for Health Statistics, Vital Statistics Rapid Release: Provisional Drug Overdose Counts, released in 2020 (retrieved July 24, 2020, from https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm). Data compiled in the Multiple cause of death 1999-2018 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Highest Rates of Suspected Methamphetamine Poisonings and Psychostimulant-Involved Deaths Consistently Occur in the West

An analysis of all hospitalizations and all emergency department visits for methamphetamine poisonings published after the release of our original report found that the highest rates of suspected methamphetamine poisonings were consistently experienced in the West (CDC, 2019). In 2018, the highest rate of drug overdose deaths involving psychostimulants was in the West (6.3), compared to 3.7 in the South, 3.6 in the Midwest, and 1.6 in the Northeast (CDC, 2020; Figure 1). The states with the highest 2018 overdose death rates involving psychostimulants were West Virginia (19.3 per 100,000) and New Mexico (10.8) (CDC, 2020; Figure 3).

Figure 3: Age-Adjusted Rate* (per 100,000) of Overdose Deaths Involving Psychostimulants with Abuse Potential by State, 2018**



.

*Age-Adjusted Rate: Age-adjusted rates are weighted averages of the age-specific death rates, where the weights represent a fixed population by age (2000 U.S. Population). Age adjustment is a technique for removing the effects of age from crude rates, so as to allow meaningful comparisons across populations with different underlying age structures. Age-adjusted rates should be viewed as relative indexes rather than as direct or actual measures of mortality risk. See http://wonder.cdc.gov/wonder/help/mcd.html for more information

**Drug Poisoning Deaths Involving Psychostimulants with Abuse Potential: Drug poisoning deaths, defined as deaths with underlying cause-of-death codes from the World Health Organization's (WHO's) International Classification of Diseases, Tenth Revision (ICD-10) of X40-X44, X60-X64, X85, and Y10-Y14 and ICD-10 multiple cause-of-death code T43.6.

Note: Data for Delaware, District of Columbia, North Dakota, Rhode Island, and South Dakota are considered unreliable because the rates were calculated with a numerator of 20 or less. Data for Vermont is suppressed because of confidentiality constraints.

Source: Adapted by the NDEWS Coordinating Center from data taken from the Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple cause of death 1999–2018, available on the CDC WONDER Online Database, released in 2020. Data compiled in the Multiple cause of death 1999–2018 were provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Retrieved July 24, 2020, from http://wonder.cdc.gov/mcd-icd10.html

American Indian/Alaska Native Population Have Highest Rate of Psychostimulant-Involved Deaths

American Indian/Alaska Native populations experienced the highest death rate for overdoses involving psychostimulants in 2018 at 6.8 per 100,000, compared to 4.5 per 100,000 for White, 2.1 for Black, and 1.4 for

Asian/Pacific Islander populations. While all psychostimulant-involved deaths have increased for all ethnicities since 2010, the greatest increases have been among Black and American Indian/Alaska Native populations (CDC, 2020). The disparity between Native Americans and all other races was particularly striking for overdose deaths involving opioids in Minnesota (Greenfield et al., 2019). The NDEWS *HotSpot* report exploring this issue is available on the NDEWS website. NDEWS Sentinel Community Sites (e.g., Atlanta Metro, New York City, Philadelphia, Wayne County) have also reported on racial disparities in drug overdose deaths in general. Their reports are available on the NDEWS website, www.ndews.org.

More than 1 in 10 Opioid Deaths Involved Methamphetamine in First 6 Months of 2018

According to data from the 25 states that participated in the CDC's State Unintentional Drug Overdose Reporting System in the first six months of 2018, the majority (62.6%) of opioid deaths co-occurred with one or more non-opioid drugs and 12.1% co-occurred with methamphetamine specifically (Gladden et al., 2019). Opioid deaths involving methamphetamine increased significantly by 14.6% from July–December 2017 to January–June 2018 (Gladden et al., 2019). During the same period, there were also significant increases in illicitly manufactured fentanyl deaths that co-occurred with non-opioid drugs, including benzodiazepines (11.3%), cocaine (14%), and methamphetamine (31%) (Gladden et al., 2019). These increases support previous reports and are consistent with increases in methamphetamine supply and methamphetamine use among people seeking treatment for opioid misuse (Gladden et al., 2019).

NDEWS Sentinel Community Sites (SCSs)

Trends in overdose deaths involving methamphetamine continue to vary across the NDEWS SCSs. There were several notable changes in 2018-2019. All four western sites—Denver Metro, King County (Seattle Area), San Francisco, and Los Angeles—reported increases in methamphetamine deaths in 2019. Three other sites also reported increases in deaths in 2019: Southeastern Florida, Maine, and Philadelphia. The Philadelphia Sentinel Community Epidemiologist (SCE) began reporting on the increasing presence of methamphetamine in overdose deaths in her 2019 report. This year, she reported that stimulants such as cocaine and methamphetamine were detected in 50% of overdose deaths; both stimulants and opioids were detected in nearly half (48%). In contrast, the SCE for the Atlanta Metro area, who has been reporting increases in methamphetamine-related deaths for several years, is now reporting a decrease. He reports that the number of decedents with methamphetamine on board increased steadily from 108 in 2012 to 614 in 2018 and then

decreased to 552 in 2019. Two sites, Wayne County and New York City, did not mention methamphetamine in their 2020 annual reports as an emerging or changing drug problem.

Details about 2018-2020 trends in individual NDEWS Sentinel Community Sites is available in the annual SCS reports and the summary reports available on the NDEWS website (www.ndews.org).

Conclusion

The rate of U.S. drug overdose deaths involving psychostimulants with abuse potential has continued to increase, and the highest rates of suspected methamphetamine poisonings and psychostimulant-involved deaths continue to occur in the West. Psychostimulant deaths increased 30% per year from 2012 to 2018. Polysubstance use has also continued to develop. During the first six months of 2018, 1 in 10 opioid deaths also involved methamphetamine.

All four western NDEWS SCSs reported increases in methamphetamine-related deaths as did Southeastern Florida and two sites in the Northeastern U.S., a region that has historically reported very low use and availability of methamphetamine. In contrast, the only eastern site to report increases in methamphetamine-related deaths for the past few years, Atlanta Metro, reported a decrease in 2019.

References

Ahmad FB, Escobedo LA, Rossen LM, Spencer MR, Warner M, & Sutton P. (2020). Provisional drug overdose death counts. National Center for Health Statistics, *Vital Statistics Rapid Release*. Retrieved from https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

Centers for Disease Control and Prevention. (2019). Annual surveillance report of drug-related risks and outcomes — United States 2019. Retrieved from https://www.cdc.gov/drugoverdose/pdf/pubs/2019-cdc-drug-surveillance-report.pdf

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, National Vital Statistics System. (2020). Multiple cause of death 1999–2018, available on the CDC WONDER Online Database.

Gladden RM, O'Donnell J, Mattson CL, & Seth P. (2019). Changes in opioid-involved overdose deaths by opioid type and presence of benzodiazepines, cocaine, and methamphetamine — 25 states, July–December 2017 to January–June 2018. *MMWR* 68, 737–744. DOI: http://dx.doi.org/10.15585/mmwr.mm6834a2external icon

Greenfield B, Russell E, Youngdeer H, Walls M, & Alexander C. (2019). Reducing opioid overdose deaths in Minnesota: Insights from one tribal nation. National Drug Early Warning System (NDEWS) Minnesota HotSpot Study. College Park, MD: Center for Substance Abuse Research.

Hedegaard H, Miniño AM, & Warner M. (2020). Drug overdose deaths in the United States, 1999–2018. *NCHS Data Brief*, no 356. Hyattsville, MD: National Center for Health Statistics.

Citation

The suggested citation is: Artigiani, E.E., Hsu, M.H., Dhatt, Zena, Horn, Mackensie, Hauser, W., Al-Nassir, Marwa, and Wish, E.D. (2020). Psychostimulant-Involved Deaths Increasing Across the United States. College Park, MD: National Drug Early Warning System.

Acknowledgements

This report was funded by Cooperative Agreement #DA038360 awarded to the Center for Substance Abuse Research (CESAR) at the University of Maryland, College Park, by the National Institute on Drug Abuse, National Institutes of Health. Eric D. Wish, Ph.D. (Principal Investigator), Eleanor Erin Artigiani, MA (Co-Investigator), Margaret H. Hsu, MHS, Marwa Al-Nassir, MPH, Mackensie Horn, Zena Dhatt, BS, and Wanda Hauser, BA, all helped produce this report. Moira O'Brien, MPhil, served as reviewer and NDEWS Project Scientist at NIDA.

Disclaimer

The information and opinions expressed herein are the views of the authors and do not necessarily represent the views of the National Institutes of Health or the National Institute on Drug Abuse.