



NCHS Data on Drug Overdose Deaths

About NCHS

The National Center for Health Statistics (NCHS) is the nation's principal health statistics agency, providing data to identify and address health issues. NCHS compiles statistical information to help guide public health and health policy decisions.

Collaborating with other public and private health partners, NCHS uses a variety of data collection mechanisms to obtain accurate information from multiple sources. This process provides a broad perspective on the population's health, influences on health, and health outcomes.

NCHS drug overdose data

NCHS uses the National Vital Statistics System (NVSS) to monitor deaths due to drug overdose. NVSS collects mortality information from death certificates in all 50 states and the District of Columbia. NCHS identifies the number of drug overdose deaths from the underlying cause of death on death certificates. Multiple causes of death are used to identify deaths involving specific drugs. In 2018, approximately 8% of death certificates for drug overdose deaths lacked information on the specific drugs involved.

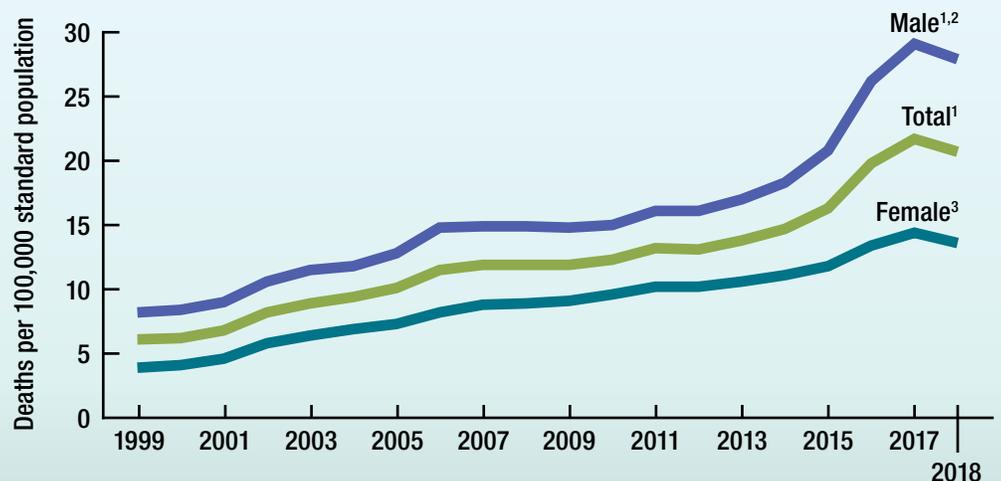
Recent findings

- From 1999 to 2017, the age-adjusted rate of drug overdose deaths increased from 6.1 per 100,000 to 21.7. The rate increased on average by 10% per year from 1999 through 2006, by 2% per year from 2006 to 2013, and by 14% per year from 2013 through 2016. The age-adjusted rate of drug overdose deaths in the United States in 2018 (20.7) was 4.6% lower than in 2017 (21.7).
- From 2017 to 2018, the rate of drug overdose deaths involving synthetic opioids other than methadone (drugs such as fentanyl, fentanyl analogs, and tramadol) increased by 10% from 9.0 to 9.9.
- From 2012 to 2018, the rate of drug overdose deaths involving cocaine more than tripled and the rate for deaths involving psychostimulants with abuse potential (drugs such as methamphetamine) increased significantly.

Who is most at risk?

- For each year from 1999–2018, the age-adjusted rate of drug overdose deaths was higher among males than females. For males, the rate increased from 8.2 in 1999 to 29.1 in 2017, then decreased to 27.9 in 2018. For females, the rate increased from 3.9 in 1999 to 14.4 in 2017, then decreased to 13.6 in 2018.
- In 2018, the drug overdose death rates were highest for persons aged 35–44 (38.3 per 100,000), 25–34 (35.5), and 45–54 (35.3).
- In 2018, the age-adjusted drug overdose death rate was 25.7 for non-Hispanic white persons, 21.1 for non-Hispanic black persons, and 11.0 for Hispanic persons.

Age-adjusted drug overdose death rates, by sex: United States, 1999–2018



¹Significant increasing trend from 1999 through 2016 with different rates of change over time, $p < 0.05$. Rate in 2018 was significantly lower than in 2017.

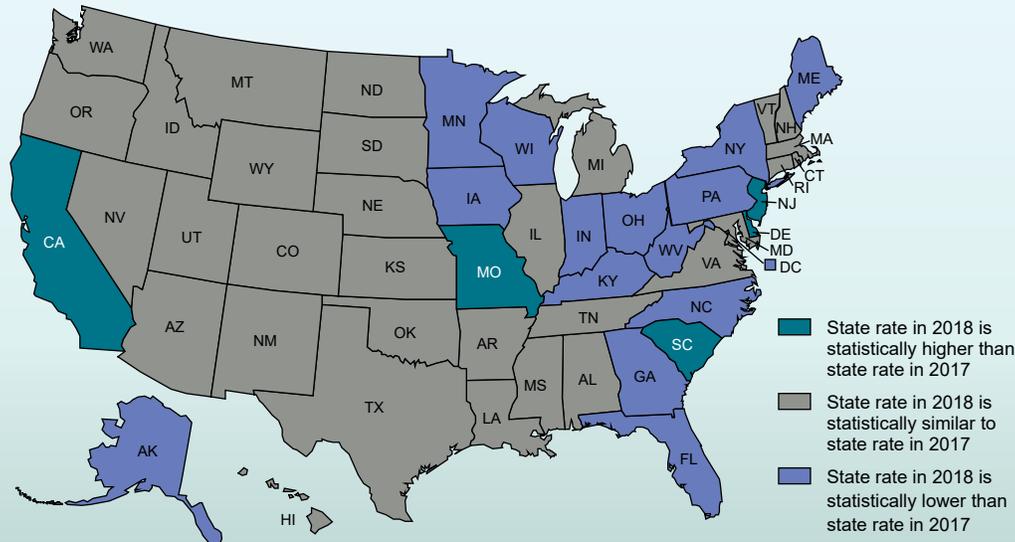
²Rates for males were significantly higher than rates for females for all years, $p < 0.05$.

³Significant increasing trend from 1999 through 2018 with different rates of change over time, $p < 0.05$. Rate in 2018 was significantly lower than in 2017.

NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. The number of drug overdose deaths in 2018 was 67,367. Access the data table for this figure at: https://www.cdc.gov/nchs/data/databriefs/db356_tables-508.pdf#1.

SOURCE: NCHS, National Vital Statistics System, Mortality.

Change in age-adjusted drug overdose death rates, by state: United States, 2017 and 2018



NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Access the data table for this figure at: https://www.cdc.gov/nchs/data/databriefs/db356_tables-508.pdf#2.
SOURCE: NCHS, National Vital Statistics System, Mortality.

Drug overdose death rates, by state and the District of Columbia

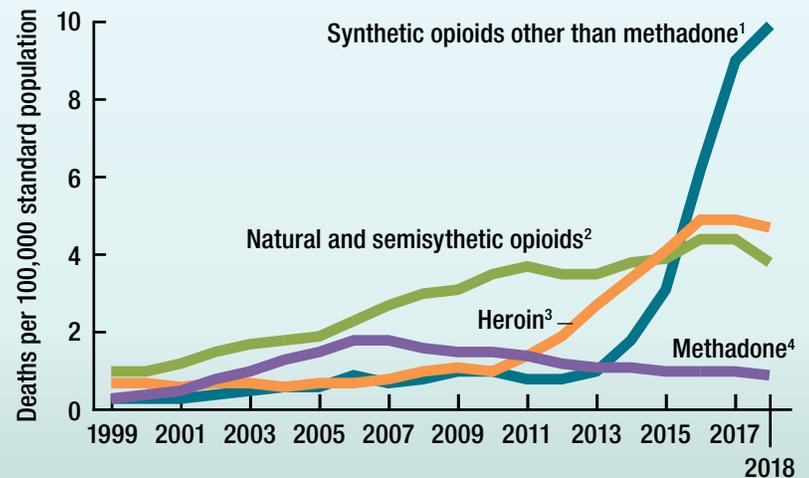
For 14 states and the District of Columbia, the age-adjusted rate of drug overdose deaths in 2018 was lower than in 2017.

- The drug overdose death rate was lower in 2018 than in 2017 for 15 states: Alaska, the District of Columbia, Florida, Georgia, Indiana, Iowa, Kentucky, Maine, Minnesota, New York, North Carolina, Ohio, Pennsylvania, West Virginia and Wisconsin.
- The drug overdose death rate was higher in 2018 than 2017 for 5 states: California, Delaware, Missouri, New Jersey, and South Carolina.

Drug overdose death rates by opioid category

- The rate of drug overdose deaths involving natural and semisynthetic opioids, including drugs such as oxycodone and hydrocodone, increased from 1.0 in 1999 to 4.4 in 2016 and 2017. The rate in 2018 (3.8) was lower than in 2017.
- The rate of drug overdose deaths involving methadone increased from 0.3 in 1999 to 1.8 in 2006, then declined to 1.0 in 2016 and 2017. The rate in 2018 (0.9) was lower than in 2017.
- The rate of drug overdose deaths involving heroin increased from 0.7 in 1999 to 1.0 in 2010, then to 4.9 in 2016 and 2017. The rate in 2018 (4.7) was lower than in 2017.
- The rate of drug overdose deaths involving synthetic opioids other than methadone, (such as fentanyl, fentanyl analogs, and tramadol), increased from 0.3 per 100,000 in 1999 to 1.0 in 2013, 1.8 in 2014, 3.1 in 2015, 6.2 in 2016, 9.0 in 2017, and 9.9 in 2018.

Age-adjusted drug overdose death rates involving opioids, by type of opioid: United States, 1999–2018



¹Significant increasing trend from 1999 through 2006 and 2013 through 2018, with different rates of change over time, $p < 0.05$.
²Significant increasing trend from 1999 through 2018, with different rates of change over time, $p < 0.05$.
³Significant increasing trend from 2005 through 2015, with different rates of change over time, $p < 0.05$.
⁴Significant increasing trend from 1999 through 2006, then significant decreasing trend from 2006 through 2018, with different rates of change over time, $p < 0.05$.
 SOURCE: NCHS, National Vital Statistics System, Mortality.

Challenges and future opportunities

- Work with medical examiners and coroners to improve timeliness of reporting drug overdose deaths.
- Improve reporting of the specific drug(s) involved in drug overdose deaths on the death certificate.
- Enhance capacity to search the cause-of-death description on the death certificate for drug mentions.
- Improve automated cause-of-death coding systems for faster reporting.
- Explore opportunities to link electronic death records to electronic health records.
- Develop capacity to support monthly reporting of drug overdose deaths. Monthly provisional estimates can be found at <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>.

For more information about NCHS, visit <https://www.cdc.gov/nchs>.

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