2019 - 2024

Stimulant Related Mortality

Among Multnomah County Residents

Multnomah County
Health Department

Public Health Division
Community Epidemiology Services

Table of contents

Acknowledgements

Dedication
This report is dedicated to the friends, family, and community members who died from a stimulant related overdose. We acknowledge that their lives were meaningful, and that their loss leaves a huge gap that will never be filled.

Authorship
Multnomah County Health Department's Public Health Division, Community Epidemiology Services

Review
Multnomah County
Health Officer Division
Program Design and Evaluation Services
Public Health Prevention and Health Promotion

Outside agencies
Coalition of Communities of Color

For more information, contact:

PressOffice@multco.us

Introduction

Deaths from overdose are a significant and increasing public health problem in the United States. In 2023, there were just over 105,000 fatal drug overdoses in the United States. Of those 105,000 fatalities, more than 64,000 involved stimulants.[1] [2] The term stimulant covers a broad class of drugs that increase the activity of the central nervous system. Psychostimulants with abuse potential (hereafter called psychostimulants) are a subset of stimulants that have a higher likelihood of being misused due to their effects on the central nervous system. Psychostimulants include illegal drugs such as methamphetamine, cocaine, or ecstasy, but also include prescription drugs such as those used to treat attention deficit hyperactivity disorder (ADHD) or depression.[3]

Two common psychostimulants are methamphetamine and cocaine. In the United States, methamphetamine accounts for the largest proportion of deaths involving psychostimulants.[1] [4] In addition to the risk of addiction, long-term use of methamphetamine can lead to a number of harms, including damage to the heart and kidneys; anxiety, depression, psychosis, and other mental disorders; transmission of infectious diseases; aggressive behavior; and death.[5] [6] Cocaine accounts for a smaller number of overdose deaths compared to methamphetamine, but cocaine is more commonly used. Data from the National Survey on Drug Use and Health (NSDUH) showed that in 2023, more than 5 million Americans aged 12 years or older used cocaine in the last year, and roughly half that number (2.6 million) used methamphetamine in the last year.[7] According to the most recent NSDUH state data available, from 2021-2022 in Oregon showed a similar pattern: 2% of Oregonians aged 12 and older used cocaine in the past year

[1] Drug Overdose Deaths in the United States, 2003–2023 (cdc.gov)
[2] Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Provisional Mortality on CDC WONDER Online Database. Data are from the final Multiple Cause of Death Files, 2018-2023, and from provisional data for years 2024 and later, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/mcd-icd10-provisional.html on Dec 3, 2025 9:09:26 PM
[3] Overdose Prevention-Stimulant Overdose (cdc.gov)
[4] SUDORS dashboard: Fatal Drug Overdose Data (cdc.gov)
[5] Patterns and Characteristics of Methamphetamine Use Among Adults (cdc.gov)
[6] Crystalline methamphetamine use and methamphetamine-related harms in Australia
[7] 2023 National Survey on Drug Use and Health (samhsa.gov)

(or around 74,000), while 1.2% had used methamphetamine in the past year (or around 43,000).[8]

Because more than one drug type can contribute to a person's death, it is important when examining stimulant-related deaths to consider the proliferation of fentanyl in the United States drug supply. Fentanyl is an opioid, not a stimulant, and has been involved in the rapid rise of overdose deaths since around 2013.[9] In addition, the co-use of fentanyl and stimulants (along with other changes in geographic use patterns and a shift from injection to smoking) appear to have contributed to further increases in overdose deaths that began around 2015.[10] According to the National Institute on Drug Abuse (NIDA), the main driver of increased cocaine-involved overdose deaths seen since 2015 is due to the increased likelihood that these deaths also involve fentanyl. However, the number of psychostimulant overdose deaths without opioid involvement has also increased steadily since 2015.[11]

The purpose of this report is to describe the trends in stimulant-related overdose deaths in Multnomah County, Oregon and the demographic characteristics of the people who died in order to inform prevention efforts. For these analyses, we used death certificate data from 2019-2024. Analysis of death certificates is considered the gold standard for measuring fatal drug overdose at the state and national levels; standardized death certificates enable comparisons across jurisdictions.[12] The National Center for Health Statistics estimates that it takes an average of 4 months (16 weeks) for death certificate records from drug overdose to be ready for analysis (including toxicology testing, results, and review by a pathologist).[13]

Each death represented here shows a real person and a real loss to families throughout our county. The report does not attempt to make sense of what the person meant to their community. The ultimate goal is for the data presented here to inform action to prevent mortality from stimulant use.

---

[8] Interactive NSDUH State Estimates (samhsa.gov)
[9] Understanding the Opioid Overdose Epidemic (cdc.gov)
[10] Charting the fourth wave: Geographic, temporal, race/ethnicity and demographic trends in polysubstance fentanyl overdose deaths in the United States, 2010–2021 - Friedman - 2023 - Addiction - Wiley Online Library
[11] Drug Overdose Deaths: Facts and Figures (nida.nih.gov)
[12] Methodological Complexities in Quantifying Rates of Fatal Opioid-Related Overdose - PMC (nih.gov)
[13] Timeliness of Death Certificate Data for Mortality Surveillance and Provisional Estimates (cdc.gov)

Methods

Data sources

Data were obtained electronically from Multnomah County's database of vital records, which are updated weekly from the Oregon Health Authority. Dates of death were limited to Multnomah County resident deaths recorded between January 1, 2019 and December 31, 2024. Data were extracted on December 3, 2025.

Causes of death

Drug overdose deaths were identified using the *International Classification of Diseases, 10th Revision* (ICD–10) underlying cause-of-death codes X40–X44 (unintentional drug poisoning) and Y10–Y14 (undetermined drug poisoning). Drug overdose deaths involving selected drug categories were identified by multiple cause-of-death codes: T43.6 (psychostimulants) and T40.5 (cocaine). Some deaths involved more than one drug. Although cocaine is technically a psychostimulant, estimates of deaths involving cocaine are typically calculated separately from other psychostimulants with abuse potential.[2] In this report, when we refer to "psychostimulants," we are referring only to non-cocaine psychostimulants.

Race and ethnicity

In the United States, the funeral director typically fills out race and ethnicity data on death certificates from next of kin or key informant data. Death certificates in the United States comply with OMB 97 standards, which means multiple races can be selected (with a minimum of five categories: White, Black, American Indian/Alaska Native [AI/AN], Asian, and Pacific Islander) as well as Hispanic ethnicity. Studies have shown that racial misclassification exists in death certificates, especially for persons of AI/AN heritage, but has improved over time for Hispanic, Asian, and Pacific Islander populations.[14]

One coding scheme is called "single and two or more non-Hispanic races and Hispanic ethnicity". In this scheme, any decedent with Hispanic ethnicity counts as Hispanic. For non-Hispanic decedents, if only one race is reported, then that is the category assigned. If a person reports two or more races, they are counted in the "2 or more races'' category. For mortality rate

[14] National Center for Health Statistics, Series 2, no 172 (8/10/16) (cdc.gov)

calculation to compare across categories, we used this categorization for the best alignment with denominator data, which consisted of both single and two or more non-Hispanic race denominators from the U.S. Census Bureau, obtained from the Oregon Public Health Assessment Tool (OPHAT) for 2019-2023.

At the time of this analysis, 2024 population numbers were not available, so 2023 was used as a best estimate for 2024. This categorization, while necessary for calculating rates, flattens the diversity within communities. It also does not align with the best practice as listed by the Urban Indian Health Institute, which recommends that AI/AN alone or in combination with another race (of any ethnicity) should be counted in the AI/AN category.[15] In the above classification, someone both AI/AN and another race would be counted in the "two or more" category and thus precision in measurement is lost. With these limitations in mind, we additionally used an "any mention" approach to categorizing individuals for the overall counts of stimulant overdose death. In this classification, any person can be in multiple groups, because they are listed under every racial or ethnic group they have indicated. For this reason, the total will add up to more than 100%. This type of disaggregation is important for proper resource allocation and delivery of culturally-specific interventions.[16] To provide population size context, we used race alone or in combination population proportion from American Community Survey 2023 5-year estimates.[17]

Why measure race and ethnicity?

Race- and ethnicity-specific death rates are essential indicators of inequities in mortality across the various racial and ethnic populations.[8] However, race is a social construct, and is an inadequate way to measure the differences between humans. Differences between racial categories and the meaning ascribed to physical appearance or genetic differences are the result of colonization and "cultural, historical, ideological, geographical, and legal influences rooted in structural racism and white supremacy."[18,19] Furthermore, the use of race to identify AI/AN people does not acknowledge the political status of and federal obligations to sovereign Tribal Nations.

[15] Best Practices for American Indian and Alaska Native Data Collection – Urban Indian Health Institute (uihi.org)
[16] FINAL-REL-DataDisaggregationMessage-Guide-December-2020.pdf (apiahf.org)
[17] ACS 5-Year Estimates Data Profiles
[18] Classification of Race and Ethnicity: Implications for Public Health* | Annual Reviews
[19] How Structural Racism Works — Racist Policies as a Root Cause of U.S. Racial Health Inequities

However, using a common coding scheme used for race and ethnicity is necessary to compare data across jurisdictions to identify inequities.

Some death certificates are missing racial and ethnic data and those remain categorized as unknown.

Gender

There are five designations for decedent gender on death certificates in Oregon: "female," "male," "undetermined" (used in cases where the "gender cannot be determined due to a medical condition"), "unknown" (used if gender "cannot be determined after verification with medical records, inspection of the body, or other sources"), and "X (non-binary)" (used for individuals whose "gender identity is not exclusively male or female").[20] However, the data feed that goes from Oregon vital records to Multnomah County only allows three options: male, female, and unknown. In this report, the words "female" and "male" are used because all decedents included in the analysis were recorded as "female" or "male" on their death certificates with the exception of one record categorized as "unknown." Because gender is recorded as "X" only when a decedent legally changed their information, it is likely that people who identify as transgender are underreported in death certificates.[21]

Housing status at death

Determining a person's housing status at the time of their death only became reportable on death certificates in 2022 by passage of Senate Bill 850, so housing status among decedents was only available for 2022 and 2023.[22] Any death record that had "Domicile Unknown" in the residential street address field was considered to have been experiencing homelessness at the time of death.

Data analysis

We present the number and percent of deaths by specific demographic categories. Rates for gender, age, and race and ethnicity (single and two or more non-Hispanic races and Hispanic ethnicity) are calculated as the number of deaths per 100,000 residents. When comparing rates across

[20] Sex Designation on Death Records Quick Reference (oregon.gov)
[21] Transgender and Nonbinary Deaths Investigated by the State Medical Examiner in the Portland, Oregon, Metro Area and Their Concordance With Vital Records, 2011-2021
[22] Oregon Health Authority : Senate Bill 850: Domicile Unknown : Register Vital Records : State of Oregon

groups, rates were age-adjusted to the U.S. 2000 Standard Population. Age adjusting allows comparison among different groups while the ages of people in the group do not affect what is being measured.[23]

To create the 'years of potential life lost' (YPLL) rate (a measure of premature death), we summed the products of the number of deaths at each age by the difference among this age and age 75. For example, a person who dies at 35 has 40 years of life lost, whereas a person who dies at 60 has 15 years of life lost. The result of the YPLL divided by the population in that age group, multiplied by 100,000, creates the YPLL rate. The YPLL rate allows identification of which age groups have the highest number of years of life lost after adjusting for population size. Although a variety of ages can be used to calculate years of potential life lost, we used age 75 because it aligns closely with the average life expectancy in the United States.[24]

To include data on as many subgroups as possible, suppression of small numbers was only utilized if the count was less than 4 total observations, and a range is given instead (e.g., "1-4"). Note that rates based on small numbers may be unreliable, so rates are not calculated (suppressed) for these groups.

To create a map of where deaths occurred, we used ZIP code information corresponding to the location of the original incident/injury leading to death. Some fields had an unknown incident location and were excluded from the map. Counts of overdose deaths, rather than rates, were used to represent the absolute burden of deaths among PEH. Maps cannot tell us why incidents occurred where they did, and they did not take into account other important details, such as underlying socioeconomic conditions or population size.

[23] National Cancer Institute: Age-adjusted rate (cancer.gov)
[24] YPLL: A Summary Measure of Premature Mortality Used in Measuring the Health of Communities (wisc.edu)

Results

In Multnomah County, 1,597 deaths were confirmed to be a result of a stimulant overdose between 2019 and 2024: 1,369 involved a non-cocaine psychostimulant (henceforth "psychostimulant"), and 323 involved cocaine. Note that 95 deaths involved *both* stimulant types (non-cocaine psychostimulants *and* cocaine). These 95 deaths are counted in both categories in which they appear, which is why the total (1,597) is less than the sum of the two categories (1,369+323=1,692). In comparison, the total accidental and undetermined drug overdose number for the same time period was 2,276,[25] indicating stimulants were involved in 70% of total drug overdose fatalities.

Demographics

Table 1 presents the demographic characteristics of stimulant overdose deaths in Multnomah County between 2019 and 2024 by type of stimulant (non-cocaine psychostimulants and cocaine). For both psychostimulants and cocaine, the distribution by gender and age was similar (nearly three-fourths male, with an average age at death of 48 years for psychostimulants and 46 years for cocaine). Among psychostimulant deaths, the largest proportions occurred among White decedents (N=1,087; 79%). However, the proportion of deaths among Black/African American (N=155; 11%) and American Indian/Alaska Native (N=83; 6%) persons exceeded their population proportion (8% and 3% respectively), highlighting a disproportionate impact on those communities. The proportion of deaths from cocaine among Black/African Americans (N=111; 34%) was more than 4 times their population proportion in the County. The number of deaths from cocaine among the Native Hawaiian/Pacific Islander communities was too small to report.

The pattern of co-occurring opioid use was similar for psychostimulants and cocaine. Specifically, 69% of psychostimulant overdoses involved any co-occurring opioid and 69% of cocaine overdoses involved any co-occurring opioid. In addition, 58% of psychostimulant overdoses involved synthetic

[25] http://wonder.cdc.gov/controller/saved/D157/D439F724

opioids (mainly fentanyl), and 58% of cocaine overdoses involved synthetic opioids.

Table 1. Stimulant overdose death demographics, Multnomah County residents, 2019-2024 (N=1,597), Vital records data

	Non-Cocaine Psychostimulant *(n=1,369)*		Cocaine *(n=323)*		Multnomah County Population[a] *(n=803,863)*	
Gender	Count	Percent	Count	Percent	Count	Percent
Female	358	26%	94	29%	403,624	50%
Male	1,010	74%	229	71%	400,239	50%
Unknown	1	<1%	0	0%	*n/a*	*n/a*
Undetermined	0	0%	0	0%	*n/a*	*n/a*
X (non-binary)	0	0%	0	0%	*n/a*	*n/a*
Age (years)	Count	Percent			Count	Percent
0-14	0	0%	0	0%	119,395	15%
15-19	5	<1%	4	1%	40,711	5%
20-24	30	2%	19	6%	47,757	6%
25-34	197	14%	70	22%	145,940	18%
35-44	323	24%	57	18%	137,395	17%
45-54	351	26%	54	17%	109,343	14%
55-64	347	25%	83	26%	89,189	11%
65+	116	8%	36	11%	115,661	14%
Age (mean years)	48	n/a	46	n/a	*n/a*	*n/a*
Race (alone or in combination)	Count	Percent[b]	Count	Percent[b]	Count	Percent
American Indian/Alaska Native	83	6%	6	2%	24,486	3%
Asian	24	2%	14	4%	83,286	10%
Black/African American	155	11%	111	34%	62,474	8%
Native Hawaiian/Pacific Islander	8	1%	1-4		9,691	1%
White	1,087	79%	196	61%	650,905	81%
Ethnicity	Count	Percent	Count	Percent	Count	Percent
Hispanic	93	7%	13	5%	105,204	13%
Non-Hispanic	1,276	93%	230	95%	698,659	87%
Year	Count	Percent	Count	Percent	Count	Percent
2019	97	7%	29	9%	*n/a*	*n/a*
2020	113	8%	31	10%	*n/a*	*n/a*
2021	196	14%	37	12%	*n/a*	*n/a*

2022	238	17%	61	19%	*n/a*	*n/a*
2023	389	28%	85	26%	*n/a*	*n/a*
2024	336	25%	80	25%		
Opioid co-occurrence	Count	Percent	Count	Percent	Count	Percent
Any opioid	952	69%	223	69%	*n/a*	*n/a*
Synthetic opioids (mainly fentanyl)	796	58%	189	58%	*n/a*	*n/a*

* Suppressed because there were fewer than four deaths

[a] American Community Survey 2023 5-year population estimates

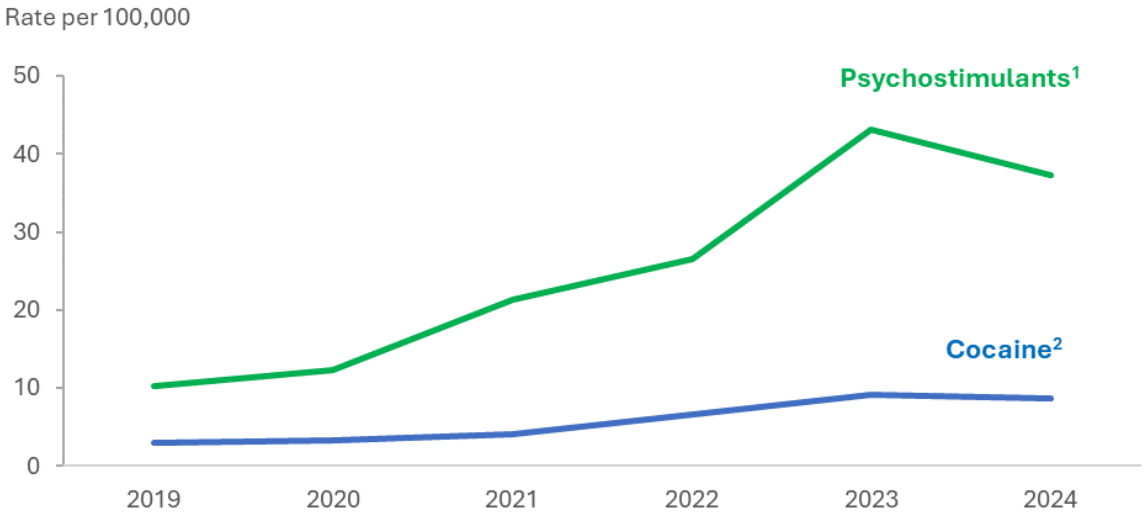
[b] People can be in more than one group, so the sum of all categories will be greater than 100%

In 2022-2024 combined data, 17 of 226 (8%) cocaine overdose deaths occurred in persons likely houseless (domicile unknown), compared to 291 of 963 (30%) psychostimulant deaths.

Rates of death

Figure 1 presents the age-adjusted rate of drug overdose deaths involving stimulants, by type of stimulant. The rate of deaths involving psychostimulants increased by a factor of 4 between 2019 and 2023 (from 10.3 per 100,000 to 43.0 per 100,000 in 2023), then decreased to 37.3 per 100,000 in 2024. The JoinPoint analysis shows that this is a significant annual percent change of 32%. The rate of deaths involving cocaine increased by a factor of 3 between 2019 and 2023 (from 3.0 per 100,000 to 9.1 per 100,000), then decreased slightly to 8.6 per 100,000 in 2024. The JoinPoint analysis shows that this is a significant annual percent change of 28%.

Figure 1. Drug overdose deaths per 100,000 involving stimulants, by type of stimulant, Multnomah County, 2019-2024, Vital records data



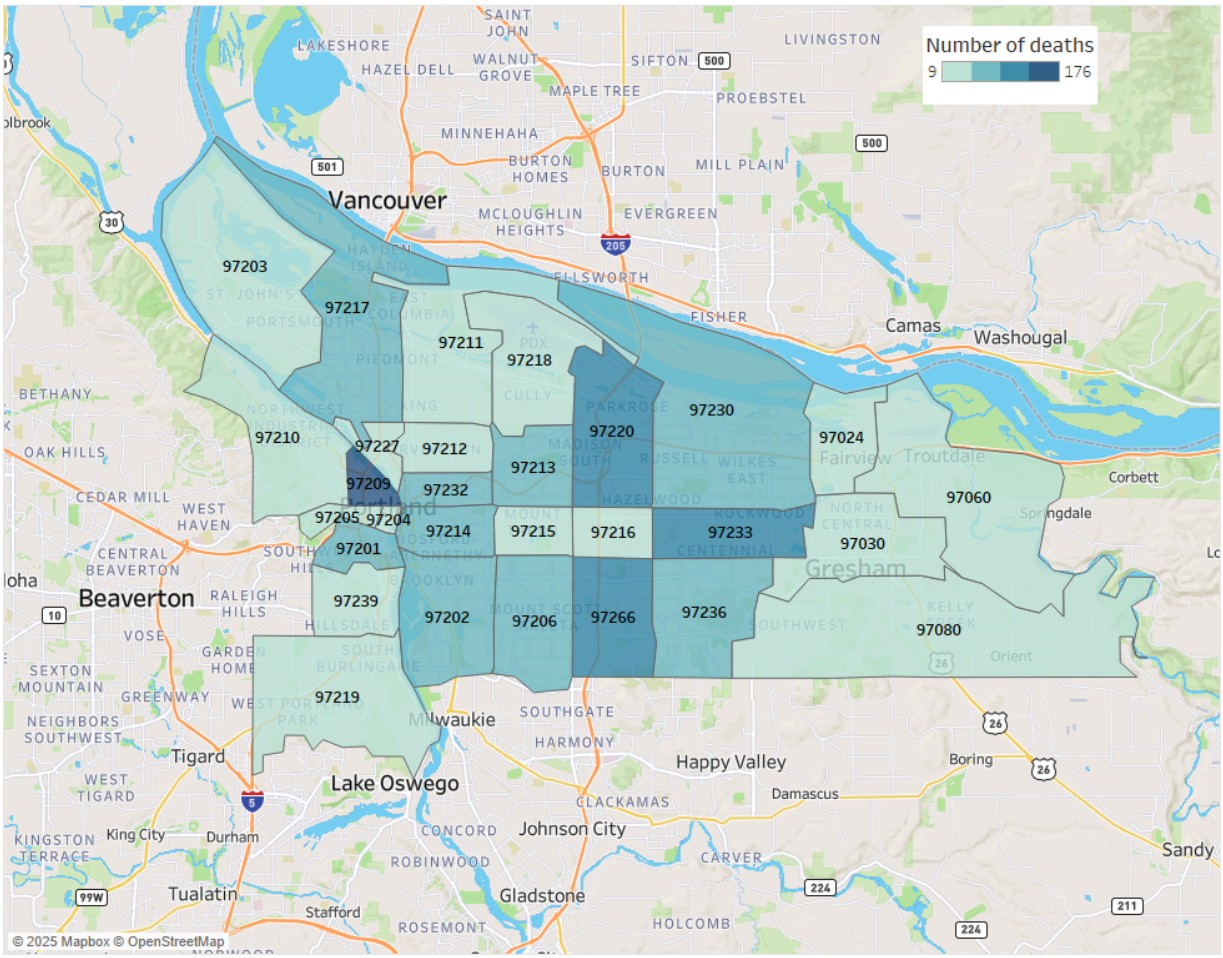
[1] Significant increasing trend 2019-2024, p<0.005, APC 32.30
[2] Significant increasing trend 2019-2024, p<0.005, APC 27.87

Overview by geography

Geography of Stimulant Overdose within Multnomah County

Figure 2 depicts the spatial distribution of the number of stimulant overdose deaths in Multnomah County, Oregon, from 2019 to 2024 by ZIP code. These data were available for 1,491 of 1,597 total stimulant overdose deaths. The highest numbers of deaths were in 97209 (Pearl District/Old Town, N=176) followed by 97226 (Lents/Outer Southeast, N=105), 97220 (Parkrose, N=100), and 97233 (Centennial/Rockwood, N=99). It is important to remember when examining maps that these spatial representations of overdose might generalize or mask local conditions, such as poverty levels, access to treatment facilities, and/or housing instability) that interplay with overdose. The map also cannot explain why overdoses are happening in any given area.

Figure 2. Stimulant overdose deaths by ZIP code of original injury in Multnomah County, 2019-2024 (N=1,485), Vital records data



*ZIP codes with <5 deaths are not shown

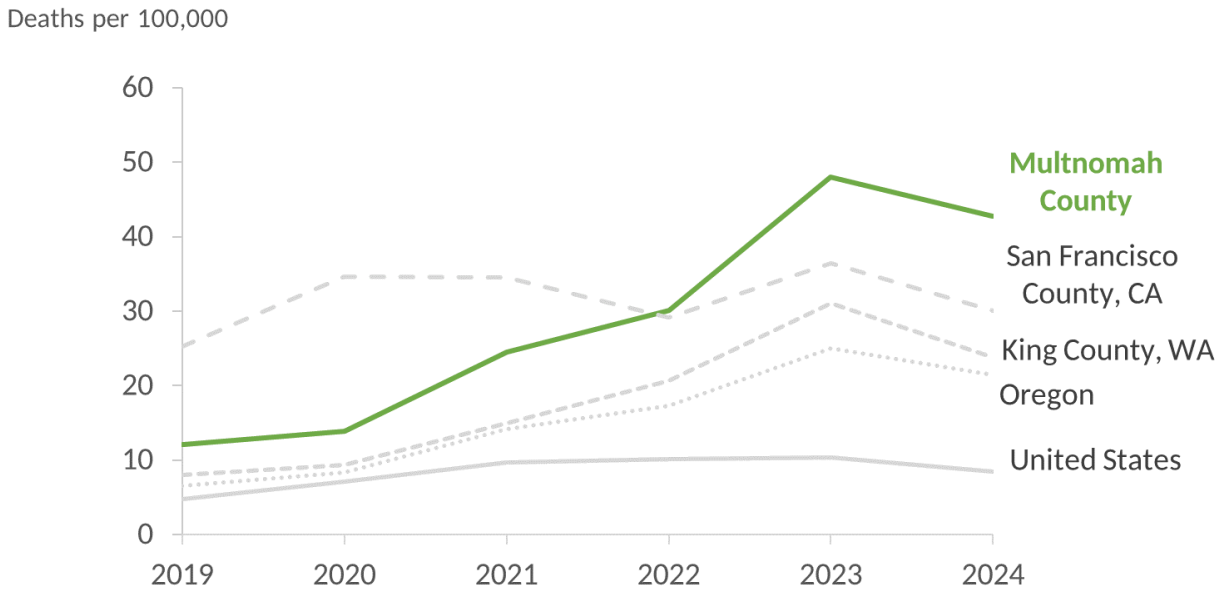
Time trends in stimulant overdose

Trends in Multnomah County compared to other jurisdictions by type of stimulant:

Figures 2a & 2b present the yearly rate of stimulant overdose deaths in Multnomah County compared to Oregon, the United States, and two other West Coast jurisdictions (San Francisco County, CA, and King County, WA) by type of stimulant. Psychostimulant overdose deaths in the urban county geographies (Multnomah, San Francisco, and King Counties) were higher than the US in all years. The rate of psychostimulant overdose deaths in Multnomah County nearly doubled between 2021 and 2023 but declined in

2024. For cocaine-related overdose deaths, San Francisco County had higher rates than all the other geographies examined. Multnomah County's cocaine overdose death rate was lower than the United States overall through 2022 and then rose above the national rate in 2023 and 2024.

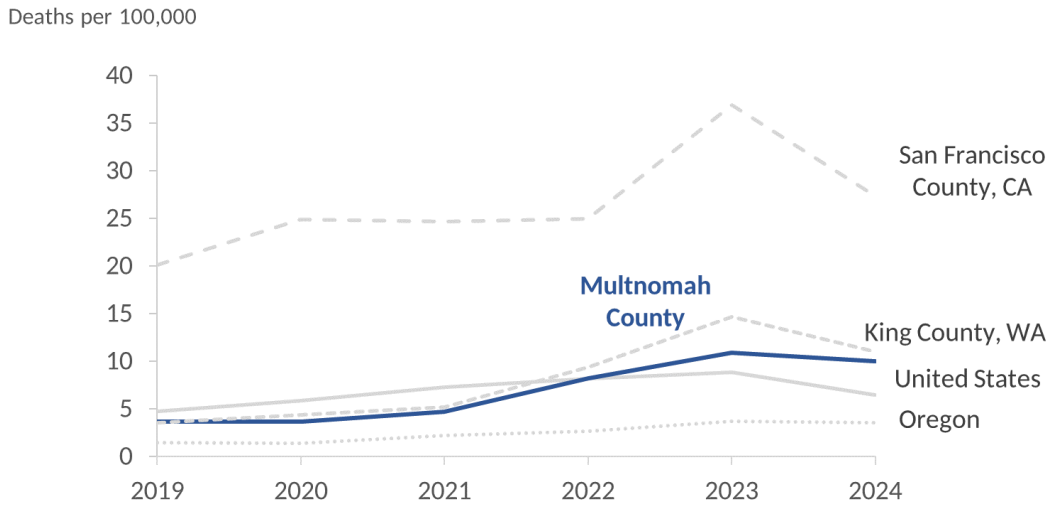
Figure 2a. Psychostimulant overdose deaths per 100,000 population, Multnomah County compared to Oregon, United States, and Two West Coast Jurisdictions*, 2019-2024[26]



Data source: CDC WONDER

[26] Data for US, Oregon, San Francisco County, and King County derived from CDC WONDER. Limited to unintentional and undetermined deaths only.

Figure 2b. Cocaine overdose deaths per 100,000 population, Multnomah County compared to Oregon, United States, and Two West Coast Jurisdictions*, 2019-2024[26]

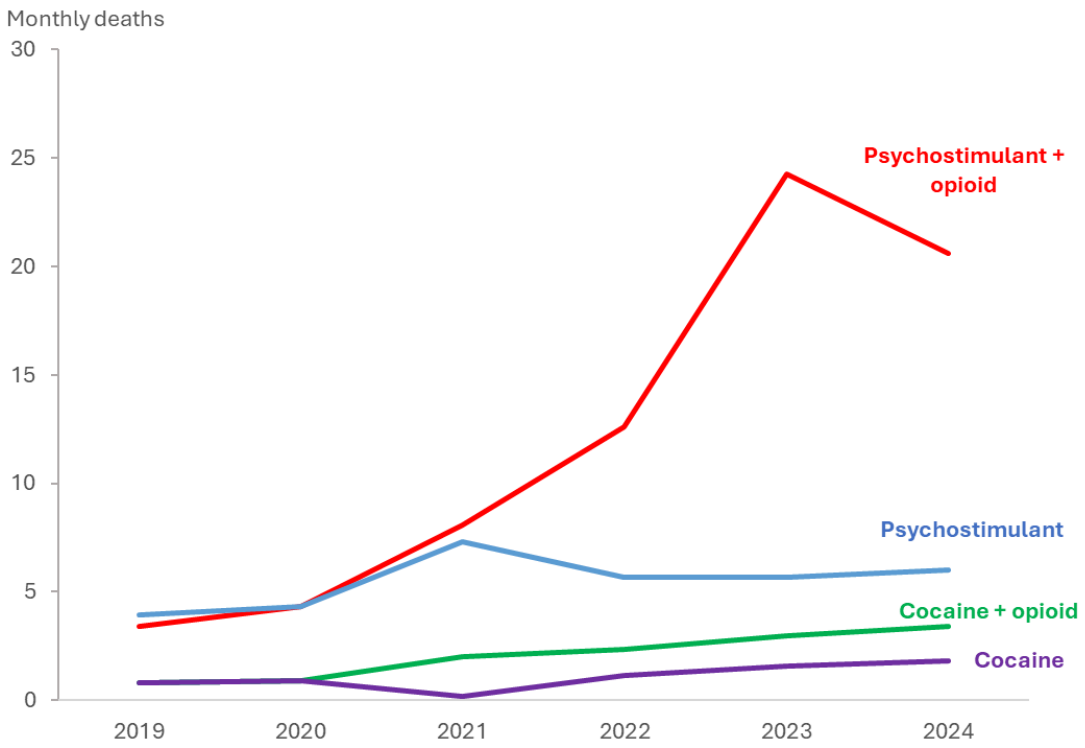


**Data source: CDC WONDER*

Monthly time trends in stimulant overdose deaths, with and without opioids

Figure 3 shows the change in monthly average deaths by year due to stimulant overdose by type of stimulant and presence of opioids. In this figure, the data are mutually exclusive. This allows us to view what combination of substances changed the most over time. The individual lines represent the average monthly deaths by year, and each color represents the mutually exclusive category. It is readily apparent how monthly deaths with both psychostimulants and opioids (but not cocaine) have increased most dramatically, especially between 2022 and 2023, where the monthly deaths nearly doubled. It is also notable to see the decrease in the opioid with psychostimulant deaths in 2024 compared to 2023, where the monthly deaths went from 24 to 21, respectively.

Figure 3. Monthly average deaths from stimulants by mutually exclusive categories, with and without opioids, by year, 2019-2024, Vital records data



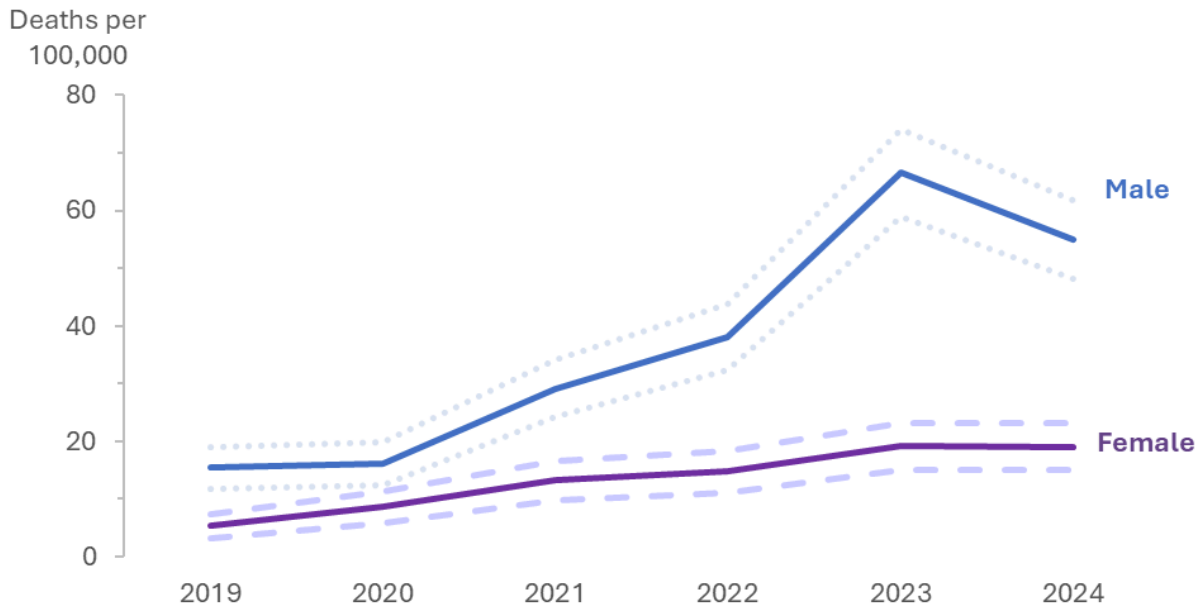
Stimulant overdose by gender

The age-adjusted rate of deaths involving psychostimulants in males ranged from 15.4 per 100,000 in 2019 to 66.5 per 100,000 in 2023, dropping to 55.0 per 100,000 in 2024. For females, the rates were much lower (from 5.3 per 100,000 in 2019 to 19.1 per 100,000 in both 2023 and 2024) (Figure 4a). The rate in males was significantly higher than the rate in females for all years examined.

For deaths involving cocaine, the rate in males ranged from 4.9 per 100,000 in 2019 to 11.9 per 100,000 in 2023, dropping slightly to 11.2 per 100,000 in 2024. For females, the rates were as low as 1.2 per 100,000 in 2019 to 6.3 per 100,000 in 2023, dropping slightly to 6.0 per 100,000 in 2024 (Figure 4b). Although the male rate was higher than females in all years, only in 2019 and 2022 was the male rate significantly higher.

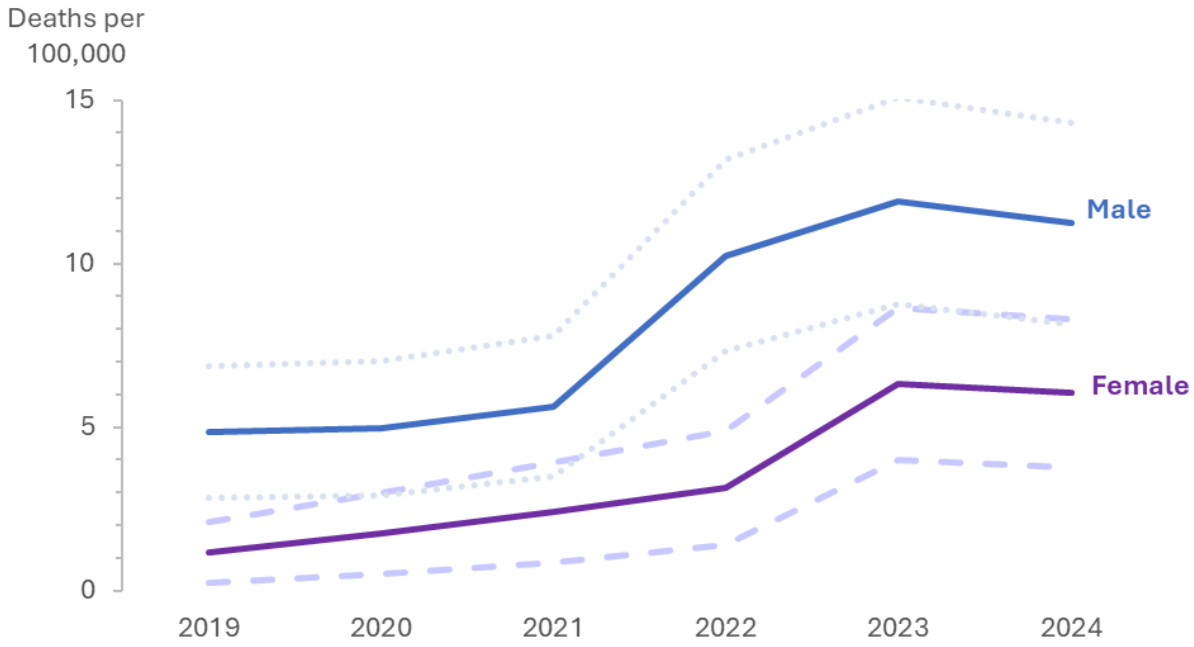
The trends were different over time for females than males, as seen in Figures 4a & 4b. Of note, the rate of cocaine involved overdoses in females between 2022 and 2023 rose by 100%, compared to only 16% for males. In 2024, both rates declined (6% in males and 4% in females). Conversely, the rate of psychostimulant involved overdoses in females between 2022 and 2023 rose by around 30% compared to 73% in males; in 2024, rates in males declined by 17%, but rates in females remained the same.

Figure 4a. Age-adjusted* rate per 100,000 of psychostimulant overdose deaths by gender and year, 2019-2024, with 95% confidence intervals, VItal records data



* Age-adjusted to the US 2000 standard population

Figure 4b. Age-adjusted* rate per 100,000 of cocaine overdose deaths by gender and year, 2019-2023, with 95% confidence intervals, Vital records data

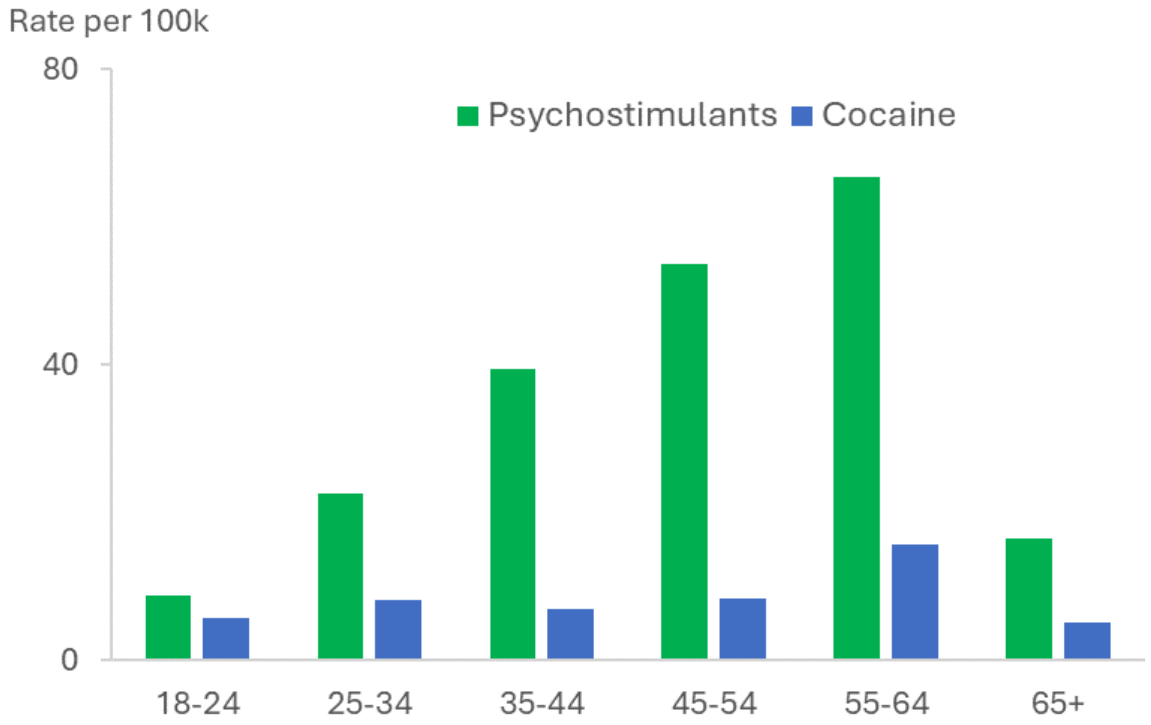


* Age-adjusted to the US 2000 standard population

Stimulant overdose by age

For both psychostimulants and cocaine, the age group with the highest rates of death were 55-64 year-olds (65.4 and 15.6 per 100,000, respectively) followed by age 45-54 years (53.6 and 8.2 per 100,000, respectively) (Figure 5). The age group with the lowest death rate was 65+ for cocaine (5.1 per 100,000) and 18-24 for psychostimulants (8.8 per 100,000). The mean age at death for psychostimulants was 48 years; for cocaine, it was 46 years (Table 1).

Figure 5. Rates of stimulant overdose deaths by age group and stimulant type, 2019-2024, Vital records data



Stimulant overdose by race and ethnicity

Table 2 displays the number and age-adjusted death rates by single and two or more non-Hispanic races and Hispanic ethnicity for stimulant overdose deaths between 2022 and 2024 by type of stimulant. For psychostimulants, all rates were lower in 2024 compared to 2023; the highest rates were among Native American/Alaska Natives, Black/African Americans, and people of two or more races. For cocaine, 2024 rates were lower compared to 2024 for Black/African Americans, people of two or more races, and Whites; for Hispanics, rates were suppressed in 2023 due to small overall numbers, but in 2024 rose to 8 per 100,000.

Table 2. Number of deaths and age-adjusted rate of stimulant overdose deaths by race and ethnicity* and type of stimulant, 2022-2024, Vital records data

Race & ethnicity	2022 number	2022 rate	2023 number	2023 rate	2024 number	2024 rate
Non-cocaine psychostimulant						
American Indian/Alaska Native	8	118.5	18	292.6	8	126.1
Asian	1-4	*	6	8.5	1-4	*
Black/African American	27	57.3	36	75.4	29	60.0
Hispanic	18	16.5	34	31.0	21	19.1
Native Hawaiian/Pacific Islander	1-4	*	1-4	*	1-4	*
Two or more races	11	35.0	19	74.9	16	61.0
White	152	24.2	263	41.4	251	39.2
Cocaine						
American Indian/Alaska Native	1-4	*	1-4	*	1-4	*
Asian	1-4	*	1-4	*	1-4	*
Black/African American	16	29.3	32	60.9	25	46.2
Hispanic	1-4	*	1-4	*	10	8.1
Native Hawaiian/Pacific Islander	1-4	*	1-4	*	1-4	*
Two or more races	1-4	*	5	20.5	1-4	*
White	36	6.0	40	6.3	40	6.4

*Single and two or more non-Hispanic races and Hispanic ethnicity. Some data for race groups is not shown because the total number of deaths was between 1 and 4.

Table 3 displays the proportion of deaths that had opioid co-involvement by race and ethnicity by type of psychostimulant, combined for the entire time period of 2019–2024. For psychostimulants, the proportion of deaths involving any opioid was as high as 75% for American Indians/Alaska Natives to as low as 69% for Black/African Americans. For cocaine, the proportion of deaths involving any opioid was as high as 83% for American Indians/Alaska Native and as low as 64% for non-Hispanic Black/African Americans.

Table 3. Opioid co-involvement in stimulant overdose deaths by race & ethnicity (any mention) and stimulant type, 2019-2024, Vital records data

Race (alone or in combination)	Total Deaths	Deaths with any opioid	Proportion with any opioid
Non-cocaine psychostimulant			
American Indian/Alaska Native	83	62	75%
Asian	30	23	77%
Black/African American	155	111	69%
Hispanic	93	74	72%
Native Hawaiian/Pacific Islander	8	1-4	*
White	1,087	757	70%
All races	1,369	952	70%
Cocaine			
American Indian/Alaska Native	6	5	83%
Asian	14	11	79%
Black/African American	111	71	64%
Hispanic	23	16	70%
Native Hawaiian/Pacific Islander	1-4	1-4	*
White	196	141	72%
All races	323	223	69%

*Suppressed because there were fewer than five deaths

Table 4 shows the mean and median age at death by race and ethnicity and by type of stimulant. Overall, the mean age at death when all races are combined was similar for both psychostimulants (48 years) versus cocaine (46 years). However, there were some differences seen when these trends were examined by more detailed race and ethnicity categories. For example, both Asian and Native Hawaiian/Pacific Islanders had a younger age at death for psychostimulants compared to the average (40 and 38 years, respectively). For cocaine, Black/African American community members had the oldest age at death (52 years), while Native Hawaiian/Pacific Islanders and Hispanics had the youngest age at death (35 and 36 years, respectively).

Table 4. Mean age for stimulant overdose deaths by type of stimulant and race & ethnicity, 2019-2024, Vital records data

Race (alone or in combination)	Psychostimulants	Cocaine
	Age (years)	Age (years)
American Indian/Alaska Native	45	43
Asian	40	39
Black/African American	47	52
Hispanic	41	36
Native Hawaiian/Pacific Islander	38	35
White	48	43
All races	48	46

Discussion

This report describes almost 1,600 community members who died between 2019 and 2024 due to a stimulant-related overdose in Multnomah County. We show a dramatic rise in stimulant overdose deaths over time. The rate of death was higher in Multnomah County than the United States in all years examined, and was more than three times higher in 2023. However, the decline in stimulant deaths in 2024 is a hopeful trend, with a decline of 14% for psychostimulants and 5% for cocaine.

In Multnomah County, the majority of stimulant overdose deaths in 2024 were among White men aged 45 to 64 years. Although stimulant overdoses death rates rose among women, men had significantly higher death rates than women in all years. The highest numbers of stimulant overdose deaths were among White residents of Multnomah County, but when accounting for population sizes, the rate of stimulant overdose deaths was much higher for American Indian/Alaska Native and Black/African American groups compared to other groups. These same inequities have been shown by other researchers. For example, during the COVID pandemic, the highest rates of any drug overdose in the United States were seen among American Indian/Alaska Native men aged 15 to 34 years and Black and AI/AN men aged 35-64.[27] Further, non-Hispanic Black men in the U.S. had the fastest

[27] Racial and Ethnic Disparities in Drug Overdose deaths in the US during the COVID-19 Pandemic (nih.gov)

increases in methamphetamine-involved death rates among all men between 2011-2018.[28]

Importantly, opioid involvement occurred in the majority of stimulant deaths among every racial and ethnic group. For example, nearly 75% of cocaine-involved overdose deaths among Whites and 64% of those among Black/African Americans involved an opioid. For psychostimulants not including cocaine, the percentage involving opioids was even more comparable (69% vs 70% respectively). These results suggest that interventions to reduce opioid-related mortality should reach persons who may also be using stimulants.[29]

The types of stimulants and age of overdose death differed by race and ethnicity. For example, deaths from cocaine were more common among Black/African American community members compared to White community members. This finding has been demonstrated in other studies.[30,31] In addition, we found that Black/African Americans were on average dying at an older age (average age 52) from cocaine than other racial groups (average ages 39 to 43). Interventions for older adults may be different than for younger people, and could include ways to address medical considerations for chronic medical conditions, stigma, and longer drug histories.[30] Altogether, our results indicate that expanded and culturally competent interventions (prevention, treatment, harm reduction) are urgently needed, especially in the context of structural racism and unequal access to services for these populations.

Between 2022 and 2024, at least 308 people who died from a stimulant overdose were experiencing homelessness at the time of death; the majority of these deaths involved methamphetamine rather than cocaine. There has been an increasing number of unhoused persons who use methamphetamine.[32] Further, the continuing use of methamphetamine may

[28] Methamphetamine Overdose Deaths in the US by Sex and Race and Ethnicity (nih.gov)
[29] Racial/ethnic differences in US drug overdose mortality, 2017–2018

[30] Drug overdose deaths involving cocaine and psychostimulants with abuse potential among racial and ethnic groups - United States, 2004-2019
[31] Racial/ethnic differences in US drug overdose mortality, 2017–2018

[32] Violence and victimisation in the lives of persons experiencing homelessness who use methamphetamine: A scoping review

contribute to ongoing homelessness and other negative health and social impacts.[33] Stable housing, access to mental health care, and addiction treatment can support people living with substance use disorder.

The deaths captured in this report are from an acute overdose; the myriad deaths that may occur from chronic methamphetamine use are not counted here. Although overdose and accidents are the top two causes of death among people who use methamphetamine, cardiovascular-related disease is the third leading cause of death.[34] Use of methamphetamine can affect multiple organs in the body, including the brain (e.g., stroke, hemorrhage); heart (e.g., heart attack, arrhythmia); lungs (e.g., pulmonary edema); and kidneys (e.g., acute renal failure).[35]

Treatment for stimulant use disorder relies on behavioral therapy (also called contingency management) as well as off label use of substances (such as bupropion or naltrexone) because there are no medical treatments approved by the U.S. Food and Drug Administration.[36] This is in contrast to treatment for opioid use disorder, which has multiple medication-assisted options (e.g., methadone, buprenorphine).[37]

Because stimulants and opioids are so commonly used together, harm reduction strategies are essential to prevent harms from both types of substances. Harm reduction reduces the risk of harms that come from drug use by different public health interventions.[38] The combination of a stimulant with an opioid is dangerous, as it places stress on multiple body systems, including cardiovascular and respiratory, and thus can increase risk of death by respiratory suppression or cardiac arrest.[39] Drug checking equipment is one form of harm reduction that can alert stimulant users if their drugs contain fentanyl.[35] Another harm reduction strategy is the use of naloxone, an important medication that can reverse opioid overdose. Naloxone is not

---

[33] https://epe.lac-bac.gc.ca/100/201/301/weekly_acquisitions_list-ef/2019/19-24/publications.gc.ca/collections/collection_2019/parl/xc62-1/XC62-1-1-421-26-eng.pdf

[34] https://pmc.ncbi.nlm.nih.gov/articles/PMC6709697/

[35] https://pmc.ncbi.nlm.nih.gov/articles/PMC2998419/

[36] https://www.pew.org/en/research-and-analysis/fact-sheets/2024/08/stimulant-use-is-contributing-to-rising-fatal-drug-overdoses

[37] https://www.samhsa.gov/substance-use/treatment/options

[38] Bloomberg School What Is Harm Reduction?

[39] Prevalence and Correlates of Heroin-Methamphetamine Co-Injection Among Persons Who Inject Drugs in San Diego, California, and Tijuana, Baja California, Mexico - PubMed (nih.gov)

effective against stimulants alone, but is still important if an overdose includes multiple substances.

A recent study showed that patients who had both opioid and psychostimulant exposure required higher doses of naloxone to reverse respiratory depression, suggesting higher severity of overdose.[40] If there is the potential that opioids have been consumed (either because someone is unconscious and not breathing, and whether drugs were mixed or unknowingly contaminated) then naloxone can still potentially be lifesaving.[41] The American Society of Addiction Medicine with the American Academy of Addiction Psychiatry produced a comprehensive guideline for preventing and addressing harms from stimulants.[42] Contingency management and harm reduction are key elements in this plan, in addition to some evidence-based frameworks for off-label use of medications (e.g., mirtazapine) to reduce stimulant use.

Harm reduction and treatment are only part of the total picture in preventing harms from substance use. The use of tiered, integrated prevention activities that directly engage health and human services providers are imperative, and can lead to cross-sector collaboration on prevention.[43] Other important components include expanding research on new and improved prevention efforts, investing in community resources (e.g., support and education), increasing access to high-quality pain management, and promoting responsible prescription of medications to protect patient safety.[42]

A comprehensive response must balance immediate overdose efforts with sustained investment in primary prevention and treatment of substance misuse. Effective primary prevention requires a shift to addressing risk and protective factors before substance misuse begins and to creating healthier community and institutional environments. Broader environmental risk factors include high prescribing rates, economic distress, and lack of mental health care, while protective factors include community cohesion and economic opportunity. Core prevention strategies focus on improving prescribing practices, strengthening families, building youth resilience, and preventing trauma. Increasingly, prevention efforts focus on more upstream

[40] https://doi.org/10.1016/j.dadr.2024.100223
[41] https://www.cdc.gov/overdose-prevention/media/pdfs/2024/03/CDC-Stimulant-Guide.pdf
[42] https://www.asam.org/quality-care/clinical-guidelines/stimulant-use-disorders
[43] US Department of Health and Human Services-Overdose Prevention

determinants and tackling structural inequities, such as economic stability, housing security, and access to education, expanding to include housing stabilization, employment initiatives, and community resilience models.[44]

This analysis is subject to limitations. First, this analysis only includes community members who died of a stimulant overdose. Although it may provide insights on people who use stimulants or experience non-fatal overdose, there may be differences that we are not able to analyze here. Second, the categorizations of race and ethnicity that we used have strengths and limitations. To align the categories with denominators to produce rates, we used a method that can obscure information on decedents with more than one race. To address this, we also presented data that shows each decedent in any racial/ethnic group that they identified with. Additionally, we limited our data to accidental and undetermined intents, due to possible differences in underlying characteristics among people who died from intentional stimulant overdose. However, suicide from stimulant overdose accounted for only 1% of the total stimulant deaths during the time frame of this report.

Between 2019 and 2024, nearly 1,600 people in Multnomah County died from a stimulant overdose, with and without co-identification of opioids. Coordinated, multi-agency action with a population approach is needed to slow and reverse this trend. Stimulant-focused harm reduction work, awareness of polysubstance use and risks, substance use prevention efforts, and providing community-specific support and education about stimulants will be critical to avoiding fatal overdoses like these. Additionally, these data show that working with treatment providers, peer navigators, and healthcare providers focused on both the short and long term effects of stimulants is needed.

[44] https://www.samhsa.gov/about/digital-toolkits/substance-use-prevention-month