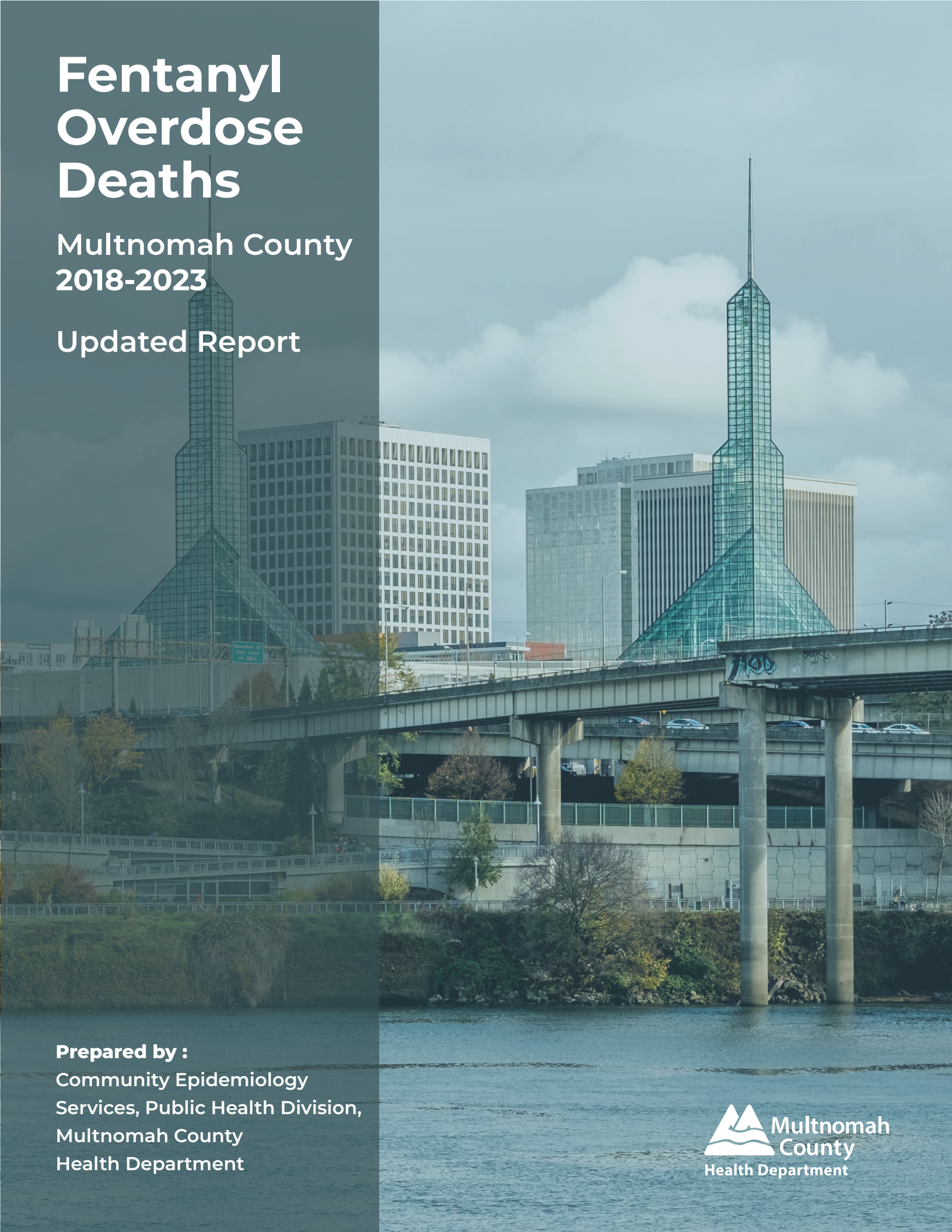
Fentanyl Overdose Deaths

Multnomah County 2018-2023

Updated Report



Prepared by :
Community Epidemiology Services, Public Health Division, Multnomah County Health Department

Multnomah County
Health Department

Note: This report has been updated with the final 2023 data on fentanyl mortality in Multnomah County; the data visualizations have also been updated for clarity.

In the original report, we had analyzed partial and preliminary 2023 data for Figures 2, 3, & 4; Maps 2a & 2b; and Table 1 before the data were finalized in order to provide information as quickly as possible. The original report can be viewed here. In this updated report we provide:

- Complete and finalized 2023 data in the figures and tables throughout the report, and
- Updated visualizations to provide additional clarity.

The final number of fentanyl deaths in 2023 was considerably higher (499) than the projected number of deaths in the original report based on the partial and preliminary data (322). The updated results show the same trends over time as the original report, but with higher overall numbers in 2023.

Foreword

The following report demonstrates the ways that our community has suffered from an epidemic of fentanyl overdoses. Since 2020, an accelerating wave of non-fatal drug overdoses and deaths has affected communities across the United States. A majority of overdose deaths involve opioids, particularly synthetic opioids like illicitly made fentanyl, which is often used with stimulants like methamphetamine or cocaine (often called "polysubstance use"). Cheap fentanyl abounds in the illicit drug market and has contributed to deadly cycles of addiction and overdose.

This report shows us one way to consider who has died of fentanyl overdose in the past six years in Multnomah County. It describes the demographic factors that they had in common. It is important to note that no amount of data can describe what each person meant to their family and friends. Each death counted in this report represents a real person with their own hopes and dreams, the grief and heartbreak of those close to them, and the trauma that reverberates throughout our community as a result of their loss.

The Multnomah County Health Department offers this report as a way to provide context and inform action to prevent these deaths in the future. The report shows us that, like many health outcomes, fatal overdose from fentanyl falls unevenly across our communities. We analyzed data by race and ethnicity to understand these inequities in the hopes of being able to direct resources and support to the people who need it most. We know that highlighting racial and ethnic inequities can cause its own harm. These harms also need to be acknowledged and addressed. Any actions that result from the sharing of these data need to take into account the systemic and social influences that contribute to these inequitable outcomes, including racism, colonialism, intergenerational trauma, underfunding, and poverty.

A likely contributing factor to the current overdose epidemic is the isolation that resulted from the COVID-19 pandemic. This led to higher rates of drug use in isolation, which increased the risk of fatal overdose. Social distancing also likely affected access to and utilization of community resources and/or support networks for persons using drugs[1]. One antidote, then, can be fostering connection -- connections within families and among neighbors as well as maintaining connected, cohesive responses across agencies that serve the public. The deaths represented in this report, and the inequities revealed here, demand collective attention and action across our community and from people in all walks of life: parents, educators, people who are using fentanyl, people in recovery, medical professionals, public health professionals, first responders, and neighbors.

Introduction

Deaths from overdose are a significant and increasing public health problem in the United States[2]. In 2022, there were nearly 108,000 fatal drug overdoses in the United States. More than two-thirds of these deaths involved synthetic opioids other than methadone, mainly illicitly manufactured fentanyl (IMF).[3] Fentanyl, a powerful synthetic opioid, has been increasingly involved in overdose deaths since 2013. This increase in deaths coincided with a surge in availability of IMF and corresponds to a "third wave" of the opioid overdose epidemic, with the first being an increase in deaths due to prescription opioids in the 1990s, followed by an increase in heroin deaths in 2010 (Figure 1).[4]

In this report, we describe the trends in fentanyl-related overdose deaths in Multnomah County, Oregon, using death certificate data from 2018-2023. Analysis of death certificates is considered the gold standard for measuring drug overdose at the state and national levels; standardized certificates enable comparisons across jurisdictions.[5] However, 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).[6] At the time of this report update (December 6, 2024), 2023 data are considered final.

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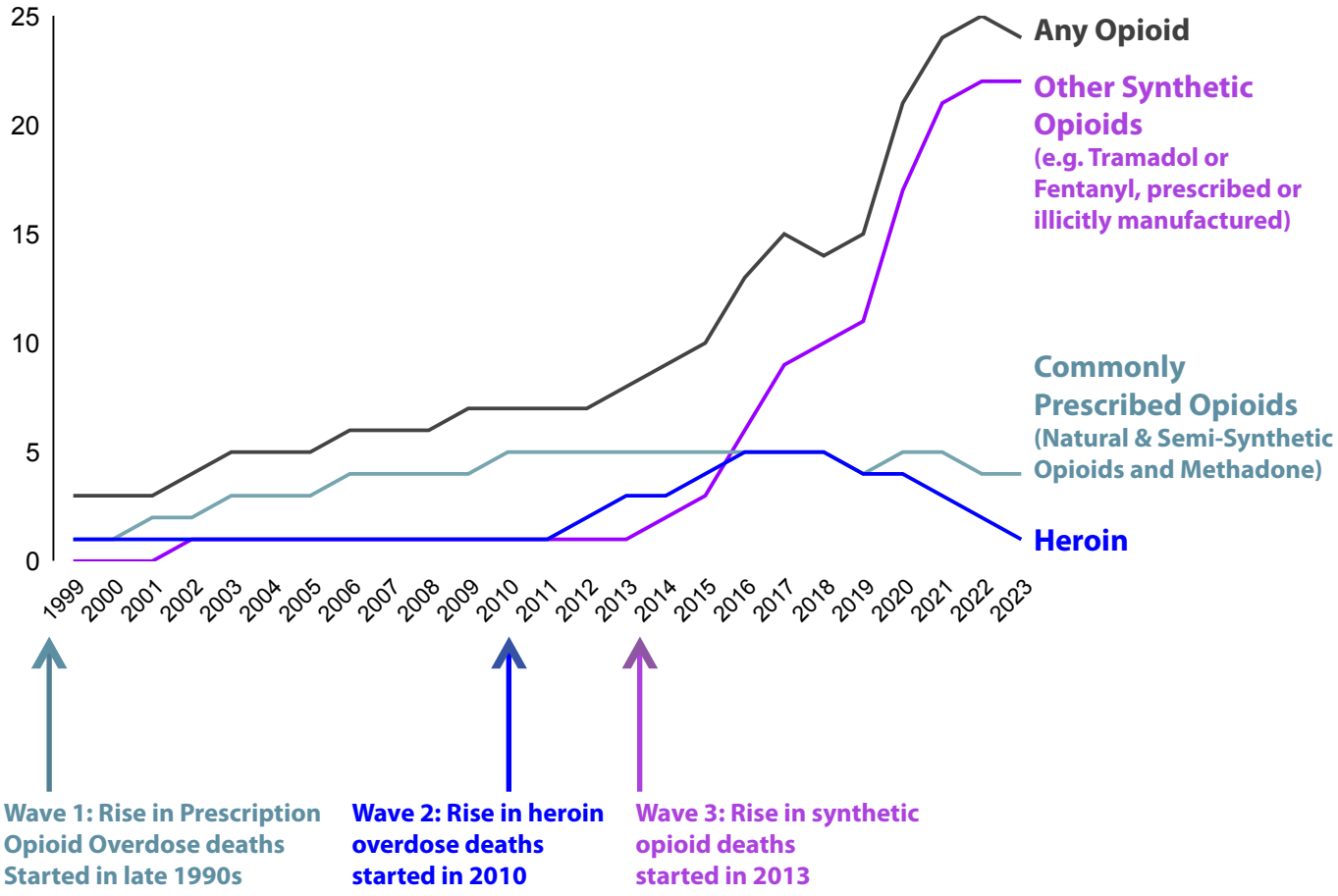
[1] Impact of the COVID-19 Pandemic on Opioid Overdose Deaths: a Spatiotemporal Analysis
[2] Drug Overdose Deaths in the United States, 2002–2022 (cdc.gov)
[3] Products - Vital Statistics Rapid Release - Provisional Drug Overdose Data (cdc.gov)
[4] Opioid Data Analysis and Resources | Opioids | CDC
[5] Methodological Complexities in Quantifying Rates of Fatal Opioid-Related Overdose - PMC (nih.gov)
[6] Timeliness of Death Certificate Data for Mortality Surveillance and Provisional Estimates (cdc.gov)

Figure 1. Opioid overdose deaths in the United States, 2018-2023[7]



[7] Data obtained from CDC WONDER. Figure modified from Understanding the Opioid Overdose Epidemic | Overdose Prevention | CDC

Methods

(More detailed methods in Appendix at end of report)

Data source

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 January 1, 2018 to December 31, 2023 in Multnomah County residents. Final data were extracted on December 6, 2024.

Causes of death

Drug overdose deaths were identified using International Classification of Diseases, 10th Revision (ICD–10) underlying cause-of-death codes X40–X44 (accidental intent) and Y10–Y14 (undetermined intent). Among these deaths, the following ICD–10 multiple cause-of-death codes indicate fentanyl and other synthetic opioid(s): T40.4, other synthetic narcotics. To examine co-occurrence of methamphetamine with fentanyl, the multiple cause-of-death code for psychostimulants with abuse potential (T43.6) was used. Note that a fentanyl overdose death may have additional substances present.

Data analysis

Most deaths related to fentanyl are accidental – that is, there is little or no evidence that the poisoning occurred with intent to cause harm or death. A smaller proportion are from intentional self-harm (suicide) or are undetermined, meaning the information pointing to one manner of death is no more compelling than another manner of death. The current analysis focuses on deaths with accidental or undetermined intent because of the possible differences in underlying characteristics among people who died of intentional overdose. Suicide deaths from fentanyl overdose accounted for 1% of total fentanyl deaths in the time period 2018-2023 (data not shown).

We present the number and percent of fentanyl overdose deaths by specific demographic categories. Rates for sex, age, and race (single and two or more non-Hispanic races and Hispanic ethnicity) are calculated as the number of deaths per 100,000 residents. Ascertainment of housing status at death became reportable in 2022 by passage of Senate Bill 850, so housing status among those who died was only available for 2022 and 2023[8] When comparing rates across groups, rates were age-adjusted to the U.S. 2000 Standard Population.

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.[9]

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. Note that rates based on counts of <5 may be unreliable, so caution should be used when interpreting these data points. We put an asterisk(*) next to estimates that may be unreliable.

For geospatial analysis of overdose deaths, we conducted kernel density estimation with unadjusted counts of death across Multnomah County using.[10] The maps generated from this method show where data points cluster, revealing areas of high and low density (burden) of fentanyl-related mortality events compared to other areas.

The maps use counts of overdose deaths, rather than the rates, to provide a representation of where the highest absolute burden of overdose deaths occurred. This method is updated from the previous report, which used hotspot analysis. We updated this method because kernel density analysis generates a map that allows for the identification of not only peak areas of concentration but also gradients in concentration of events allowing more specific identification of areas that may benefit from targeted interventions.

RESULTS

In Multnomah County, 1,045 deaths were confirmed to be a result of fentanyl-related overdose between 2018 and 2023. In 2023, the final number of fentanyl-related overdose deaths was 499.

Demographics

Table 1 presents the demographic characteristics of fentanyl overdose deaths in Multnomah County between 2018 and 2023. Three-quarters (75%) of people who died were male, and the most common age group at death was between 35 and 44 years of age (N=284; 27%). The largest proportions of deaths were among White people (N=801; 77%). However, deaths among Black/African American (N=146; 14%) and American Indian/Alaska Native (N=64; 6%) people exceeded the population proportion, highlighting a disproportionate impact on those communities. Deaths among persons of Hispanic ethnicity (N=101; 10%) were less than the population proportion in Multnomah County (12%).

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[8] Oregon Health Authority, Senate Bill 850: Domicile Unknown, Register Vital Records, State of Oregon

[9] A Summary Measure of Premature Mortality Used in Measuring the Health of Communities

[10] Contours of a 2D density estimate

Table 1. Fentanyl overdose death demographics (2018-2023)

	Fentanyl overdose (n=868)		Multnomah County Population* (n=810,011)	
Sex	**Count**	**Percent**	**Count**	**Percent**
Female	260	25%	404,718	50%
Male	785	75%	403,380	50%
Age (years)	**Count**	**Percent**	**Count**	**Percent**
0-14	4	<1%	121,343	15%
15-19	31	3%	40,810	5%
20-24	52	5%	47,757	6%
35-44	284	27%	136,756	17%
45-54	206	20%	108,839	13%
55-64	180	17%	90,587	11%
65+	48	5%	114,187	14%
Race (alone or in combination)	**Count**	**Percent****	**Count**	**Percent**
American Indian/Alaska Native	64	6%	21,633	3%
Asian	33	3%	81,980	10%
Black/African American	146	14%	61,162	10%
Native Hawaiian/Pacific Islander	8	<1%	9,427	1%
White	801	77%	664,300	82%
Ethnicity	**Count**	**Percent**	**Count**	**Percent**
Hispanic	101	10%	97,948	12%
Non-Hispanic	944	90%	712,063	88%
Year	**Count**	**Percent**	**Count**	**Percent**
2018	30	3%	*n/a*	*n/a*
2019	24	2%	*n/a*	*n/a*
2020	66	6%	*n/a*	*n/a*
2021	157	15%	*n/a*	*n/a*
2022	269	26%	*n/a*	*n/a*
2023	499	48%	*n/a*	*n/a*

* American Community Survey 2022 5-year population estimates

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

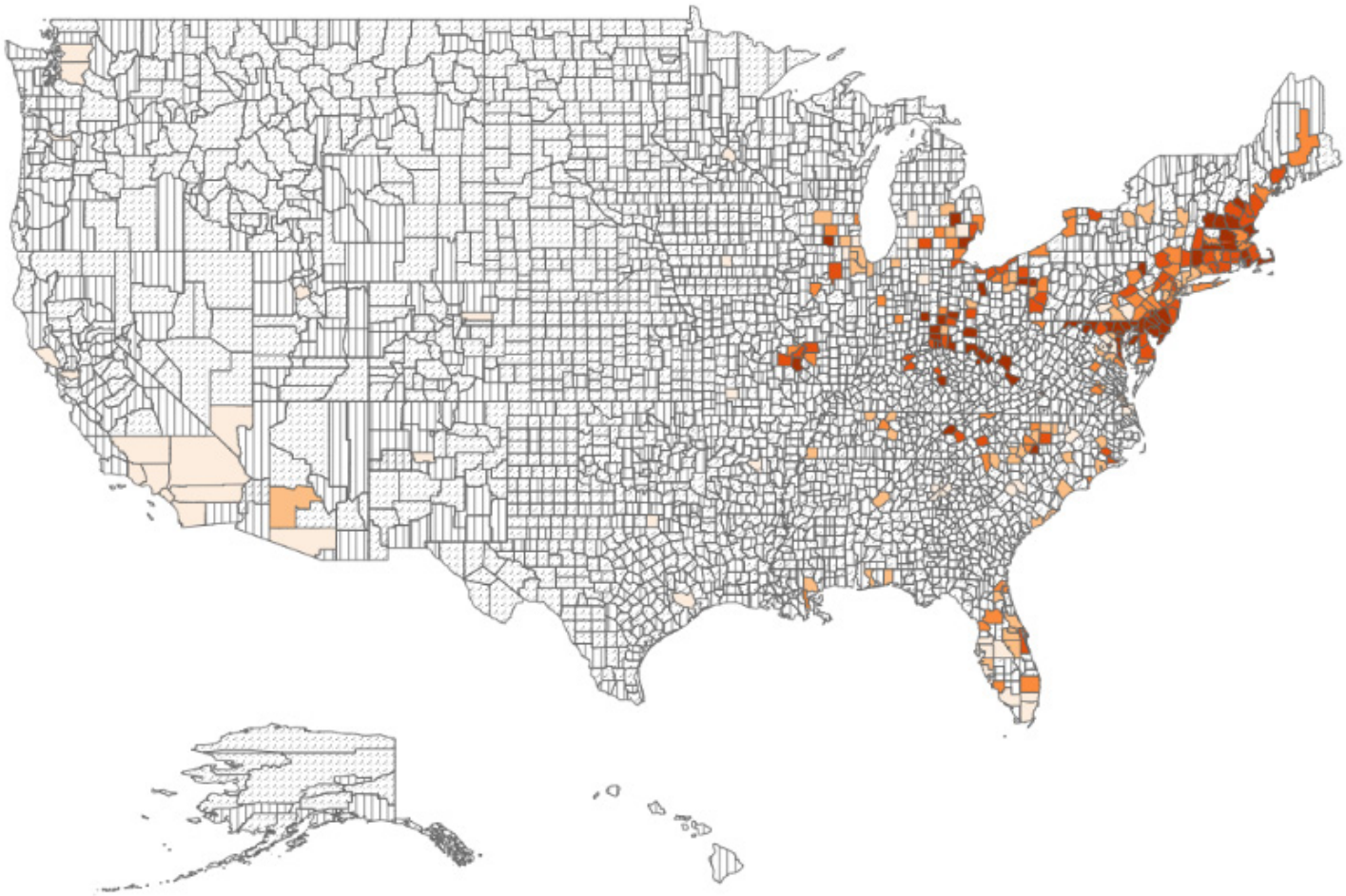
In 2022, 53 of 269 (20%) of fentanyl overdose deaths occurred in persons likely houseless (listed as domicile unknown), and in 2023, the proportion rose to 138 of 499 (28%) (data not shown).

OVERVIEW BY GEOGRAPHY

Fentanyl Overdose Across the United States

Maps 1a and 1b show the fentanyl death rate by county in the United States in 2018 and 2023.[11] In 2018, the overall fentanyl death rate for the United States was 9.4 per 100,000, and Multnomah County's rate was lower than the U.S. at 3.8 per 100,000. The map illustrates that the majority of deaths occurred on the East coast of the United States. That year, the five highest county fentanyl death rates were in West Virginia (Cabell), Maryland (Baltimore City), Missouri (St. Louis), and New Jersey (Salem & Cumberland). In 2023, fentanyl county death rates trended higher, with the United States rate overall at 21.8 per 100,000, and Multnomah County nearly three times higher than that at 60.6 per 100,000. Only 35 of the 608 (6%) counties that had more than 20 fentanyl deaths had higher rates than Multnomah County in 2023.

Map 1a. Fentanyl death rate by County, United States, 2018, rate per 100,000 population

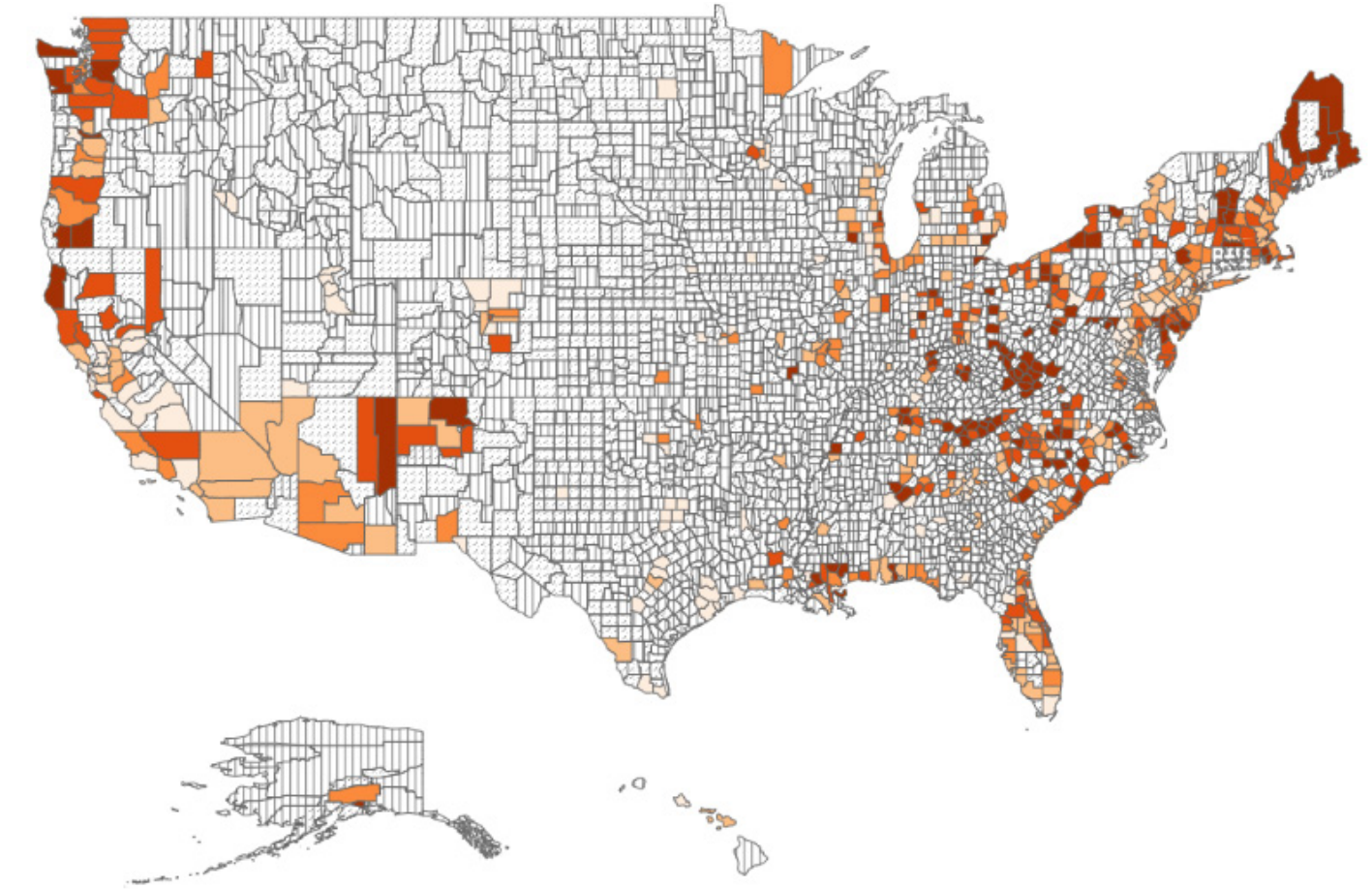


Data classified using quantities

1.3 - 9.1 | 9.2 - 143.7 | 14.9 - 22.1 | 22.2 - 29.2 | 29.6 - 104.1 | Unreliable | Suppressed

[11] Fentanyl death data by year and residence county obtained from CDC WONDER. Limited to unintentional and undetermined deaths only.

Map 1b. Fentanyl death rate by County, United States, 2023, rate per 100,000 population



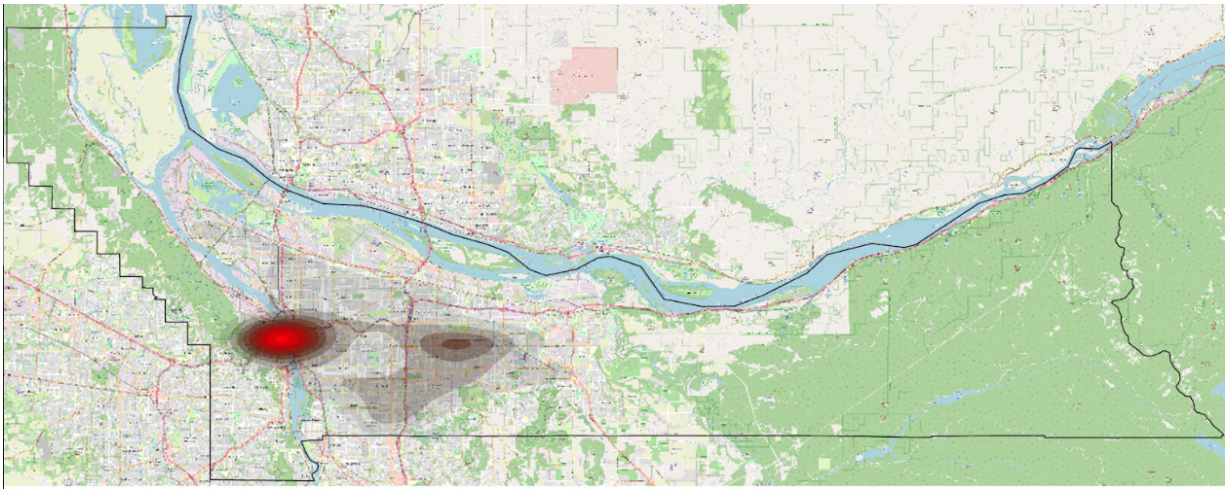
Data classified using quantities

2.7 - 15.6 | 15.7 - 22.1 | 22.2 - 28.6 | 28.9 - 41 | 41.1 - 201.7 | Unreliable | Suppressed | Not Available

Geography of Fentanyl Overdose Within Multnomah County

Map 2 depicts the cumulative spatial distribution of fentanyl overdose mortality in Multnomah County, Oregon, from 2018 to 2023. A kernel density estimation reveals a distinct hotspot of high mortality within Portland's city center, inner southeast, and Hazelwood neighborhoods, indicated by a concentrated area of dark red shading. These areas exhibit a significantly greater number of deaths occurring within a smaller geographic space, indicating a particularly strong spatial clustering. The intensity of the color gradient on the map reflects the degree of this spatial concentration, highlighting where the burden of fentanyl overdose deaths is most pronounced.

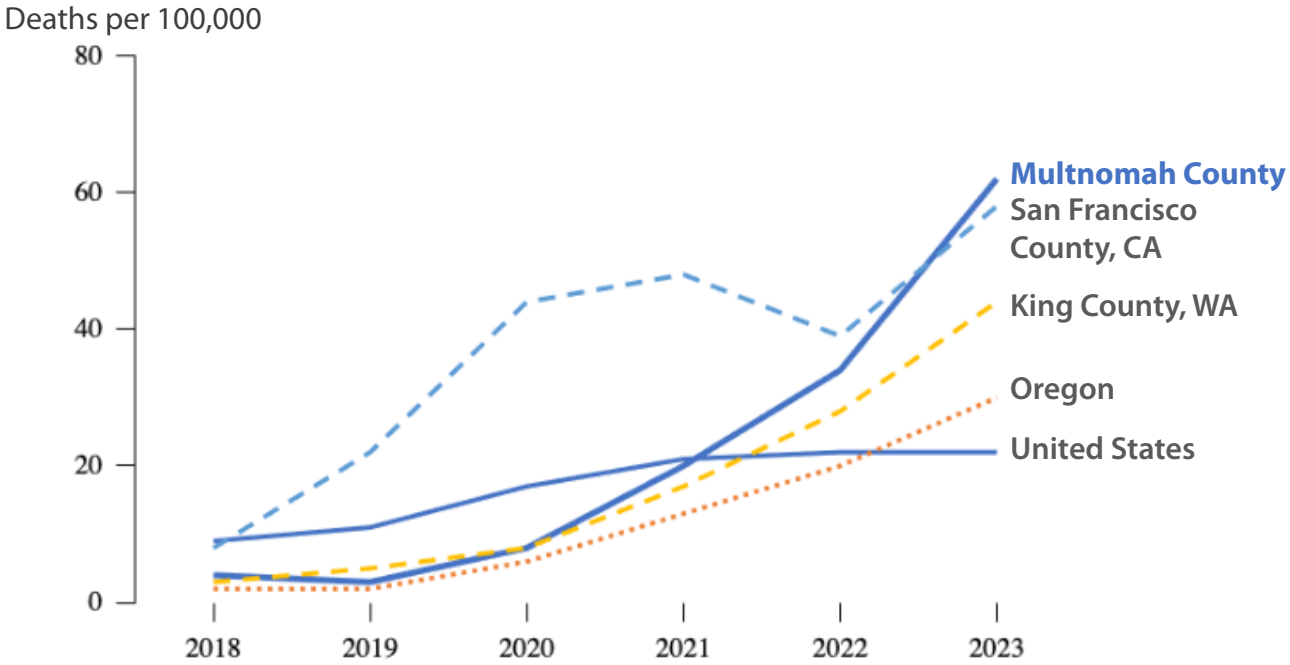
Map 2. Fentanyl overdose deaths in Multnomah County, Oregon, 2018-2023. Areas with more red indicate areas with higher numbers of fentanyl deaths.



Time Trends in Fentanyl Overdose Deaths, as Compared to Other Jurisdictions

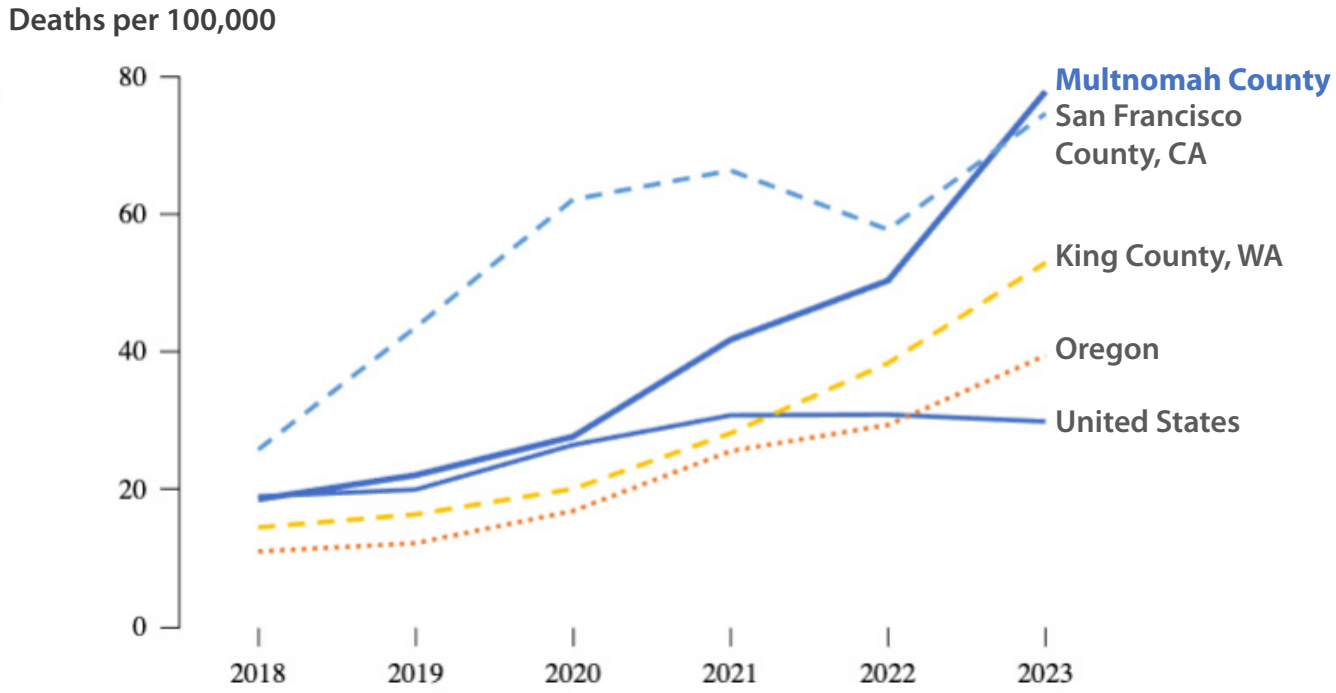
Figures 2a and 2b present the rate of total drug and fentanyl overdose deaths in Multnomah County compared to Oregon, the United States, and two other West Coast jurisdictions (San Francisco County, CA, and King County, WA). Fentanyl overdose deaths started a rapid rise around the same time as the COVID-19 pandemic, but the rise varied by geography. In Multnomah County, the rate of fatal fentanyl overdoses was lower than the overall United States rate until 2022, when the rate in Multnomah County was 1.6 times higher than the United States; in 2023, this difference rose to nearly three times higher. The rate in King County, WA, was lower than Multnomah County in 2018. Though the rate in King County briefly rose above the rate in Multnomah County in 2019, in 2023, the rate in Multnomah County was around 1.4 times higher than King County. San Francisco County, CA, has consistently had a higher fentanyl death rate compared to Multnomah County, as high as 2.5 times in 2021. The rates in both these jurisdictions were similar in 2023, with Multnomah County having the higher overall rate (60.6 per 100,000 vs. 57.6 per 100,000).

Figure 2a. Drug overdose deaths per 100,000 population per year, Multnomah County compared to Oregon, United States, and two West Coast jurisdictions, 2018-2023[12]



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

Figure 2b. Fentanyl overdose deaths per 100,000 population per year, Multnomah County compared to Oregon, United States, and two West Coast jurisdictions, 2018-2023[13]

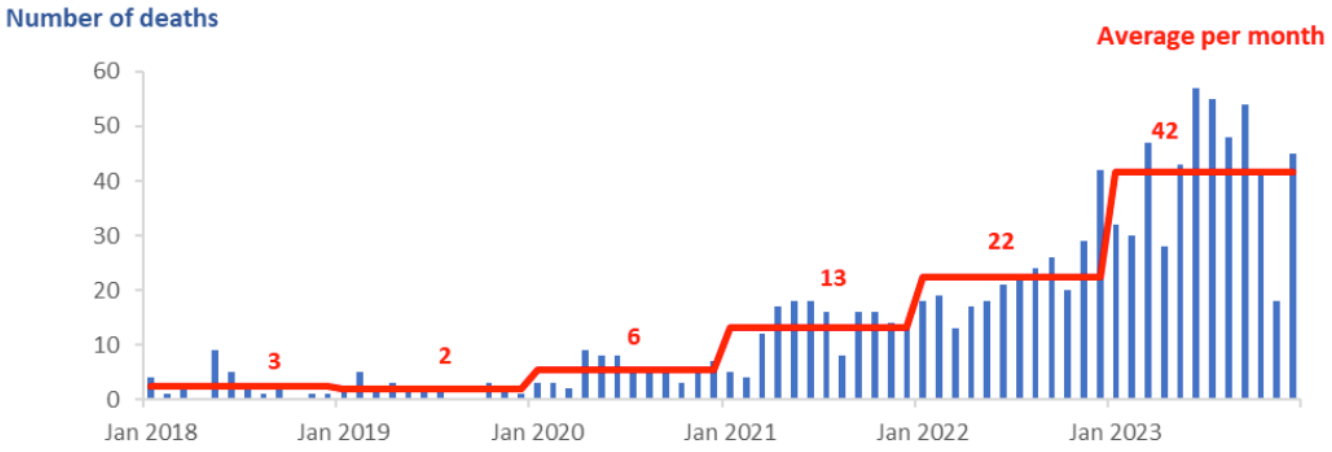


[13] Data for US, Oregon, San Francisco County, and King County derived from CDC WONDER. Limited to unintentional and undetermined deaths only.

Monthly Time Trends in Fentanyl Overdose Deaths

Figure 3 provides the number of deaths due to fentanyl overdose by month with a line showing the cumulative frequency. Deaths per month averaged around 2 in 2018-2019, but in 2020 the average increased to 6 deaths; in 2021, average deaths increased to 13; in 2022, they increased to 22 deaths; and in 2023, there were 42 deaths per month on average. In 2023, the number of fentanyl overdose deaths peaked in June (58) and then appeared to decline.

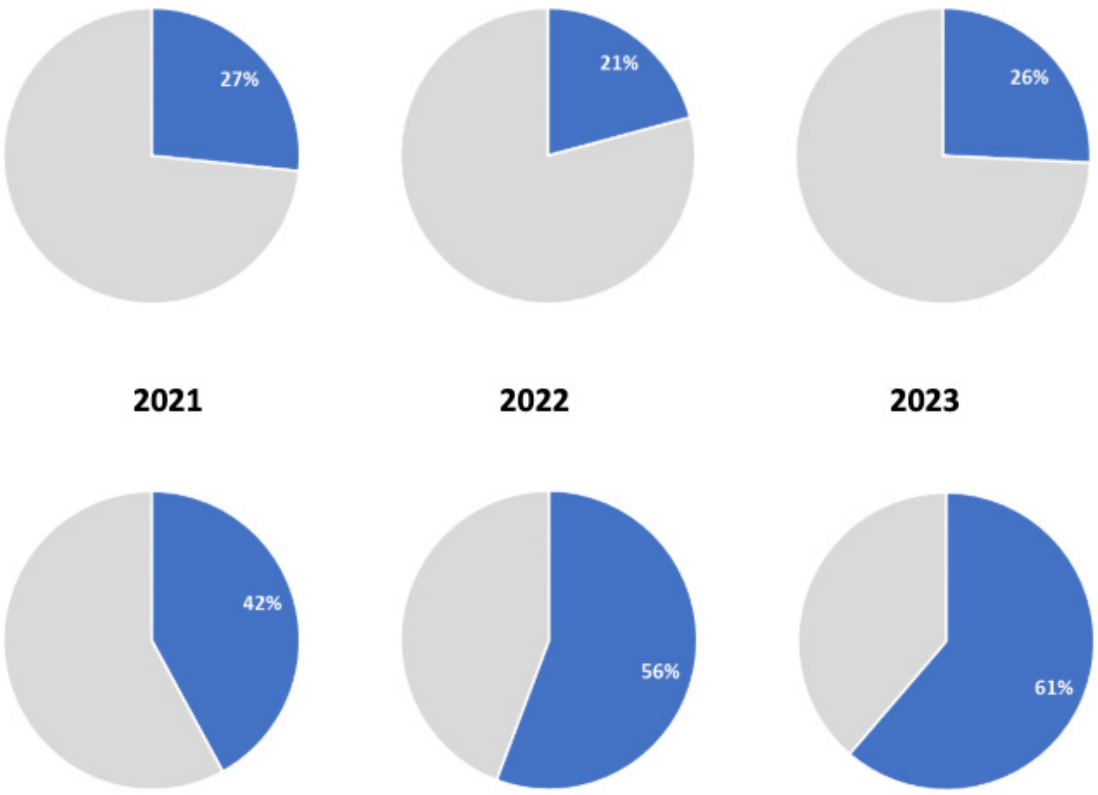
Figure 3. Fentanyl overdose deaths, Multnomah County by month with average per month, 2018-2023



Co-occurring Fentanyl and Methamphetamine Overdoses

Deaths that involved both fentanyl and another substance, primarily methamphetamine (a psychostimulant), increased over time (Figure 4). In 2018, 8 of 30 deaths (27%) had both fentanyl and psychostimulants (polysubstance use), but this increased to 306 of 499 (61%) in 2023.

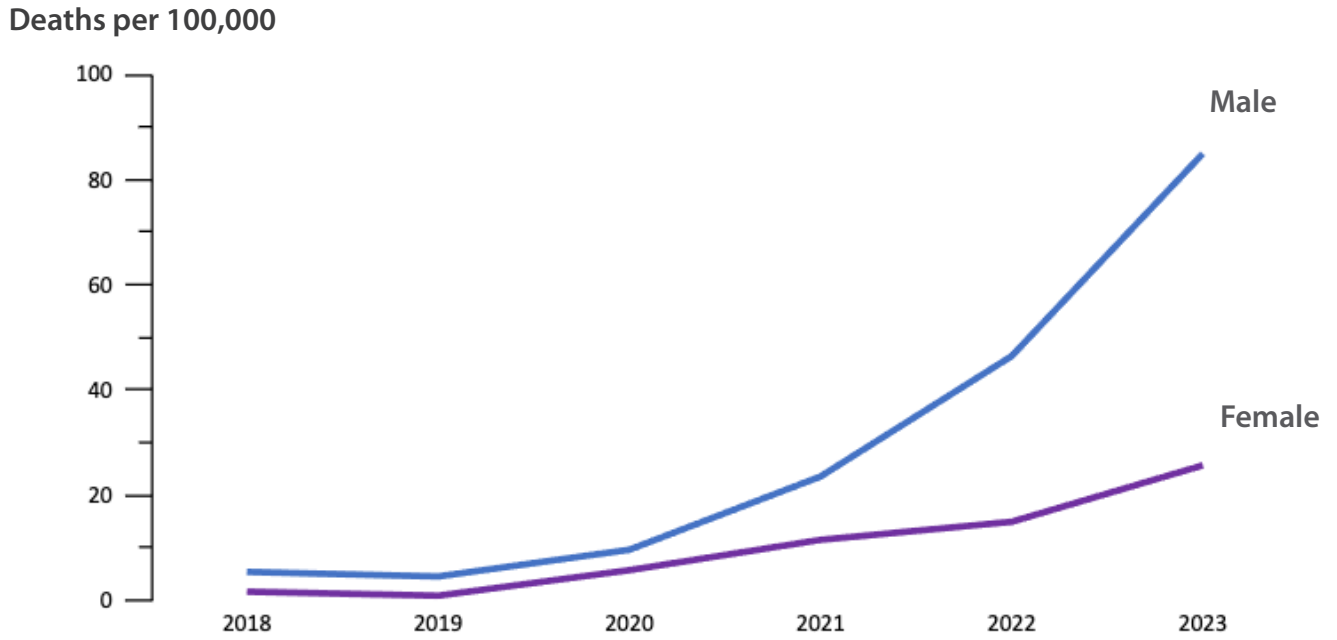
Figure 4. Proportion of fentanyl overdose deaths with co-occurring psychostimulant (primarily methamphetamine) by year, 2018-2023



Fentanyl Overdose Deaths by Sex

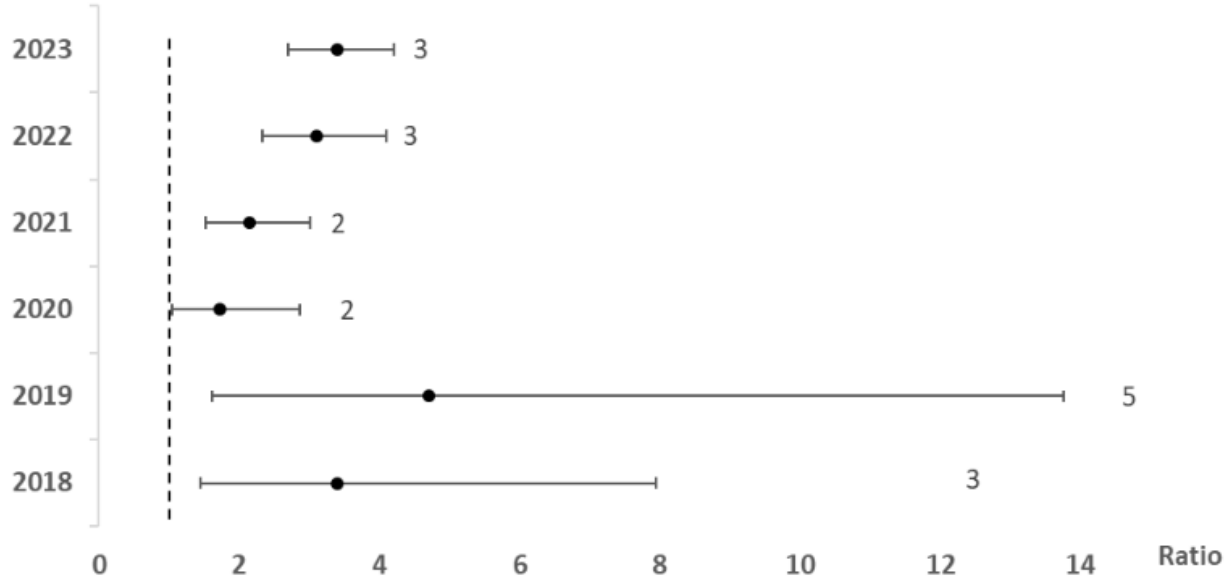
The fentanyl overdose death rate among males was higher than females in all years. The rate in males was as low as 5 per 100,000 in 2019 to 85 per 100,000 in 2023, while in females the rate was as low as 1 per 100,000 in 2019 to 26 per 100,000 in 2023 (Figure 5a). To examine the magnitude of difference between males and females, we can look at the ratio of the male rate to the female rate (Figure 5b). Small numbers of deaths in 2018 and 2019 mean that there are large error bars (confidence intervals) for the rate ratio; however, starting in 2020, the ratio between males and females increased, with a value of 3 in 2023 (meaning the rate in males was nearly three and a half times greater than the rate in females). Since none of the confidence interval ranges include 1 (the dotted horizontal line), which would mean equal rates, the rate in males is significantly higher than females for all years.

Figure 5a. Age-adjusted rate per 100,000 of fentanyl overdose deaths by sex* and year, 2018-2023**



* The rate among females in 2019 is based on 4 observations; rates based on less than 5 total observations may be unreliable and should be interpreted with caution.
** Age-adjusted to the US 2000 standard population

Figure 5b. Age-adjusted rate ratio [95% confidence intervals] of fentanyl overdose deaths between males and females* by year, 2018-2023**



Fentanyl Overdose Deaths by Age

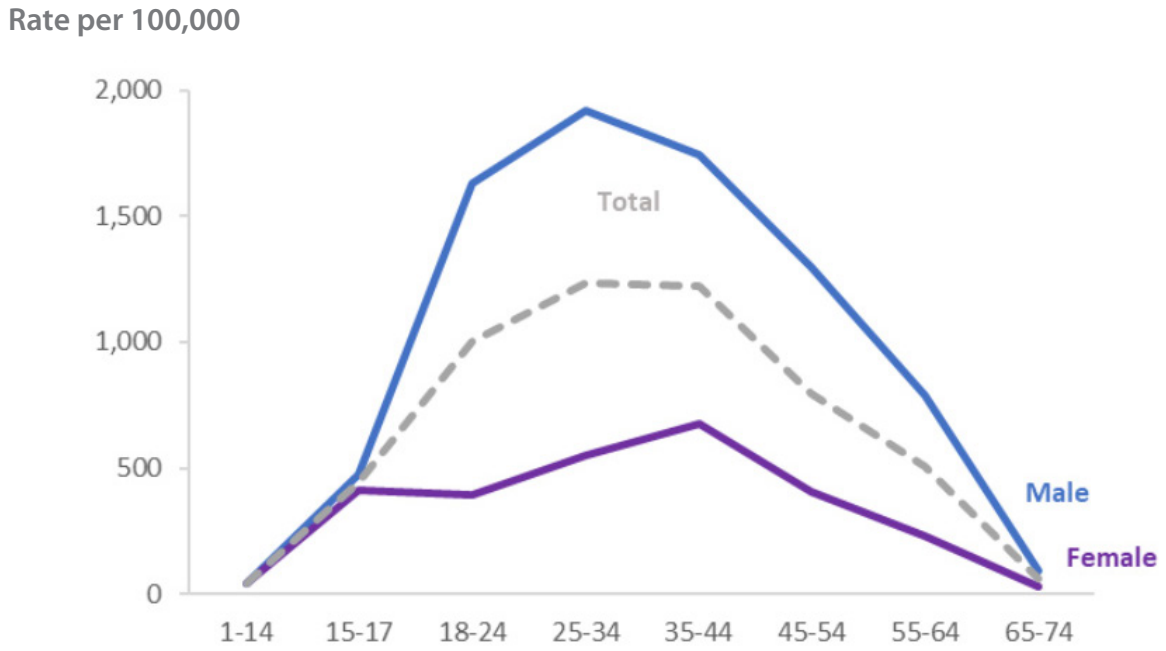
There are varying trends over time when examining fentanyl overdose mortality rate by age (Figure 6). In 2021 and 2022, the highest rate occurred among persons 35 to 44 years, but in 2023 this finding shifted to 55-65 year olds. Note that all six mini charts in Figure 6 have the same scale to show the large increase in the rate of fentanyl overdose mortality over time.

Figure 6. Rates of fentanyl overdose deaths by age group and year, 2018-2023

Years of Potential Life Lost Due to Fentanyl Overdose

Figure 7 displays the years of potential life lost rate per 100,000 population for males and females averaged across 2018 and 2013. This index shows at what ages the peak in years of life lost due to fentanyl occurs adjusting for the population size in that age group. The rate reflects the loss both from an individual's premature death at that age and from the number of people who died at that age. For males, there is the biggest loss in years of life for ages 25-34, with smaller peaks at 35-44 years as well as 18-24 years. For females, the peak occurs in the 35-44 years category.

Figure 7. Years of potential life lost from fentanyl overdose, per 100,000 population, by sex, 2018-2023



Fentanyl Overdose by Race and Ethnicity

Figure 8 displays the number and age-adjusted death rates by single and two or more non-Hispanic races and Hispanic ethnicity for fentanyl overdose deaths in 2023. The length of the colored bars indicates a higher value, either in total number of deaths (blue) or the rate (red). The overall total number of fentanyl overdose deaths among all races was 499. The overall highest burden of overdose deaths occurred among the White non-Hispanic group (n=319), followed by Hispanic (n=56) and Black non-Hispanic (n=53). The overall rate among all races was 56 per 100,000. By race, the highest rate was among American Indian/Alaska Native non-Hispanic decedents, with an age-adjusted rate of 345 per 100,000, followed by Black non-Hispanic, with a rate of 105 per 100,000.

Figure 8. Number of deaths and age-adjusted rate of fentanyl overdose deaths, by race and ethnicity (single and two or more non-Hispanic races and Hispanic ethnicity), 2023

Race	Number of deaths	Age-adjusted rate per 100,000
Total	499	56
White	319	51
Hispanic	56	51
Black/African American	53	105
Two or more races	26	84
American Indian / Alaska Native	22	345
Asian	8	11
Native Hawaiian / Pacific Islander	<5	Suppressed

Figure 9 presents the change in fentanyl-involved death rates between 2022 and 2023 within racial/ethnic categories, while Table 2 shows the percent change between 2022 and 2023 based on the number of deaths. The rate of deaths among all races increased from 31 per 100,000 in 2022 to 56 per 100,000 in 2023 (86% increase). By race and ethnicity, the biggest change between 2022 and 2023 was in two or more races category (from 29 per 100,000 to 84 per 100,000; 160% increase), followed by Hispanic (from 21 per 100,000 to 51 per 100,000; 124% increase) and American Indian/Alaska Native (AI/AN; from 162 per 100,000 to 345 per 100,000; 100% increase). Due to small numbers of deaths, calculation of rates in 2022 and 2023 were not possible for the Native Hawaiian and Pacific Islander (NHOPI) classification.

Figure 9. Age-adjusted rate of fentanyl overdose by race and ethnicity (single and two or more non-Hispanic races and Hispanic ethnicity), 2022-2023

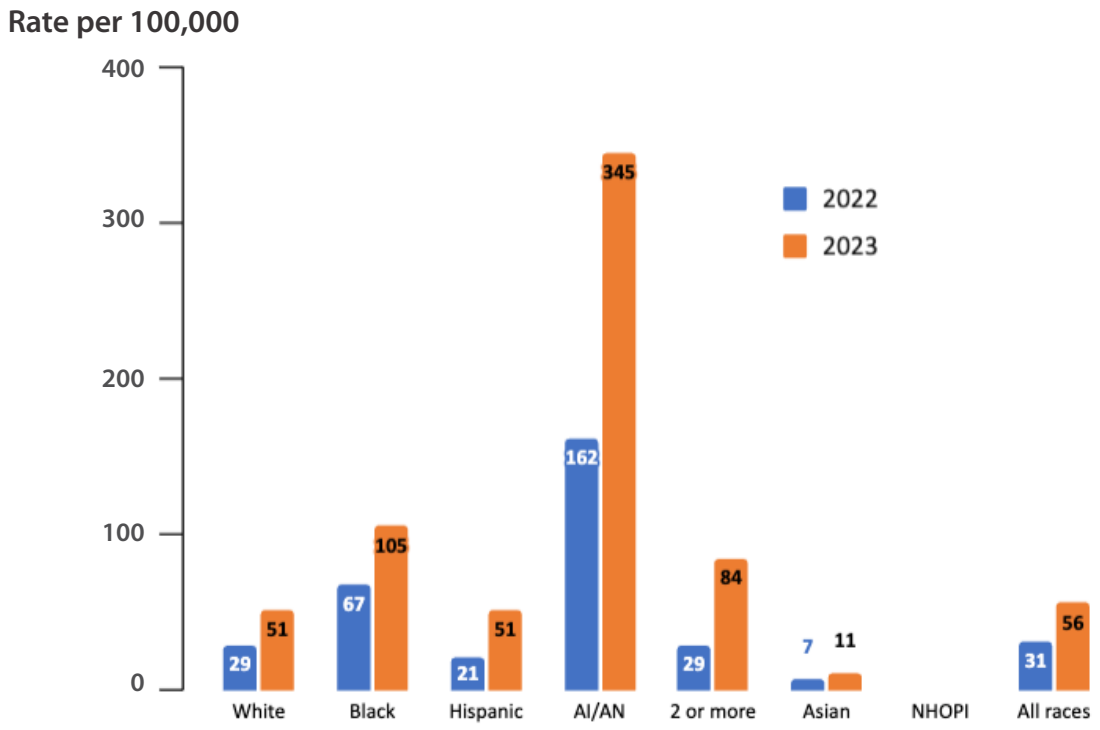


Table 2. Percent change by total number of fentanyl overdose deaths by race and ethnicity (single and-or more non-Hispanic races and Hispanic ethnicity), 2022 to 2023

	2022	2023	% change
White	173	319	84%
Black/African American	31	53	71%
Hispanic	25	56	124%
American Indian / Alaska Native	11	22	100%
Two or more	10	26	160%
Asian	5	8	60%
Native Hawaiian / Pacific Islander	<5	<5	n/a
All races	269	499	86%

DISCUSSION

This report describes the characteristics of 1,045 people who died between 2018 and 2023 due to fentanyl-related overdose in Multnomah County. We show a dramatic rise in fentanyl-related overdose deaths over time. In 2018, the fentanyl-related overdose death rate in Multnomah County was lower than the fentanyl-related overdose death rate across the United States. Although Multnomah County did not have the highest fentanyl-related death rate among U.S. counties at any point, deaths in the county surpassed the national average in 2022 and in 2023 Multnomah County's rate was nearly triple the U.S. rate. Multnomah County's monthly rate of fentanyl overdose deaths in 2023 peaked in June and appeared to be decreasing. In the United States, there has been a downward trend in drug overdose deaths, with the biggest decline seen between October 2023 to September 2024.[14] Likely there are multiple factors leading to this decline in overdose deaths, such as widespread distribution of naloxone; increased access to treatment for substance use disorders; and shifts in the supply chain of illegal drugs. However, there is still a lot we do not know about reasons for this decline, and caution is warranted in interpretation.[15]

In Multnomah County, the majority of fentanyl overdose deaths in 2023 were among Whites (77% of deaths), males (75% of deaths), and people aged 25 to 44 years (50% of deaths). When accounting for population sizes, the rate of overdose was much higher for American Indian/Alaska Native and Black/African American communities compared to other communities. Some communities saw sharp increases in total numbers of deaths between 2022 and 2023, such as individuals who identify with 2 or more races (160% increase) and people of Hispanic ethnicity (124% increase). Approaches to overcome systemic barriers to prevention and treatment, as well as tailored substance use treatment and prevention interventions, may help address the needs of these unique groups. [16, 17]

A critical lesson learned from the racial inequities in outcomes during the COVID-19 pandemic is the need to ensure that supplies reach groups that are at highest risk. In this instance, for example, this would include listening to and working closely with Tribal Nations, the Urban Native, Black/African American, and Latinx communities, and culturally specific community based organizations to widen the availability of access points for treatment and to develop culturally specific prevention programs.

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[14] CDC Reports Nearly 24% Decline in U.S. Drug Overdose Deaths

[15] Projected Decline in Drug Overdose Deaths: 5 Questions with Stephen Patrick, MD

[16] Mixed Methods Evaluation of Satisfaction with Two Culturally Tailored Substance use Prevention Programs for American Indian/Alaska Native Emerging Adults

[17] Racial/ethnic differences in receipt of naloxone distributed by opioid overdose prevention programs in New York City

Co-use of fentanyl with other drugs, especially methamphetamine, was very common in 2023 (polysubstance use). Co-use of fentanyl with methamphetamine can triple the odds of an overdose compared to use of methamphetamine alone.[18] This so-called "fourth wave" of the overdose crisis is driven by fentanyl and illicitly manufactured opioids, but with the key involvement of stimulants (mainly methamphetamine and cocaine). A recent study found that the proportion of stimulant involvement in fentanyl overdose deaths rose in virtually every state between 2015 and 2021.[19] The combination of a stimulant with a depressant 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.[20] Additional research is important to identify those most at risk for a combined stimulant and opioid overdose.

The factors that lead to fatal overdose are numerous and complex. Effectively responding to the rise in deaths requires a multifaceted approach that considers causes that are upstream from the overdose itself. Culturally specific social supports can decrease drug use initiation and mitigate the harms of isolation exacerbated by the COVID-19 pandemic. Interventions that can support people living with substance use disorder include those that promote housing stability and access to behavioral health care, and facilitate addiction treatment through peer-navigation. Finally, increasing naloxone availability, fentanyl test strips for people who are not intentionally using fentanyl, and supporting ways to help people avoid using drugs alone, can decrease the likelihood that an overdose causes death.

This analysis is subject to limitations. First, this analysis only includes people who died of fentanyl overdose. Although it may provide insights on people who use fentanyl or experience non-fatal overdose, there may be differences that we are not able to analyze here. Second, the International Classification of Diseases, 10th Revision (ICD-10) codes do not allow us to distinguish between prescribed fentanyl and illicitly manufactured fentanyl, so it is not possible to understand the source of fentanyl that caused the overdose. Third, we excluded intentional overdoses from the analysis because of the possibility of differing underlying characteristics among people who died as a result of suicide. Because of the small numbers of people who died from intentional overdose, we are not able to compare them to people who died of unintentional overdose. Finally, 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.

Between 2018 and 2023, more than 1,000 people in Multnomah County died from a fentanyl-related overdose. Coordinated, multi-agency action is needed to slow and reverse this trend by connecting with our community to prevent substance use initiation, support addiction treatment, provide support in recovery and protect people at high risk of fatal overdose.

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[18] Association of Methamphetamine and Opioid Use With Nonfatal Overdose in Rural Communities - PMC (nih.gov)
[19] Charting the fourth wave: Geographic, temporal, race/ethnicity and demographic trends in polysubstance 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
[20] 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)

APPENDIX: DETAILED METHODS

Sex

There are five designations for decedent sex on death certificates in Oregon: "female," "male," "undetermined" (used in cases where the "sex cannot be determined due to a medical condition"), "unknown" (used if sex "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")[21]. 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.

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.[22]

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. However, race is a social construct and is an inadequate way to measure the differences between humans. The Centers for Disease Control and Prevention describe that 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." Furthermore, the use of race to identify AI/AN people does not acknowledge the political status of and federal obligations to sovereign Tribal Nations. However, using a common coding scheme used for race and ethnicity is necessary to compare data across jurisdictions to identify inequities. One coding scheme is called "single and two or more non-Hispanic races". 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 calculation to compare across categories, we used this categorization for the best alignment with denominator data, which were 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 2018-2023.

This coding, however, does not align with the best practice as listed by the Urban Indian Health Institute, where it is recommended that AI/AN alone or in combination with another race (of any ethnicity) should be counted in the AI/AN category. 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 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. Using this method, 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. To provide population size context, we used race (alone or in combination) population proportions from 2017-2021 American Community Survey 5-year estimates. Some death certificates are missing racial and ethnic data and those remain categorized as unknown.

[23] Classification of Race and Ethnicity: Implications for Public Health
[24] Best Practices for American Indian and Alaska Native Data Collection
[25] Advocating for Data Aggregation by Race and Ethnicity