2022

Opioids and the Ongoing Drug Overdose Crisis in Oregon

This report summarizes the burden of opioid overdose among Oregonians as required by ORS 432.141. It describes progress in reducing opioid overdoses and related deaths in Oregon.

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PUBLIC HEALTH DIVISION
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Contents

Executive summary

In 2022, substance use disorder and overdoses are recognized as health threats of increasing urgency throughout the United States, including Oregon. Opioids and stimulants are the main types of substances associated with fatal and non-fatal overdoses in Oregon. Opioids include prescription painkillers and drugs used illicitly, such as heroin. Fentanyl is a synthetic opioid and may be obtained through prescription or illicitly. Stimulants include amphetamine and methamphetamine, both of which can be obtained illicitly or through prescription.

The types of substances that most commonly cause overdose in Oregon, as well as the origin of the drugs involved (prescription vs. illicit) have changed significantly in recent years. While the state has made notable progress over the last decade in reducing misuse and overdoses related to prescription opioids, more recently there have been significant increases in overdoses from illicitly manufactured fentanyl (IMF) and from non-opioid drugs such as methamphetamine, which overlap with opioid use. In 2021, more than half of overdose deaths involved more than one drug and/or alcohol.

OHA draws upon information from multiple sources to monitor overdoses in Oregon including vital records, the State Unintentional Drug Overdose Reporting System (SUDORS), overdose-related hospitalization and emergency department discharge data, Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), and the Prescription Drug Monitoring Program (PDMP). SUDORS and ESSENCE data are in continuous use to identify trends in opioid and other drug related overdoses across the state. OHA is now able to report overdose-related information on emergency medical service encounters from the Oregon Emergency Medical Services Information System (OR-EMSIS), as well as cost data for overdose-related emergency department visits and hospitalizations. Data from these sources are included in this 2022 report.

Oregon data through 2021 indicate that:

- Prescription opioid overdoses and prescription opioid-related deaths decreased in 2019 and 2020 but increased again in 2021
- Overdoses involving multiple drugs (polysubstance overdoses) increased during 2021, and now account for more than half of all fatal overdoses
- Overdoses from synthetic opioids (e.g., fentanyl) and methamphetamine are increasing, as are the numbers and rates of deaths from overdoses related to these drugs

- In 2021, those at highest risk for unintentional drug overdose death included non-Hispanic American Indians and Alaska Natives, non-Hispanic Blacks, and males. Those at lowest risk were people of Hispanic ethnicity and non-Hispanic Asians and Pacific Islanders. When interpreting demographic data, it is important to remember that many of these populations have been disproportionately affected by systemic racism, social-economic-political injustices, and bias. These inequities can worsen health outcomes and increase the risk of experiencing a drug overdose.
- Hospitalizations related to opioid overdose declined from 2018 to 2020 but increased in 2021.
- In 2021, charges for drug overdose-related hospitalizations were about $170 million and overdose-related emergency room charges were about $50 million.
- Emergency medical services (EMS) personnel administered naloxone, a drug that rapidly reverses an opioid overdose, during 5,556 encounters in 2021, up from 3,758 in 2019. In most of these cases the patient was transferred to a medical care facility for treatment.
- People with substance use disorder had almost 73,000 emergency department visits and more than 17,000 hospitalizations related to issues other than overdose in 2021. These health care interactions represent opportunities to connect patients to treatment, prescribe naloxone and provide other supports to reduce their risk for experiencing future overdoses.

Data from the Oregon Prescription Drug Monitoring Program (PDMP) indicate that:

- PDMP system use is increasing among healthcare providers using automatically generated reports integrated into patient medical records
- Risky prescribing practices involving opioids have continued to decrease since 2018.

The Oregon Health Authority coordinates a broad array of programs and partners with organizations across the state to reduce the burden of substance use disorder and overdose-related harms across a continuum from prevention to harm reduction, treatment, and recovery support.

Introduction

Data from a variety of sources are important for understanding the current overdose crisis. OHA uses data from emergency medical services encounters, emergency department (ED) chief complaint(s), diagnosis(es) and accompanying triage notes, emergency department discharges, hospital discharges, and death certificates to support enhanced understanding of overdoses throughout the medical care continuum. OHA and some local public health authorities track ED chief complaint (a patient's main reason for their visit) information to identify possible increases in overdoses in close to real time, and this information can support timelier responses to the ever-evolving overdose crisis. Other information that takes longer to receive and process, such as data from hospital and ED discharges and unintentional overdose deaths, provides more detail about overdose events and can inform statewide and population-specific prevention and response strategies.

Overdose deaths

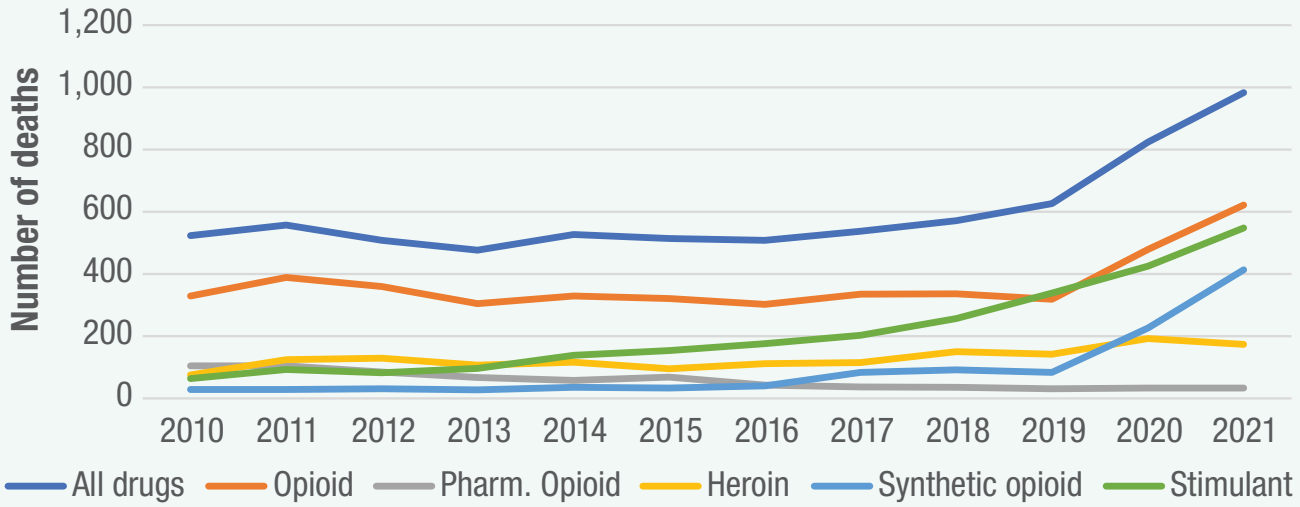
A fatal overdose is one of many potential outcomes for people affected by the current overdose crisis in Oregon. The Oregon Health Authority (OHA) Center for Health Statistics is the repository for death certificate data in Oregon, which includes information on all overdose-related deaths, including suicide, homicide, unintentional overdoses, and overdoses of undetermined intent. The 2021 death certificate data presented in this report will be finalized in late 2022 and should be considered provisional and subject to change. The provisional data goes through a cleaning process to ensure the data are as accurate as possible before being finalized.

Deaths from all types of overdoses, regardless of intent, have increased more than 76% from 2011 to 2021. However, as overdose deaths increased, pharmacological drug[1] related overdose deaths have decreased since 2010. This is in part due to a decline in the prescription of higher-risk opioids, like methadone and other long-acting prescription opioids for pain management, as well as the implementation of prescribing guidelines for safer dispensing of many short-acting opioids. Increased access to Medication for Opioid Use Disorder (MOUD) medications, such as buprenorphine, may also play a role in some areas of the state.

Illicitly manufactured varieties of the stimulant methamphetamine and potent, illicitly manufactured varieties of the synthetic opioid fentanyl (IMF), have largely driven increasing numbers of overdoses since 2019. Deaths related to fentanyl and other synthetic opioids increased 83% from 2020 to 2021. While current toxicology information about fentanyl-related overdose deaths cannot identify whether an overdose was caused by prescribed fentanyl or IMF, anecdotal information from law enforcement and people who use drugs indicates that IMF is a contributor in many of these deaths.

[1] This category includes methadone, natural opioids, and opium. Does not include synthetic opioids, which can be illicitly manufactured not for medical care. This definition differs from that used by SUDORS; see endnotes for additional information.

Figure 1: Drug overdose deaths, Oregon 2010–2021



Note: Opioid includes deaths classified as pharmaceutical, heroin, and synthetic opioid. See endnotes for additional information on overdose death classifications based on the ICD-10 system.

Source: Oregon Vital Records (Deaths) – Center for Health Statistics – OHA

Stimulant-related overdose deaths have substantially contributed to the overdose epidemic in Oregon. They have increased more than 400% in the last decade, from 93 deaths in 2011 to 548 deaths in 2021. Although cocaine-related deaths have increased over time, the most notable increase within the stimulant class has been in amphetamine-related drug overdose deaths.

The State Unintentional Drug Overdose Reporting System (SUDORS), started in July 2019, provides additional information on unintentional drug overdose-related deaths, including the indication that most deaths reported as synthetic opioids may be attributable to fentanyl. OHA, in collaboration with the Oregon State Police Medical Examiner Division, will continue to use this valuable resource to revise previous fentanyl death counts, which are likely to have been undercounted in the past. The fentanyl-related overdose death data described in this report reflect this change.

Unintentional and undetermined drug overdose deaths

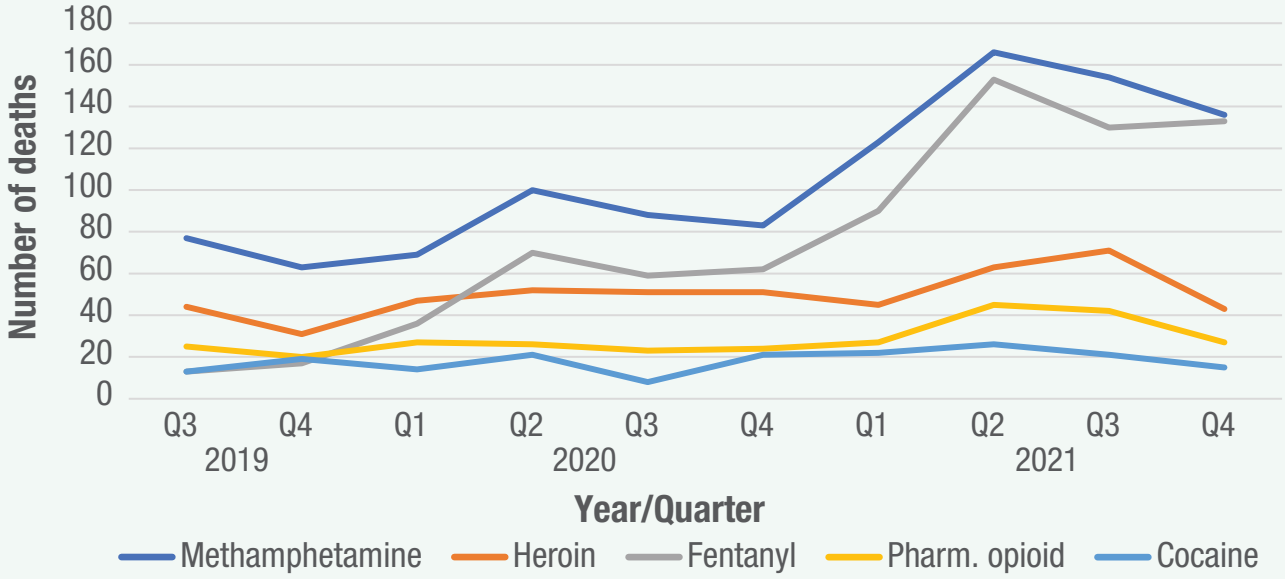
Supported by the U.S. Centers for Disease Control and Prevention (CDC),[2] SUDORS collects information on all unintentional and undetermined drug overdose deaths from a variety of data sources, including death certificates, medical examiner reports, and toxicology reports. It provides detailed contextual information about overdose deaths that can inform prevention and treatment interventions. SUDORS interprets toxicology information to identify specific substances within broader reporting categories of drugs; examples include methamphetamine

[2] Overdose Data to Action. For more information visit https://www.cdc.gov/drugoverdose/od2a/index.html

within the stimulant category and fentanyl or fentanyl analogs[3] within the synthetic opioid category. Finalized data from SUDORS are now available for July 2019 through December 2020. Data from 2021 are not yet finalized and subject to change. However, the provisional 2021 data presented here are a useful contribution to our understanding of recent trends in unintentional and undetermined drug overdose deaths.

As shown in Figure 2 below, the number of unintentional and undetermined overdose deaths increased in the first quarter (January through March) of 2021 compared to 2019 and 2020. There was a notable increase in fentanyl- and methamphetamine-related deaths in the second quarter (April through June) of 2020. In early 2021, fentanyl- and methamphetamine-related overdose deaths increased again, which may have been related to the increased adulteration of fentanyl into the illicit drug supply. The Oregon-Idaho High Intensity Drug Trafficking Area (HIDTA) program has declared fentanyl and methamphetamine as the most serious drug threats in the Oregon-Idaho region.[4] Cocaine-related unintentional and undetermined death counts have stayed relatively consistent since the middle of 2019, the timeframe with available SUDORS data.

Figure 2: Unintentional and undetermined overdose deaths by drug involved and quarter, Oregon, July 2019–December 2021



Note: When two or more drugs are attributed to a death, the death count is duplicated under different drugs. Pharmacological opioid definitions differ between SUDORS and death certificate data and should not be directly compared. See endnotes for additional information.

Source: SUDORS (2021 data are provisional and subject to change)

[3] Fentanyl analogs are synthetic opioids that are alterations of the medical drug fentanyl.

[4] Oregon-Idaho HIDTA 2023 Drug Threat Assessment: https://static1.squarespace.com/static/579bd717c534a564c72ea7bf/t/62acea7b18bb1f1d6c6d8eb7/1655499393650/OR+ID+HIDTA+2023+TA_FINAL.pdf

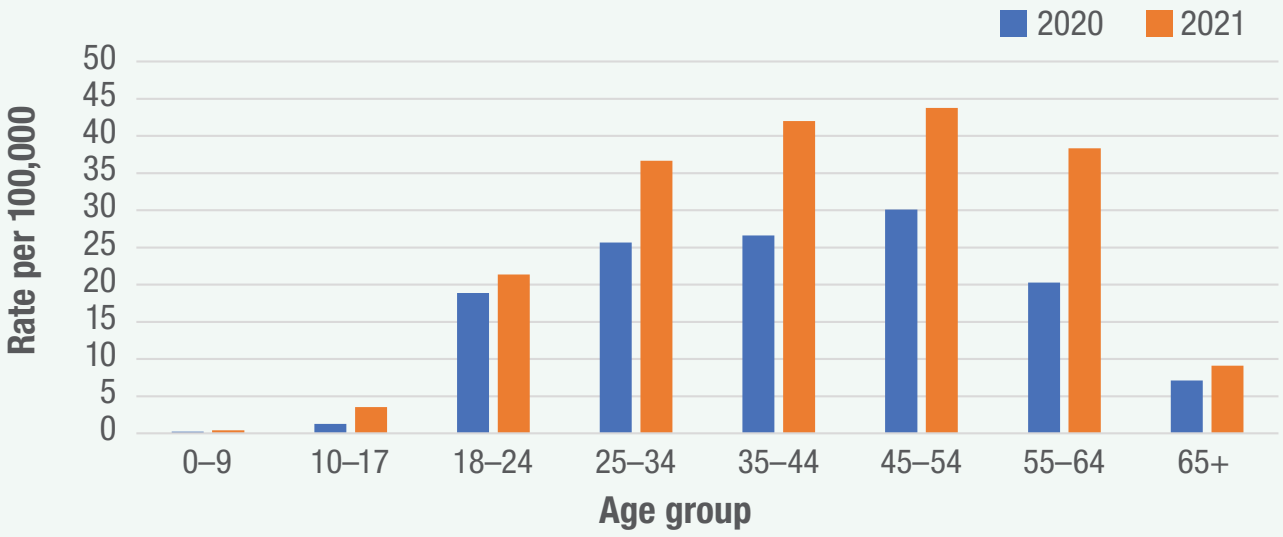
Provisional SUDORS data for 2021 indicate that:

- More than half (54.6%) of Oregon's unintentional or undetermined intent overdose deaths in 2021 involved more than one substance. Of all polysubstance deaths occurring during that time, 89% involved an opioid, 61% involved fentanyl, and 62% involved an amphetamine. In comparison, alcohol or cocaine were involved in less than 20% of all polysubstance deaths.
- Amphetamine was involved in 56% of overdose deaths and fentanyl or fentanyl analogs were involved in 48% of overdose deaths.
- Amphetamine and fentanyl or fentanyl analogs, used alone or in combination with other drugs, accounted for 84% of all unintentional and undetermined intent overdose deaths in 2021.

Unintentional and undetermined overdose death demographics

Compared to 2020, the unintentional and undetermined intent overdose-related non-age-adjusted[5] death rate (number of deaths per 100,000 population) increased in 2021 for all age groups. The age groups with the largest growth were: 55–64 (89%), 35–44 (58%), 45–54 (45%), and 25–34 (43%). Although there was an increase in the 0–9 and 10–17 age groups, these rates are considered unreliable because the counts are less than 20 in those categories.

Figure 3: Unintentional and undetermined overdose death rates per 100,000 by age and year, Oregon, 2020–2021



Source: SUDORS (2021 data are provisional and subject to change)

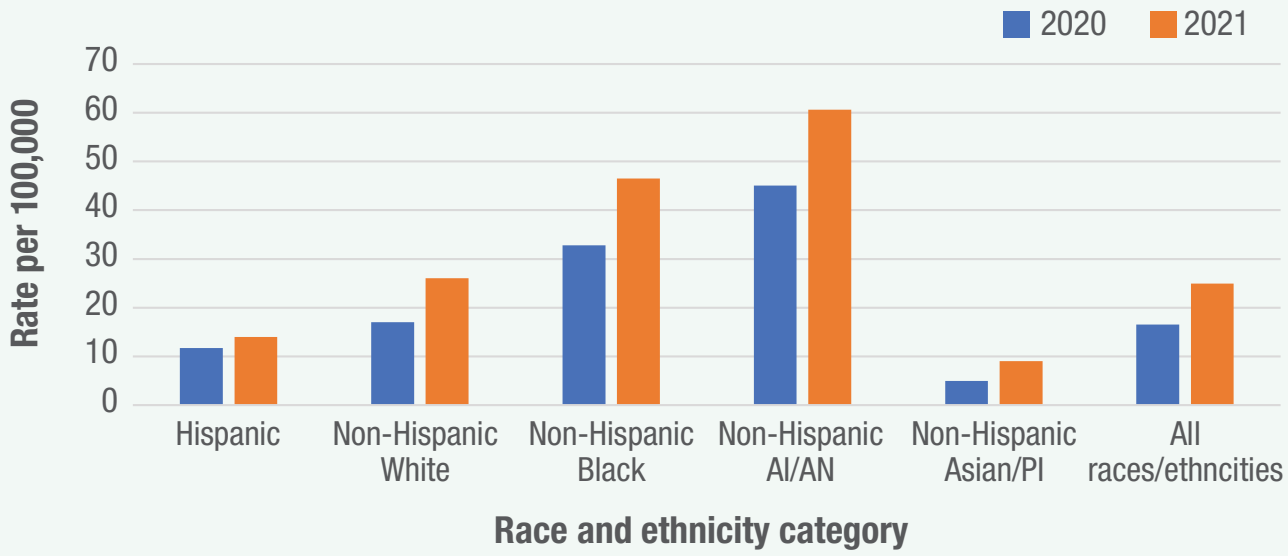
[5] See endnotes for additional information.

As shown in Figure 4 below, provisional SUDORS data for 2021 indicate that the racial and ethnic groups at highest risk for unintentional and undetermined intent drug overdose are non-Hispanic American Indians and Alaska Natives and non-Hispanic Blacks. Oregonians at lowest risk included those with Hispanic ethnicity and non-Hispanic Asians and Pacific Islanders. Unintentional and undetermined overdose death rates for all racial and ethnic categories in this data source (Hispanic, non-Hispanic American Indian and Alaskan Native, non-Hispanic Asian and Pacific Islander, non-Hispanic Black or African American, and non-Hispanic White) increased between 2020 and 2021. The largest increase during that period was among the non-Hispanic Asian and Pacific Islander populations, but these rates are unreliable because there were fewer than 20 deaths per year. The next largest increase was among the non-Hispanic White population (53%).

When interpreting demographic data, it is important to remember that many of these populations have been disproportionately affected by systemic racism, social-economic-political injustices, and bias. These inequities can worsen health outcomes and increase the risk of experiencing a drug overdose.

It is important to note that race and ethnicity data were reported as "other" or "unknown" on death certificates for approximately 2% of all fatal unintentional and undetermined overdose deaths. Other and unknown race and ethnicity deaths were not included in the rate calculations noted below.

Figure 4: Unintentional overdose death rates by rates per 100,000, ethnicity and year, Oregon 2020–2021



Note: Multiple race/ethnicity categories may be recorded for a single death. A single race/ethnicity category was calculated based on the following criteria: If any Hispanic ethnicity was recorded, then the individual was categorized as Hispanic. Then the non-Hispanic race category is assigned based on the following order: Asian or Pacific Islander, American Indian or Alaskan Native, Black, White, and other. Multi-race individuals are counted in the first category in the order mentioned above. Other or unknown race or ethnicity are not included in the rate calculations.

In 2021, males were more likely than females to die of an unintentional or undetermined overdose. Among both males and females, those aged 45–54 had the highest non-age-adjusted rate of death from unintentional or undetermined drug overdose. Transgender people are included in the death data reported by sex based on their gender identity as noted on their death certificate. While overdose deaths among transgender people are not reported as a distinct category per agency guidelines that protect privacy and confidentiality, transgender populations have also been disproportionately affected by biases and inequities that have influenced their risk for experiencing overdoses.

Other risk factors for unintentional or undetermined overdose death in 2021 included non-alcohol related substance use issues (96.1% of deaths), diagnosed mental illness (32.7%), and alcohol use issues (17.8%). However, only 5.8% of Oregonians who died from an unintentional or undetermined drug overdose in 2021 were receiving current treatment for substance use disorder, while 4.6% had received treatment in the past. Lack of stable housing also emerged as a risk factor; 15.4% of unintentional and undetermined overdose fatalities in 2021 occurred among people who were unhoused.

In 2021, nearly nine out of ten (89%) unintentional and undetermined fatal overdose incidents in Oregon occurred in urban counties:[6] Multnomah (361), Lane (130), Marion (90), Jackson (72), Washington (65), Clackamas (56), and Josephine (25). While most overdose events in Oregon occurred in urban counties, rural counties were also heavily affected by the overdose crisis.

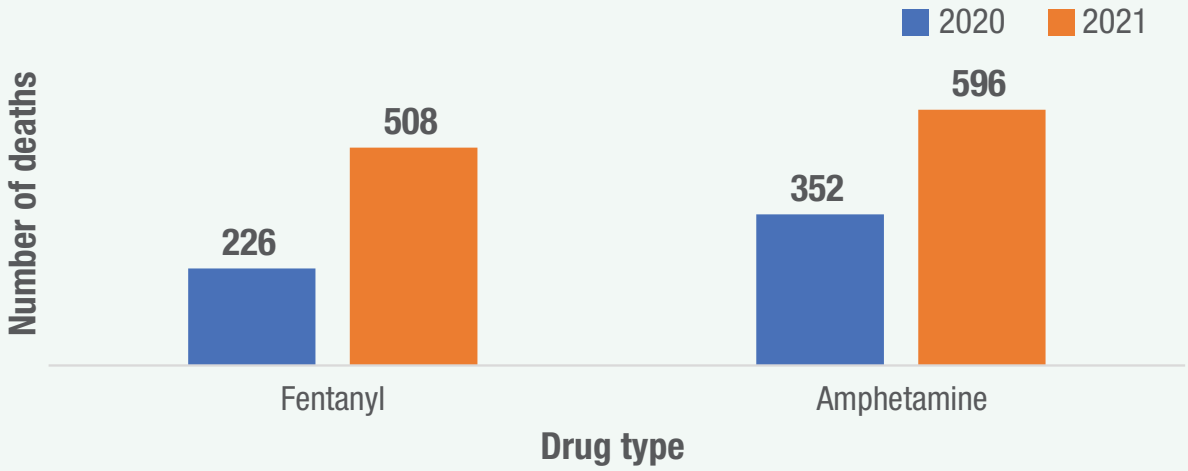
Fentanyl- and amphetamine-related unintentional and undetermined overdose deaths

In 2021, fentanyl and methamphetamine were the drugs most involved in unintentional and undetermined overdose deaths in Oregon. This includes all deaths from both pharmaceutical fentanyl and IMF because toxicology tests cannot differentiate between prescribed and illicitly manufactured fentanyl. As shown in Figure 5, from 2020 to 2021 there was a 125% increase in fentanyl-related overdose deaths and a 69% increase in amphetamine-related deaths.[7]

[6] Urban is defined a metropolitan/micropolitan statistical area using 2013 US Census Bureau information. The Oregon Office of Rural Health has additional information here: https://www.ohsu.edu/media/866.

[7] Additional information can be found in the Oregon State Medical Examiner annual report. At the time of writing, the Medical Examiner reports are not listed on their website but are publicly available upon request.

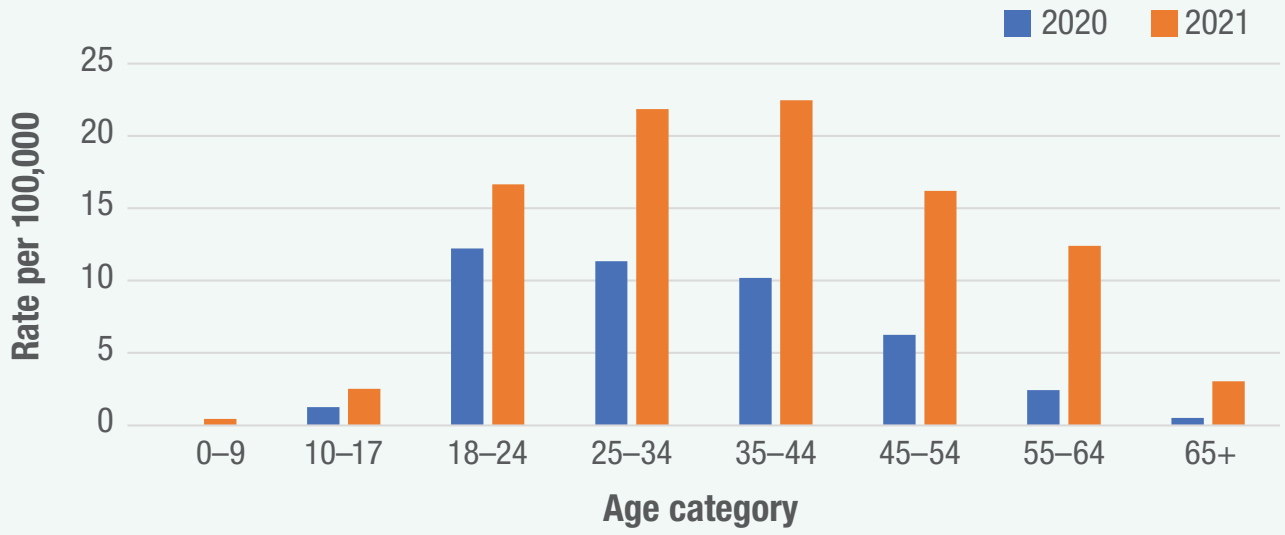
Figure 5: Fentanyl- and amphetamine-related unintentional and undetermined drug overdose deaths, Oregon 2020–2021



Source: SUDORS (2021 data are provisional and subject to change)

Fentanyl-related deaths increased at the fastest rate among drug-related deaths, and this increase was seen across all age groups. As shown in Figure 6, the 35–44-year-old population has the largest death rate, but the largest rate increase was in the 45–54-year-old population. The 65+ and 55–64 populations had substantial increases between 2020 and 2021, but the rates are considered unreliable as the counts are less than 20.

Figure 6: Fentanyl-related unintentional and undetermined overdose death rates per 100,000 by age group and year, Oregon 2020–2021

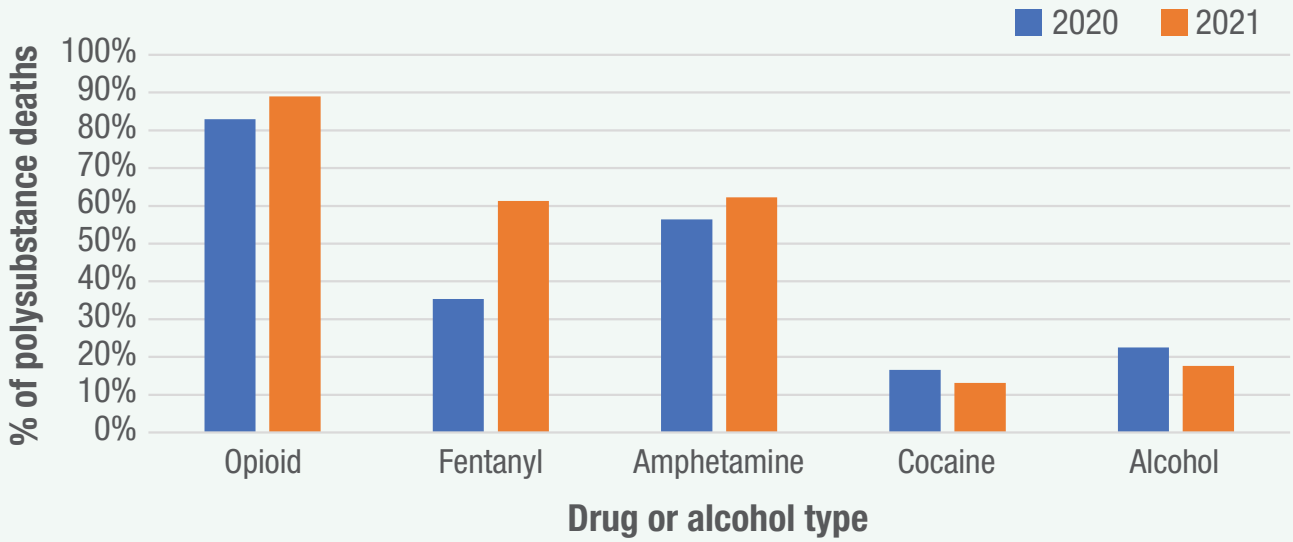


Source: SUDORS (2021 data are provisional and subject to change)

Polysubstance unintentional and undetermined overdose deaths

A polysubstance overdose death is defined as involving more than one substance, which may include alcohol, kratom or pharmacological drugs identified in the toxicology analysis. These substances may be illicitly or legally obtained, and the combination of multiple drugs may cause unintended interactions. In 2020, half of all unintentional and undetermined overdose deaths were polysubstance deaths. In 2021, more than half (54%) of all unintended and undetermined overdose deaths involved more than one substance: 578 deaths in 2021 compared to 351 deaths in 2020. Ninety percent of polysubstance overdose deaths in 2021 involved an opioid of any kind, and 61% involved fentanyl (compared to 16% in 2019 and 35% in 2020). In 2019, 15 fatal overdose deaths included both opioids and alcohol; in 2021 this number climbed to 79, an increase of 427%.

Figure 7: Drug class involvement in polysubstance deaths by year, Oregon 2020–2021



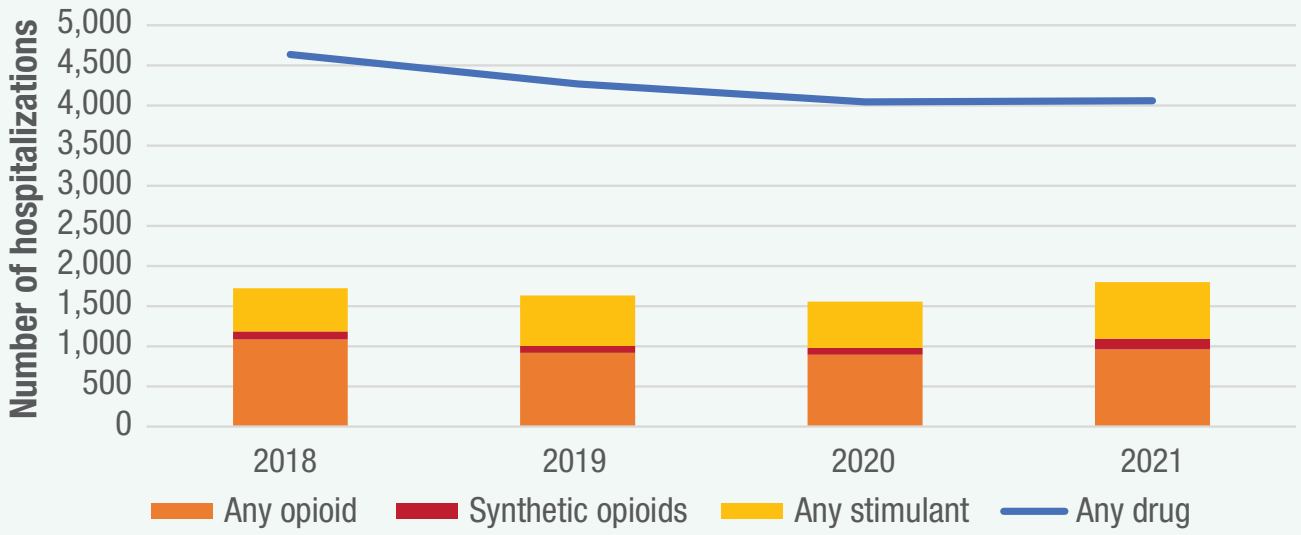
Source: SUDORS (2021 data are provisional and subject to change)

Drug overdose hospitalizations

Many individuals receive medical care following an overdose, which may involve a hospitalization. In 2021, 4,057 hospitalizations involved a drug overdose of any kind. Opioids were the most common drug involved in hospitalized overdoses. Hospitalizations for opioid overdose declined from 2018 to 2020 and slightly increased in 2021, the most recent full year of data available. Heroin-related overdose hospitalizations decreased between 2018 (243) and 2021 (180). Consistent with overdose death trends, synthetic opioid-related overdose hospitalizations involving fentanyl and fentanyl analogs increased 34% from 2018 (100) to 2021 (134). Stimulant-related overdose hospitalizations, including those involving methamphetamine and cocaine, increased 30% during the same period.

Compared with 2019, hospitalizations for any cause decreased in 2020, and again in 2021, a trend likely related to the COVID-19 pandemic. However, overdose-related hospitalizations in 2021 increased while the overall number of hospitalizations decreased. Figure 8 shows the number of hospitalizations associated with opioid overdose as compared with hospitalizations for overdoses involving other drug classes. There were many overdose-related hospitalizations; many medications, such as cough medicine or acetaminophen, can cause an overdose that may require medical attention.

Figure 8: Drug overdose-related hospitalizations by year, Oregon 2018–2021



Source: Oregon Hospital Discharge Database, 2018–2021

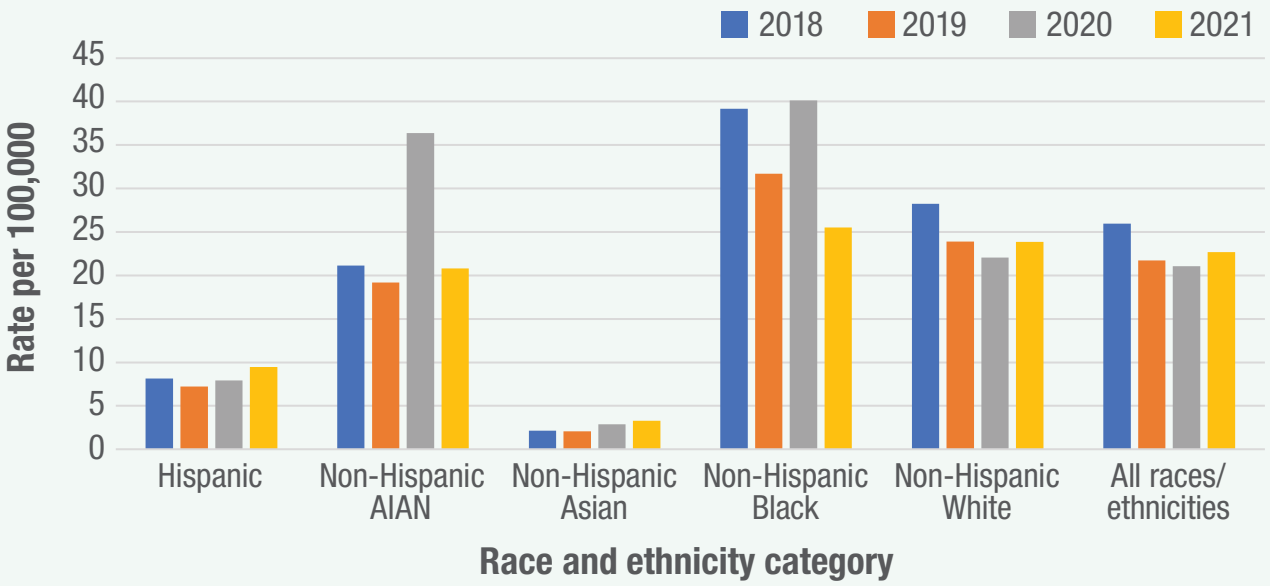
In 2021, drug overdose-related hospitalizations resulted in about $170 million in reported charges. Almost half (47%) of this amount was charged to Medicaid, 31% to Medicare, and 15% to commercial insurance. While interpreting these data, it is important to remember that people eligible for Medicaid may be disproportionately affected by stigma and economic hardship, which can in turn harm their health. A total of $47 million was spent on opioid-related overdose hospitalizations in 2021, with Medicaid charges accounting for almost half (47%) that amount. This was an increase from approximately $37 million total charges annually in 2018–2020. Total stimulant-related overdose hospitalization charges increased 105% from 2018 ($19 million) to 2021 ($39 million).

Overdose hospitalization demographics

Non-Hispanic Black and non-Hispanic American Indian and Alaskan Native (AI/AN) populations had higher non-age-adjusted rates of overdose hospitalizations than the statewide rate from 2018 to 2021. These populations have been disproportionately affected by historical and contemporary systemic racism, socio-economic-political injustices, and biases. These generational traumas and inequities can worsen health outcomes, including increasing the risk of a drug overdose. Hispanic and non-Hispanic Asian and Pacific Islander populations had the lowest non-age adjusted rates of drug overdose-related hospitalizations.

In 2021, females were more commonly hospitalized for overdoses involving any drug, with a non-age-adjusted rate of 106 per 100,000 compared to the male non-age adjusted rate of 84.9. Males (21.6 per 100,000 population) were more commonly admitted for stimulant-involved overdoses than females (11.6 per 100,000 population). Males and females had similar rates of opioid-related overdose hospitalizations, 22.5 and 22.8 per 100,000 population respectively.

Figure 9: Drug overdose-related hospitalization rates per 100,000 by race, ethnicity, and year, Oregon 2018–2021



Note: Only one racial category and one ethnicity category are reported in the Oregon Hospital Discharge Database. Therefore, if an individual was reported with a Hispanic ethnicity, they are included in the Hispanic category. People of non-Hispanic ethnicity are represented in the various race categories.

Source: Oregon Hospital Discharge Database, 2018–2021

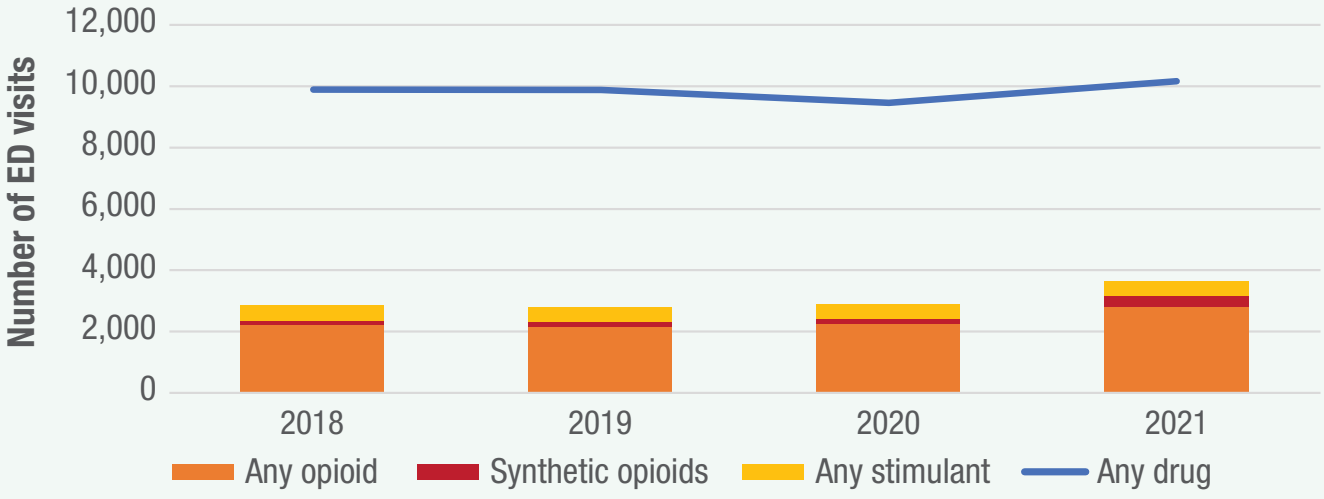
Drug overdose-related emergency department and urgent care visits

Non-fatal drug overdoses do not always require a hospital stay, and some cases receive care in emergency departments (EDs) or urgent care centers. Data from these two types of facilities are combined in this report. ED administrative discharge data is a useful source of information about non-fatal drug overdoses. Like the hospitalization discharge data described above, data from this source require time for processing but are of good quality for reporting trends over time. This source also contains detailed information about visits, including diagnosis and procedure codes.

In 2021, a total of 10,162 ED visits involved a drug-related overdose. Opioids were the most common drug type involved, accounting for 2,794 total visits that year. The yearly number of ED visits for opioid-related overdoses remained steady throughout 2018–2020 and increased 24% in 2021 when compared to the previous year. Heroin-related ED visits decreased from 2018 to 2021. Synthetic opioid-related ED visits, including fentanyl, increased 160% from 2018 to 2021. Stimulant overdose-related ED visits remained consistent during the same time.

All ED visits, including those related to drug overdoses, decreased in 2020, a trend which may have been influenced by decreases in health care utilization and access due to the COVID-19 pandemic. Figure 10 shows the number of ED visits associated with any overdose compared with some specific drug classes. The overall overdose-related ED visit count is significantly higher, as many medications can cause an overdose that may require medical attention.

Figure 10: Drug-related overdose ED visits by involved drug and year, Oregon 2018–2021



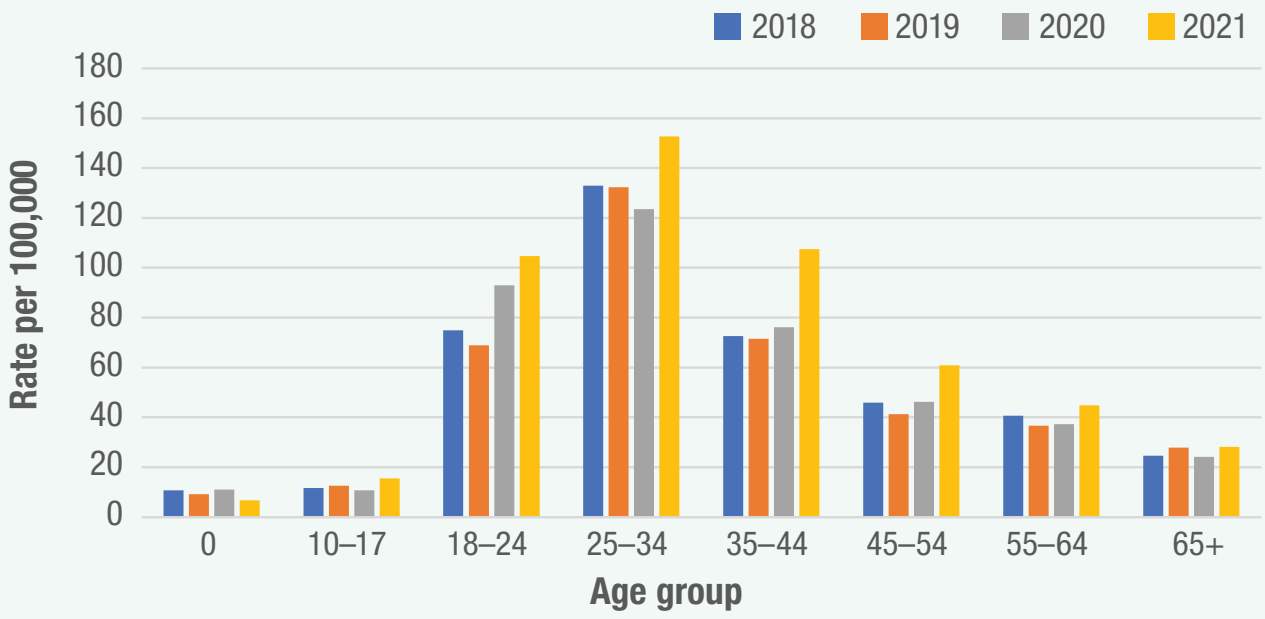
Source: Oregon Emergency Department Discharge Database, 2018–2021

Overdose-related expenses for ED and urgent care visits are significant and have increased in recent years. In 2021, reported charges on drug-related overdose visits to EDs totaled more than $50 million. Half (52%) was charged to Medicaid, 15% to Medicare, and 22% to commercial insurance. Approximately $9 million was charged on opioid-related overdose ED visits each year from 2018 to 2020, an amount that increased to $12 million in 2021, with more than half (57%) charged to Medicaid. Total stimulant-related overdose hospitalizations charges increased 37% from $2.1 million in 2018 to $2.9 million in 2021. As noted previously, the population who uses Medicaid is often disproportionately affected by systemic stigma and economic hardship, both of which can worsen health equity.

Emergency department discharge data demographics

Figure 11 shows the breakdown of opioid-related ED visits by age group of the patient. During 2018–2021, the young adult age group (25–34) had the highest non-age adjusted rate and experienced a 24% increase from 2020 to 2021. The rate of opioid-related ED visits between 2020–2021 increased in every age group except among children up to 9 years old. From 2020–2021, the 35–44 age group had the largest growth (a 41% increase) in opioid overdose-related ED visits. Males had more opioid and stimulant overdose-related ED visits than females in all four years analyzed.

Figure 11: Opioid overdose-related ED visit rates by age group and year per 100,000, Oregon 2018–2021



Source: Oregon Emergency Department Discharge Database, 2018–2021

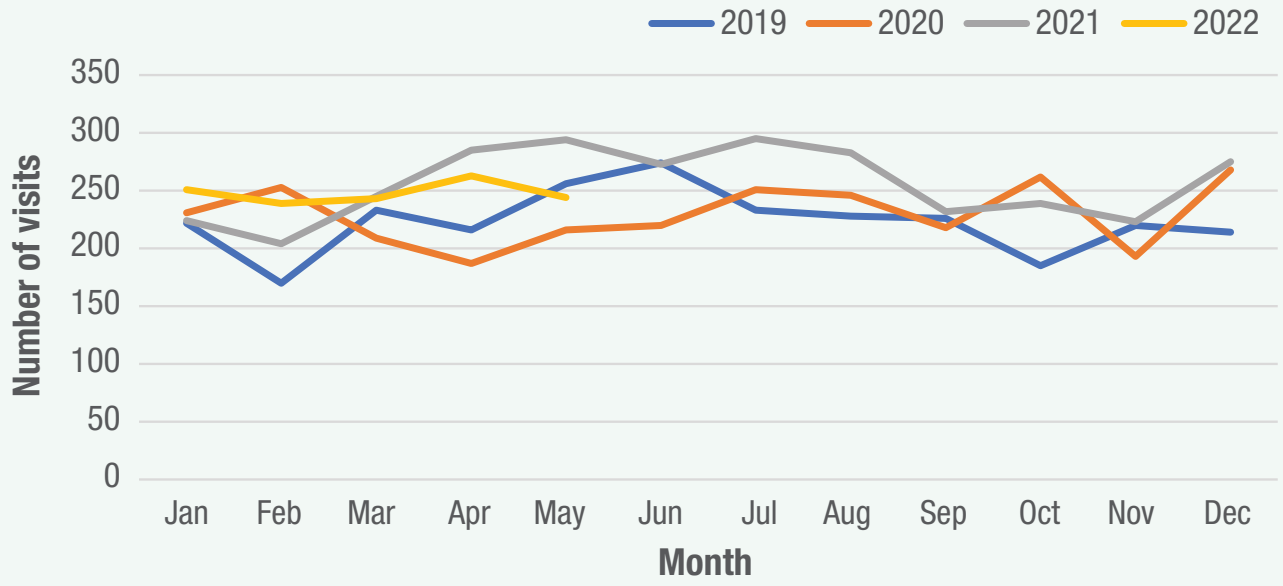
Racial and ethnic demographic trends are similar for overdose hospitalizations and ED visits that did not involve hospitalization. The ED visit rates were higher because fewer overdoses required hospitalization, but the general patterns hold for these two datasets.

Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

Another available data source for non-fatal drug overdoses is the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), a state-based data system that collects information about visits to non-federal Oregon emergency departments and urgent care centers that currently share their data with the Oregon Health Authority (OHA). Funding from the U.S. Centers for Disease Control and Prevention (CDC) has enabled OHA to access and report data from ESSENCE to identify trends in emergency department and urgent care center visits related to opioid overdoses.

ESSENCE data offers an advantage for identifying notable increases (spikes) in opioid overdoses, as it is reported daily. Although data completeness and quality differ by facility, ESSENCE is a powerful information source for near real-time information, allowing communities to respond quickly to potential clusters of overdoses. A monthly Opioid Overdose Data report, which contains ESSENCE data, is available by subscription.[9] A new interactive visualization of ESSENCE data related to overdoses will be available in fall 2022.

Figure 12: Opioid overdose visits to EDs and urgent care centers, Oregon Jan 2019–May 2022



Source: Oregon ESSENCE data, 2019–2022

[9] Opioid Overdose Data Reports based on information from ESSENCE are updated monthly at https://www.oregon.gov/oha/ph/preventionwellness/substanceuse/opioids/pages/index.aspx.

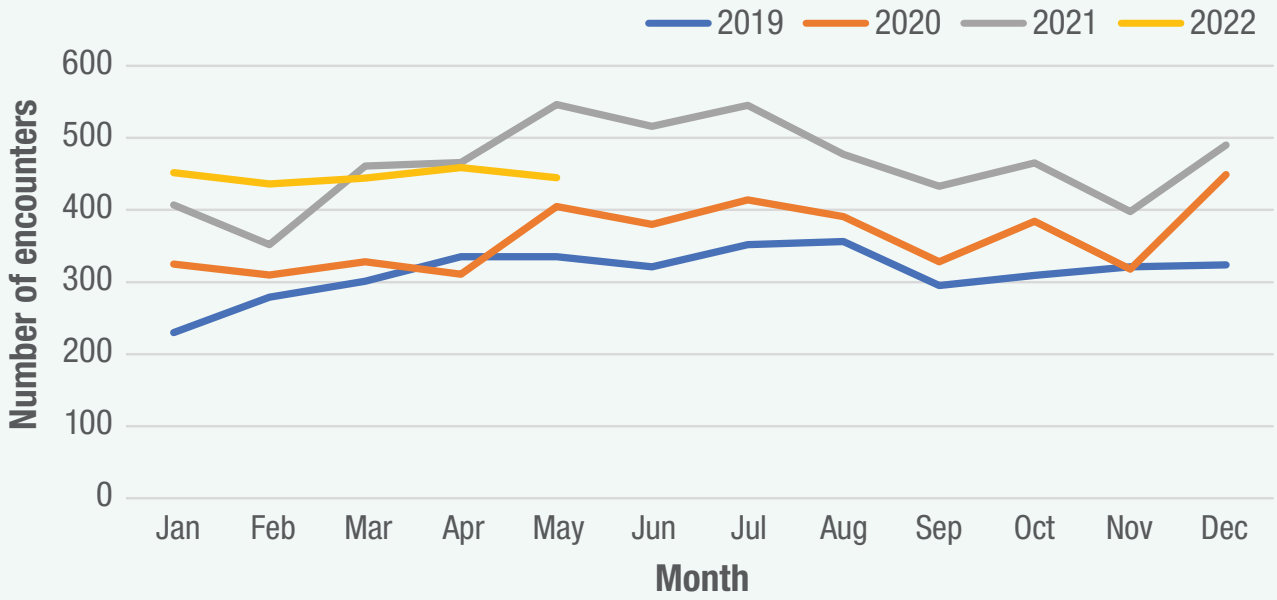
The total number of opioid-related overdose visits to EDs and urgent care centers in the first quarter (January to March) of 2022, the most recent available data, was similar to that of the first quarter of 2021. ED and urgent care visits regarding opioid overdoses decreased between March and April 2020, which reflected the marked decrease in ambulatory care utilization that occurred nationwide during the early months of the COVID-19 pandemic.

Drug overdose-related emergency medical services data

Emergency medical services (EMS) are often a first point of contact for patient-to-health-care interactions for an overdose event. The Oregon Emergency Medical Services Information System (OR-EMSIS) collects information on pre-hospital emergency medical services and reports patient care data to a central repository; reporting completeness and data quality can vary by transport agency. EMS personnel administered naloxone, a drug that rapidly reverses an opioid overdose, more frequently in 2021 than 2019, with 3,758 encounters in 2019 and 5,556 encounters in 2021 (a 48% increase). Partial data are available for 2022, and those counts are similar to those for 2021. More than 70% of the encounters where naloxone was administered ended with the patient being treated by the responding EMS unit and transferred to an ED.

Many overdose events are treated by bystanders who administer naloxone and do not result in a 911 call or EMS response. These events are not included in the available data. Although Oregon's Good Samaritan law protects the caller and the person who has overdosed against drug possession and paraphernalia charges, many people who use drugs avoid calling 911 or accessing health care due to stigma or fear of arrest. Therefore, OR-EMSIS data underestimate the amount of naloxone used in the community. People who use drugs as well as bystanders are encouraged to carry this potentially lifesaving drug and many overdoses are reversed without involvement of EMS.

Figure 13: EMS encounters with naloxone distributed, Oregon Jan 2019–May 2022



Source: Oregon Emergency Medical Services Information System, 2019–2022

Non-overdose events in emergency department and hospitalization discharge data

Individuals who received medical care in a hospital or emergency department and have a diagnosis of substance use disorder or intoxication, but not an overdose, were not included in the previous analyses. However, information in hospital and emergency department discharge datasets can help identify populations at increased risk of experiencing an overdose. These individuals could be provided education and other supports to help reduce their risk of an overdose in the future. This could be part of a full-system approach incorporating health care and community-based organizations, as well as state and federal programs.

In 2021, 45,499 hospitalizations included a substance use disorder diagnosis code with no indication of an overdose reported. In the same year, 3,555 hospitalizations included an intoxication-related diagnosis code and no overdose diagnosis code. From 2018 to 2019, substance use disorder-related diagnoses codes were reported for about 12% of non-overdose hospitalizations each year; this increased to 13.7% in 2020 and 2021. Diagnoses of opioid-related substance use disorder with no associated opioid overdose hospitalizations have slightly decreased over time, from 11,971 in 2018 to 11,018 in 2021. This trend could indicate increasing medical complications related to substance use disorder and intoxication, COVID-19-related hospital admission within the time frame or other diagnoses or risk factors as well as a need for stronger supports for people with substance use disorder to help them avoid future overdoses.

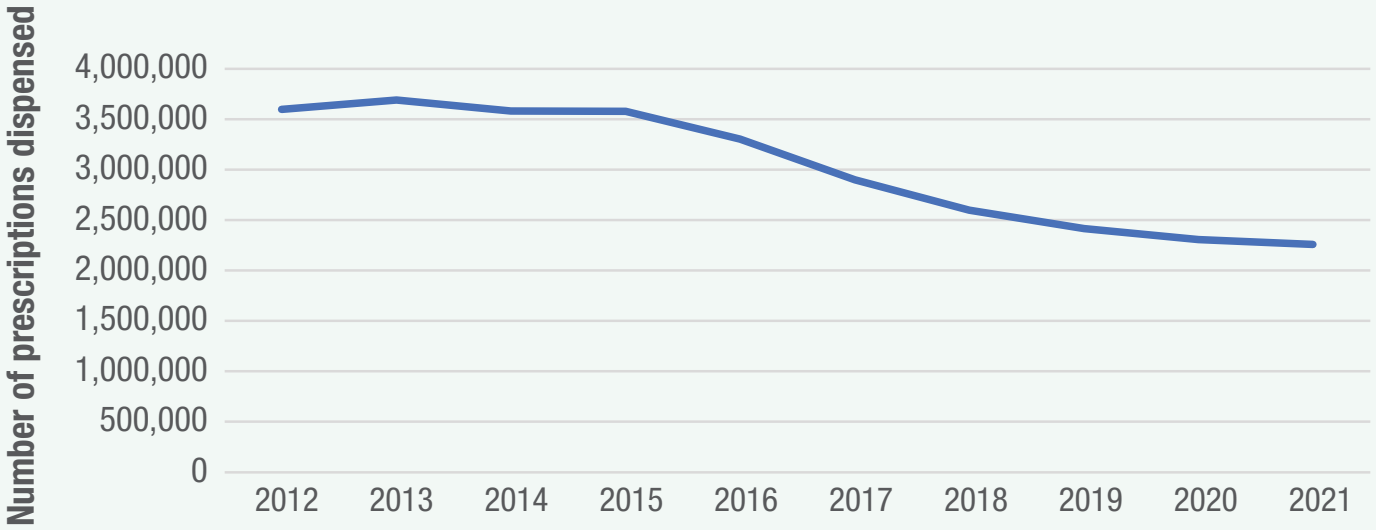
In 2021, 72,945 ED visits included a diagnosis code related to substance use disorders with no associated overdose code and 17,408 visits that included an intoxication-related diagnosis code with no associated overdose code. These data indicate that many people with substance use disorders and people who use drugs and alcohol are visiting emergency departments and urgent care centers for a variety of medical issues other than overdose. The costs associated with these visits are significant; total reported charges for ED visits in 2021 with a substance use disorder or intoxication diagnosis code and no associated overdose reported in the discharge database was $375 million.

Substance use disorder and intoxication-related diagnosis codes noted in ED visits decreased from 2018 to 2021. About 2% of ED visits in 2020 included an indication of intoxication with no reported overdose, compared to 1.4% in 2021. In 2020, 6.3% of ED visits included a diagnosis code related to substance use disorder and no reported overdose, compared to 5.9% in 2021. There was an increase in the proportion of ED visits related to substance use disorder since 2019, which may reflect changing patterns of interactions with the health care system due to the COVID-19 pandemic.

Data from the oregon prescription drug monitoring program

In 2009, the Oregon Legislature passed Senate Bill 355 mandating the Oregon Health Authority to develop the Prescription Drug Monitoring Program (PDMP). The PDMP is a tool that Oregon healthcare providers can use when prescribing Schedule II through IV controlled substances and additional Oregon-specific listed substances such as pseudoephedrine and gabapentin. The PDMP displays patient data on controlled prescription medications dispensed by retail pharmacies. Providers can use PDMP data to prescribe controlled substances more safely and effectively. While there has been an overall decrease in prescription opioid fatal overdoses since implementation of the PDMP, there is still much work to be done to educate prescribers about safer prescribing practices.

Figure 14: Opioid prescriptions dispensed by year, Oregon 2012–2021



Source: Oregon Prescription Drug Monitoring Program (PDMP), 2012–2021

The PDMP remains an important resource for Oregon due to high rates of substance misuse in the state. The Substance Abuse and Mental Health Services Administration (SAMHSA) conducted the National Survey on Drug Use and Health in 2018 and 2019. SAMHSA reported that Oregon ranked in the top quintile (20%) for substance use for people 12 years and older, including pain reliever misuse in the past year.[10] Prescription opioids dispensing from retail pharmacies has decreased from a high of 3.6 million prescriptions in 2013 to a low of 2.2 million in 2021, the most recent year of available data.

As part of Senate Bill 3440, the Prescribing Practice Review Subcommittee[11] of the Prescription Drug Monitoring Program Advisory Commission was created to provide input on safe prescribing practices. Since 2018, this PDMP subcommittee has notified prescribers engaged in potentially risky prescribing practices and provided them information about the most current prescribing guidelines. Based on these guidelines, the subcommittee created measures to identify prescribers who could benefit from additional education on safer prescribing practices using agreed-upon standards:

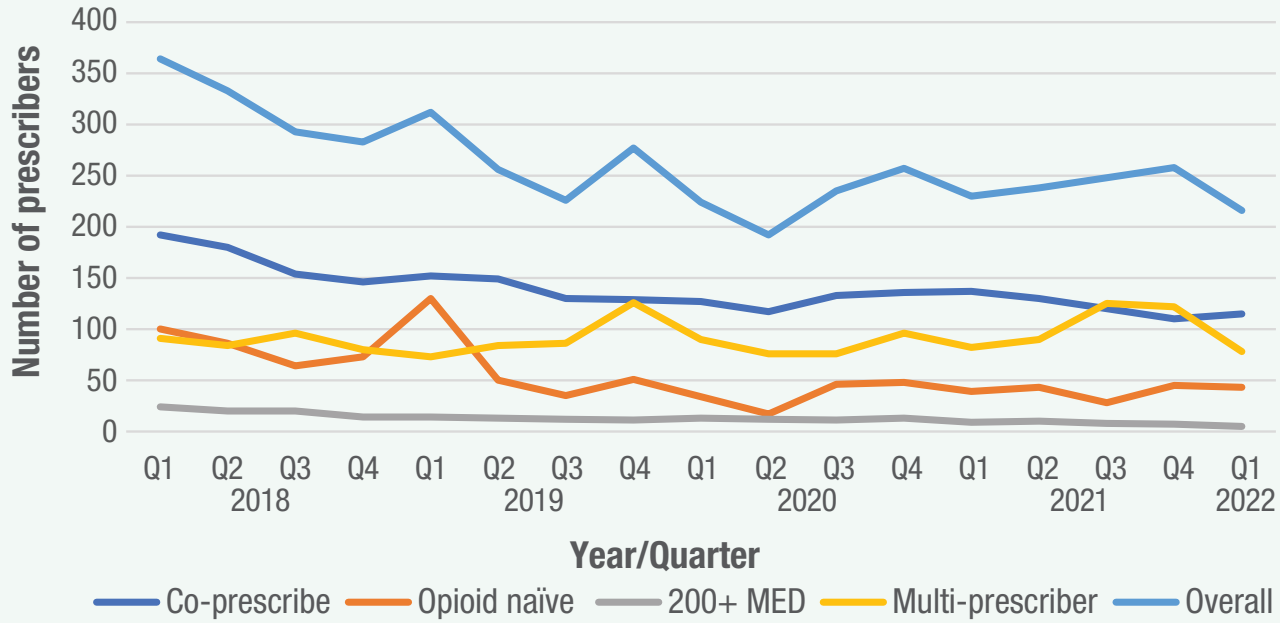
- **Co-prescribing:** prescribing opioids and benzodiazepines to the same patient within the same month (these types of medications can combine to cause serious side effects, including overdose)
- **Opioid naïve:** prescribing more than a seven-day supply of opioids to patients who have not been prescribed opioids before (opioid-naïve patients)
- **MED 200+:** prescribing high dosages of opioids (daily morphine equivalent dose 200 or more), for more than 20 patients within the quarter
- **Multiple prescribers:** prescribing opioids to patients receiving opioids from four or more prescribers and four or more pharmacies in a six-month period

As shown in Figure 15, the number of prescribers notified by quarter decreased 41% from 2018 Q1 (January – March) to the same period in 2022. This indicates that the PDMP has been successful in identifying and educating prescribers engaged in potentially risky prescribing practices.

[10] 2018–2019 National survey on drug use and health national maps of prevalence estimates, by state. https://www.samhsa.gov/data/sites/default/files/reports/rpt32803/2019NSDUHsaeMaps/2019NSDUHsaeMaps/2019NSDUHsaeMaps.pdf

[11] Risky prescribing criteria are set by the PDMP Advisory Commission Prescribing Practice Review Subcommittee as established by ORS 431A.896. Current prescribing guidelines recommend a daily Morphine Equivalent Dose at or below 90 as the standard of care. The 200+ MME category shown in Figure 15 indicates the prescribing practice that carries the highest level of risk to patient safety.

Figure 15: Risky prescribing notifications, Oregon Q1 2018–Q1 2022



Source: Oregon Prescription Drug Monitoring Program (PDMP), 2018–2022

PDMP utilization

Healthcare providers, pharmacists, and their appropriate delegates have the ability and responsibility to check the drug dispensation history of patients to whom they are prescribing a scheduled drug. Dispensing history can be viewed through the PDMP web portal or through a display within the patient's electronic medical record. While a searcher must enter patient information when using the web portal, information integrated within a patient medical record is automated. To view PDMP information in the patient's medical record, a provider must click into an embedded report. Since many health systems have integrated PDMP data into patient medical records, web portal queries have been on the decline.

Despite the increased ease of querying the PDMP within the patient's electronic medical record, healthcare providers do not always fully utilize this tool. Of the 6 million automated queries generated by the PDMP between January and March 2022, only about 17% resulted in a healthcare provider actively clicking to view a patient's dispensation history integrated in their health record. Compared to the previous quarter's data, the proportion of health care providers that review the embedded report in the patient's medical records has increased.

Discussion

Current challenges

Substance misuse[12] is widespread in Oregon. In a 2018–2019 national survey,[13] Oregon was in the top 20% of states for a variety of substance misuse categories, including overall illicit drug use in the past month among individuals aged 12 years or older. Oregon was included in the top 10 states for cannabis, cocaine, heroin, methamphetamine, and pain reliever misuse in the past month among individuals aged 12 years or older, and in the top 20% for frequency of substance use disorder.

Prescription opioid prescribing has continued to decrease in Oregon since 2012. Contributing factors include provision of continuing education and outreach to prescribers regarding safe prescribing practices and pain science, improved patient access to non-opioid pain treatments, and increased utilization of the PDMP database to examine patients' dispensation history.

However, after decreasing for several years, prescription opioid-related fatal overdoses in Oregon increased in 2021 compared to 2020. Fatal overdoses related to other substances, including fentanyl, heroin, and methamphetamine, also increased in 2021, indicating that the current overdose crisis encompasses far more than prescription opioid misuse. More than half of all fatal overdose deaths in 2021 were related to polysubstance use.

Overdoses in general increased during recent years, especially in 2020 and 2021. This trend may be attributable, at least in part, to the effects of the COVID-19 pandemic. As access to health care facilities, assistance programs and risk reduction efforts decreased or stopped, unintentional and undetermined overdose-related deaths increased substantially. As services resumed and facilities began reopening, drug overdose-related deaths continued to increase. Disruptions to daily life, increased social isolation, job losses and other economic hardships, increased anxiety and other effects have likely contributed to the overdose crisis. The pandemic exacerbated longstanding inequities and substance use disorder risk factors, including but not limited to increasing income inequality and inconsistent access to shelter and health care.[14] OHA considers overdose prevention and response to be an integral part of Oregon's COVID-19 recovery.

[12] Substance misuse includes the use of illegal drugs and the inappropriate use of legal substances.

[13] 2018–2019 Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health national maps of prevalence estimates, by state. https://www.samhsa.gov/data/sites/default/files/reports/rpt32803/2019NSDUHsaeMaps/2019NSDUHsaeMaps/2019NSDUHsaeMaps.pdf

[14] DiGennaro, C., et al. Changes in characteristics of drug overdose death trends during the COVID-19 pandemic. *International Journal of Drug Policy* [Internet] 2021 [cited 2022 Jul 22]; 98. Available from: https://www.sciencedirect.com/science/article/pii/S0955395921002978

Fentanyl-related fatal and non-fatal overdoses have also increased since 2019. This is largely attributable to an increase in fentanyl in the illicit drug market. In 2021, a significant amount of the illicit substances seized by law enforcement included fentanyl. The amount of seized fentanyl has increased from 690 dosage units in 2018 to more than 1.3 million in 2021.[15] Anecdotal information also indicates that it is becoming more common for illicit substances to be adulterated with fentanyl, often in highly potent formulations and without the knowledge of the person who uses drugs. At the time of publication, illicitly manufactured fentanyl is most often seen in counterfeit pill form, though there has been an increase in fentanyl powder in recent months. As fentanyl is becoming more common in the illicit drug supply, fatal and non-fatal overdoses—and especially polysubstance overdoses—are increasing.

The recent increase in fatal and non-fatal overdoses has broadly affected people in Oregon. Overdose rates for all race and ethnicity groups, as well as amongst most age groups, increased in 2021. However, some groups have been disproportionally affected, and this aspect of the overdose crisis is closely related to health disparities resulting from, but not limited to, systemic racism and long-standing inequity. Barriers to culturally specific health care access and assistance services need to be lowered to serve a larger proportion of the population, especially among those most affected by stigma. People who use drugs often face stigma related to their drug use, which can be exacerbated by socioeconomic status, housing instability, criminal justice involvement, or mental health conditions. Stigma can occur at the individual, community, system, and policy levels, and can prevent people who use drugs from accessing treatment and health care.

Response strategies

OHA's response, which includes a wide variety of partners across the state, is informed by an understanding of the complexity and breadth of the overdose crisis. Trends indicate a continuing need for enhanced prevention across the continuum of drug use. This includes education for people who have never used drugs; resilience building and support to strengthen protective factors among those at higher risk for drug use and for developing substance use disorder; providing comprehensive, non-stigmatizing harm reduction services for people who use drugs; ensuring universal access to culturally sensitive treatment; and maintaining strong support for people in recovery, including peer support workers. Each non-fatal overdose and medical or behavioral health care visit has the potential to be a touch point with prevention, treatment, and recovery services to support recovery and reduce the risk of a future fatal overdose.

[15] 2021 Oregon-Idaho High Intensity Drug Trafficking Area Annual Report: https://static1.squarespace.com/static/579bd717c534a564c72ea7bf/t/62c87c5433577102914f6841/1657306214508/OR+ID+HIDTA+Annual+Report+2021+-+Final.pdf

Oregon's approach to addressing substance use disorder is outlined in the Oregon Alcohol and Drug Policy Commission Statewide Strategic Plan.[16] It emphasizes a comprehensive approach including systems-based prevention, recovery and treatment augmented by intervention and harm reduction. It describes the importance of addressing primary contributors as well as ensuring equitable and culturally, linguistically and gender-specific services. Although much work is still needed to achieve the plan's goals, many initiatives are underway. For example, Ballot Measure 110, the Drug Addiction Treatment and Recovery Act, has provided grants to fund addiction recovery centers and created an Oversight and Accountability Council to determine how the funds will be distributed and oversee implementation of the centers. Some additional examples are listed below.

Harm reduction

OHA, Oregon's local public health authorities, and many partner organizations across the state are working to increase access to naloxone both for people who use drugs and for bystanders who can help save a life by carrying naloxone and knowing how to administer it. Oregon's Harm Reduction Supply Clearinghouse supports agencies that serve people at risk of overdose, including offering community-based programs (such as outreach, prevention and harm reduction) and rural and frontier uniformed first responders across Oregon. In June 2022, 127 organizations were set up to order harm-reduction supplies online through the Clearinghouse. Organizations participating in the Clearinghouse had ordered nearly 130,000 doses of naloxone as well as numerous other supplies, including syringes, wound care, personal protective equipment, disinfectants and personal hygiene products (to prevent COVID-19 and treat wounds).

The PRIME+ (Peer Recovery Initiated in Medical Establishments) program provides peer-based harm reduction support for persons currently using drugs who present to medical settings. The program goals are to reduce overdoses and infections related to harmful drug use. PRIME+ peer support specialists assist people who are using drugs to access naloxone, safer use supplies, HIV and hepatitis C testing, primary care and substance use treatment and more. The PRIME + program operates 23 sites in 20 counties in Oregon and has reported more than 20,000 contacts with community members. PRIME+ has provided harm-reduction-centered peer support to more than 3,400 people who are using drugs in participating counties since January 2021.

[16] Oregon Alcohol and Drug Policy Commission. 2020–2025 Strategic Plan.

Treatment

More than 25,000 individuals were dispensed a buprenorphine prescription[17] from a retail pharmacy in 2021. While buprenorphine is used as a medication for opioid use disorder (MOUD), it can also be prescribed for pain relief and other non-MOUD medical reasons. As of spring 2022, Oregon also had about 2,100 practitioners federally certified to prescribe buprenorphine for treating opioid use disorder, although only about half of providers choose to use their certification in any given year. More than 10,000 patients in Oregon are receiving methadone through Oregon's opioid treatment providers (OTPs). Most OTPs are concentrated along the Interstate 5 corridor serving Oregon's four largest metropolitan areas, although federal funds have helped with expansion to rural areas, such as the Oregon coast, and central and eastern Oregon. Despite expansion efforts, many coastal and rural communities in Oregon are still lacking in access to MOUD.

Future directions

In the longer term, addressing the many factors contributing to substance use and overdoses—including the effect of racism, stigma, and other forms of trauma—will continue to be a crucial aspect of the state's response to the overdose crisis. Healthier Together Oregon, the OHA 2020–2024 State Health Improvement Plan,[18] prioritizes behavioral health as well as related causative factors such as institutional bias; adversity, trauma, and toxic stress; economic drivers of health; and access to equitable preventive health care. This approach will also significantly contribute to achievement of OHA's 2030 strategic goal to eliminate health inequities in Oregon.

In response to the changing overdose crisis and its complex drivers, OHA is focusing emergency response and prevention initiatives via several key strategies:

- Implement an urgent response to save lives (e.g., emergency planning, naloxone distribution)
- Use data to inform prevention and response and track the changing nature of the crisis
- Create safer environments for people who use drugs (e.g., syringe exchange, "never use alone" education)
- Expand access to substance use disorder treatment and recovery services

[17] Buprenorphine medications include buprenorphine, buprenorphine-naloxone, sublocade, suboxone, zubsolv and bunavail.

[18] Oregon Health Authority. Healthier Together Oregon: 2020–2024 State Health Improvement Plan.

- Advance prevention, mitigate overdose and substance misuse risk factors and support community resilience and other protective factors
- Continue to improve partnerships between sectors, including public health, health care delivery and public safety
- Address stigma and inequity to ensure that people who use drugs, especially people facing systemic racism and bias, are treated with respect and can access resources

Guided by community-informed plans, OHA's response to the increasing burden of harms related to opioids and other drugs (including alcohol) will continue to evolve with the changing overdose crisis. New resources will soon be available to the state through the national opioid settlements. OHA is charged with implementing 2022 House Bill 4098, which created an 18-person Opioid Settlement Prevention, Treatment and Recovery (OSPTR) Board to make spending decisions about the 45% of settlement monies allocated to a new state OSPTR Fund. Approximately $333 million is coming to Oregon in 18 payments through July 2038 from the Distributor and Janssen settlements, and further settlements are pending.[19] All allocations will be limited to prevention, treatment and recovery strategies outlined in the national settlement and will help to fill current gaps in Oregon's approach to addressing the overdose crisis. Oregon's response to the overdose crisis will continue to require significant resources and broad partnerships.

[19] Allocation decisions about the remaining 45% of funds going directly to local jurisdictions are being made locally. For more information about the opioid settlement, see www.oregon.gov/opioidsettlement.

Endnotes

Rates: Rates in this publication are non-age adjusted and are calculated as the count divided by the subpopulation of interest. For example, the number of deaths of 25–34-year-old divided by the total 25–34-year-old population. This allows interpretation at a population level and cross-comparison among subpopulations.

Unreliable rates: In situations where the count is less than 20, the rate is considered unreliable. With low counts, changes in rates can appear to vary widely but the changes may result from random variations rather than a true trend.

Overdose death ICD-10 classification: The Oregon Health Authority, Public Health Division uses data from state death certificates and the State Medical Examiner to describe drug overdose deaths in Oregon. 2020 is the latest complete year for reporting. The data include codes from the International Classification of Diseases, Tenth Revision (ICD10), a system used by healthcare providers to classify diagnoses. The prescription opioids category includes deaths due to natural and semi-synthetic opioids (T40.2) and methadone (T40.3). The synthetic opioids category (T40.4) includes deaths due to fentanyl. The stimulants category includes all amphetamine-based stimulants (T43.6) and cocaine (T40.5). ICD-10 codes do not differentiate between the source of these drugs (legal vs. illicit) or whether the deceased person was taking the drugs as intended.

Pharm. Opioids: The pharmacological opioid definition is different for the death certificate and SUDORS data. For the death certificate, determination is based on the ICD-10-CM code, which are limited in specificity for some substances. For the death certificate data, pharmacological opioids include methadone, natural opioids and opium and excludes synthetic opioids as they can be illicitly manufactured not for medical care. SUDORS data includes toxicology results and specific substances can be identified and recorded. For the SUDORS data, pharmacological opioids include alfentanil, buprenorphine, codeine, dextrorphan, hydrocodone, hydromorphone, levorphanol, loperamide, meperidine, methadone, morphine, noscapine, oxycodone, oxymorphone, pentazocine, prescription fentanyl, propoxyphene, remifentanil, sufentanil, tapentadol and tramadol. These listed drugs are the generic names, but they are also known by their brand names, such as OxyContin™, Vicodin™ and Demerol™.

Oregon Health Authority

PUBLIC HEALTH DIVISION
Injury and Violence Prevention Program

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