

Characteristics of Unintentional and Undetermined Drug Overdose Deaths in Minnesota

SUDORS 2019 FINDINGS

Characteristics of Unintentional and Undetermined Drug Overdose Deaths in Minnesota, SUDORS 2019 Findings

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Background Information

The State Unintentional Drug Overdose Reporting System (SUDORS) was initially developed by the Centers for Disease Control and Prevention (CDC) to collect comprehensive data on opioid overdose deaths. Due to the changing landscape of the drug overdose epidemic, SUDORS was expanded to collect data on all drug overdose deaths beginning in 2019. The type of information that can be found in SUDORS is unique for a variety of reasons. The data is obtained from death certificates and medical examiner/coroner reports which includes scene findings, autopsy reports, and full postmortem toxicology findings. Toxicology findings can aid in the identification of specific substances causing or contributing to overdose deaths as well as emerging and polysubstance overdose trends. Moreover, SUDORS goes beyond toxicology findings and demographic information to look into the life of the decedent and describe how the overdose death occurred.

The information collected in SUDORS is comprehensive, but it may not always be complete if pertinent details are not provided in the aforementioned documents. Despite its limitations, the rich data from SUDORS is a powerful tool that can be used to monitor drug overdose trends and understand the context surrounding unintentional (i.e., accidental) and undetermined intent overdose deaths.

SUDORS does not include intentional drug overdose deaths (i.e., suicide or homicide). Injury (i.e., overdose) intent is determined by the medical examiner/coroner using evidence from the death investigation and autopsy, if performed. While multiple factors influence suicidal behavior, substance use is a significant risk factor for suicide and suicidal attempts. Therefore, it is likely there is overlap between unintentional, undetermined, and suicide drug overdose deaths.

For further background information on SUDORS, please review CDC's fact sheet: [State Unintentional Drug Overdose Reporting System \(SUDORS\) \(PDF\)](#).

Overview

The purpose of this report is to describe a set of circumstances that contributed to unintentional and undetermined intent overdose deaths that occurred in Minnesota and, in doing so, provide an overview of the valuable information that can be found in SUDORS. As more data is collected, SUDORS will provide insight into the reasons for why and how an overdose death occurred and how these trends are changing over time. This, in turn, provides an opportunity for prevention and response efforts to evolve and target the specific substances and circumstances that are unique to our communities.

This report does not provide a complete description of every single factor that may have led to a person's death due to drug overdose. There are many complex and connected conditions that contribute to a person's ability to be healthy, more broadly, as well as their substance use and whether they experience an overdose – these conditions can be influenced by the individual person, their family and friends, their larger community, or even society as a whole. While a history of an opioid prescription increases the risk for opioid use disorder and overdose, not everyone who uses opioids therapeutically will overdose or develop a substance use disorder and vice versa. Adverse childhood experiences, personal and generational trauma, stigma towards people who use drugs, and policies that promote racial and health equity are all examples of factors that may influence substance use and overdose. This report cannot, and is not intended to, provide the full picture of all the conditions that lead to drug overdose deaths. Rather, the report is intended to describe a set of circumstances that contributed to drug overdose deaths identified by SUDORS that occurred in Minnesota in 2019.

For a more in-depth discussion visit [Social Determinants of Substance Use and Overdose Prevention \(https://www.health.state.mn.us/communities/opioids/prevention/socialdeterminants.html\)](https://www.health.state.mn.us/communities/opioids/prevention/socialdeterminants.html).

Summary of Overdose Deaths

There were 641 overdose deaths identified by SUDORS that occurred in Minnesota, regardless of the decedent's residence, in 2019. A large majority of overdoses were related to substance misuse (85%) and had at least one identified point for intervention prior to death (80%) (i.e., recent release from institution, prior overdose, mental health diagnosis, substance use treatment, bystander present, drug use witnessed). [Table I](#) through [Table VI](#) provide sociodemographic information on people who died of a drug overdose including military involvement and homeless status. For variable definitions, please see [Appendix II](#).

Circumstances of Overdose Deaths

Key Findings

- Most overdose deaths (85%) were related to substance misuse. A small number of deaths were due to other factors, like overmedication or unintentionally taking the wrong drug.
- A large majority (72%) of overdose deaths occurred in a house, apartment, or other independent-living residence, including the surrounding areas (e.g., driveway, porch, yard, and garage).
- A bystander was present for over half (52%) of all drug overdose deaths.
- The most common route used to administer drugs, based on scene or witness evidence, was through injection (27%). There was evidence of the decedent administering drugs through multiple routes in one out of five drug overdose deaths.
- One out of ten decedents had evidence of being recently released (i.e., within 30 days) from an institutionalized setting, most commonly from the hospital (52%) or jail/prison (27%).

Type of Drug Overdose

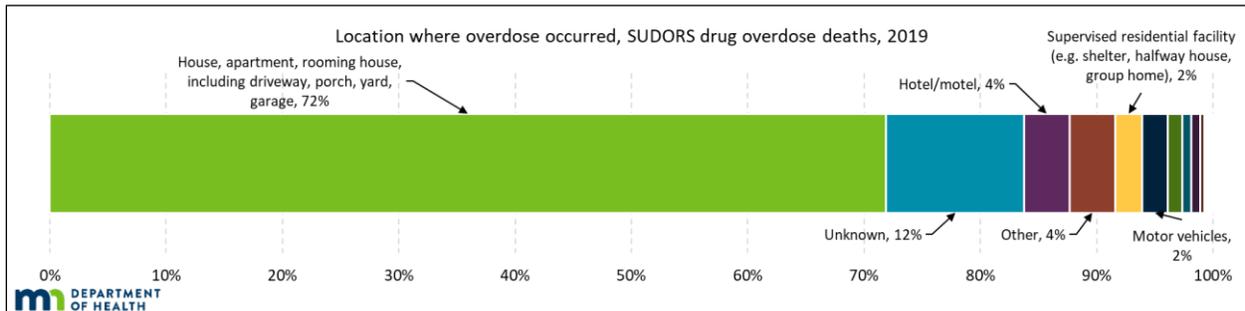
Type of drug overdose captures the context in which the drug(s) contributing to the fatal overdose were used by the decedent. For example, the decedent may have used drugs for the feeling they provided or may have accidentally ingested the drug or an excessive dose.

A large majority of overdose deaths were related to substance misuse (85%). A small proportion of deaths were attributed to overmedication (3%) and "other," or not falling within the pre-defined categories (2%). Less than 1% were attributed to the decedent unintentionally taking the wrong drug, wrong dosage, or taking the prescribed dosage. The type of drug overdose was either unknown or missing for the remaining 10% of deaths.

Location Where the Overdose Occurred

A large majority (72%) of overdoses occurred in a house, apartment, or other independent-living residence, including the surrounding driveway, porch, yard, and garage (Figure 1). The next most common locations were hotel/motel (4%); "other" or not falling within the pre-defined categories (4%); supervised residential facility like a shelter, halfway house, or group home (2%); motor vehicle which includes motor homes but excludes school buses or public transportation (2%); and a street, road, sidewalk, or alley (1%).

Figure 1. A majority of drug overdose deaths occurred in a house, apartment, or other independent-living residence.



SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

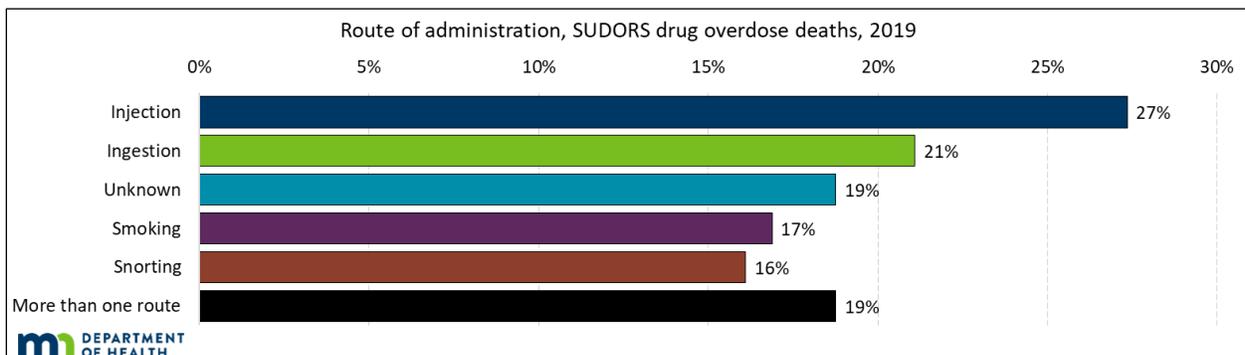
Bystander Presence and Witnessed Fatal Drug Use

There was a bystander present for over half (52%) of all fatal overdoses. A bystander is defined as a person over 11 years old who is physically nearby either during or shortly preceding the overdose and potentially had an opportunity to intervene and respond. The most common types of bystanders were family members (12%), an intimate partner (8%), a friend (7%), and a roommate (5%). However, bystanders may or may not have been present when the decedent used the substance(s) that resulted in the fatal overdose. The fatal drug use was not witnessed in a majority (59%) of drug overdose deaths. Only a small proportion of overdoses had evidence that the fatal drug use was witnessed (7%) by at least one person aged 11 years and older.

Route of Administration

Route of administration captures scene and witness evidence describing how the decedent may have administered substances leading up to the fatal overdose, including substances that were or were not indicated as contributing to the death. The most common route of administration was by injection (27%), followed by ingestion (21%), smoking (17%), snorting (16%), and transdermal (absorbed through the skin, e.g., fentanyl patches) (1%) (Figure 2). The remaining routes of administration (i.e., sublingual, buccal, suppository) had five or fewer deaths. Nearly one out of five people had evidence of two or more routes of administration (19%).

Figure 2. Among drug overdose deaths, the most common route of administration was by injection; one out of five people had evidence of multiple routes of administration.



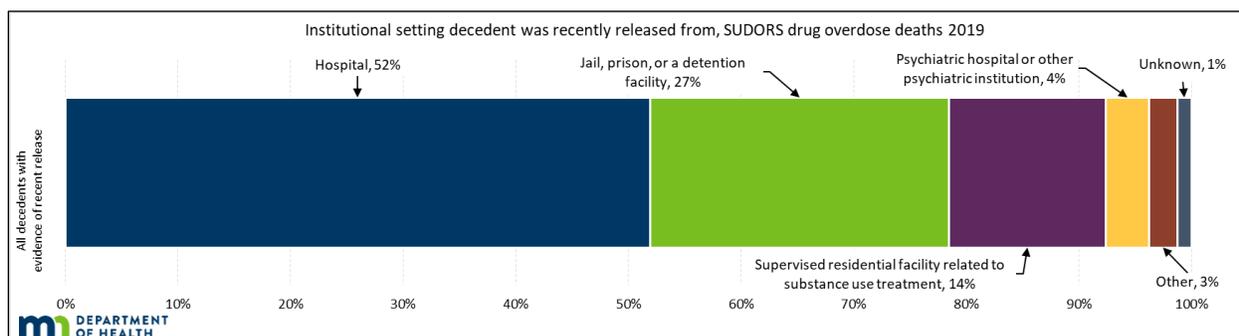
SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

NOTE: Routes of administration are non-exclusive.

Recent Release from an Institution

There was documentation of recent release from an institutional setting for 12% of decedents. Of those who were recently released, the most common was from a hospital (52%), followed by jail or prison (27%), and a supervised residential facility for alcohol or substance use treatment (14%) (Figure 3).

Figure 3. Among decedents who were released from an institutional setting in the past 30 days before their fatal overdose, the majority were in the hospital or a correctional facility like prison or jail.



SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

Toxicology Testing and Drug Involvement

Key Findings

- Opioids were present for a large majority (73%) of drug overdose deaths.
- Across nearly all drug categories, both opioids and non-opioids, fentanyl and/or fentanyl analogs were identified through toxicology testing in a majority of drug overdose deaths.
- One out of four drug overdose deaths involved alcohol, and for half of deaths in which alcohol was identified, decedents had a blood alcohol content (BAC) over the legal limit for driving (0.08).

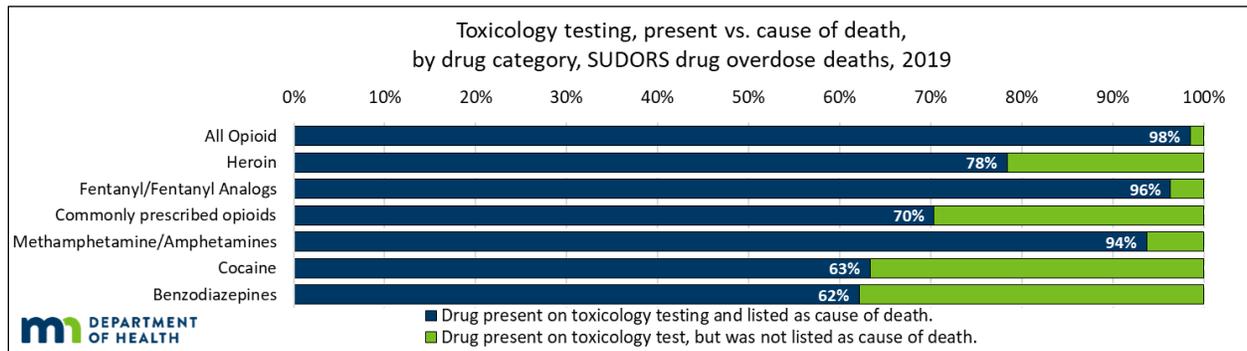
Results from Toxicology Testing

Toxicology testing is performed after a person’s death to identify whether and what drugs were involved. The results go beyond what is on the death certificate to provide a more comprehensive picture of which drugs were present at the time of death, which may or may not have directly caused the death. Death certificates may only list a few substances as the cause of death when other substances were also present. Toxicology reports list all substances that are found through toxicology testing.

For deaths identified by SUDORS in 2019, where at least one opioid was identified on toxicology testing, nearly all (98%) death certificates listed the opioid involvement as contributing to the cause of death (Figure 4). This is not the case for all drug categories. For example, when a benzodiazepine was identified on toxicology testing, benzodiazepines were only listed on the death certificate as contributing to the cause of death for 62% of decedents. Death certificates are crucial in understanding drug overdose trends. As this example shows, toxicology results, which are a key component of SUDORS, provide an additional, complementary tool for drug overdose surveillance. The results of these analyses have implications for drug overdose prevention and response efforts. A more comprehensive picture of what types of substances are involved in drug overdose deaths in Minnesota allows for more targeted

and tailored intervention planning. For example, naloxone and non-pharmaceutical pain management resources are vital in a region primarily impacted by opioid overdose death but may not fully meet the prevention needs of a region primarily impacted by methamphetamine overdose deaths.

Figure 4. Results from toxicology testing, when combined with death certificates, provide a more comprehensive picture of drug overdose trends.



SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

NOTE: Drug categories are non-exclusive.

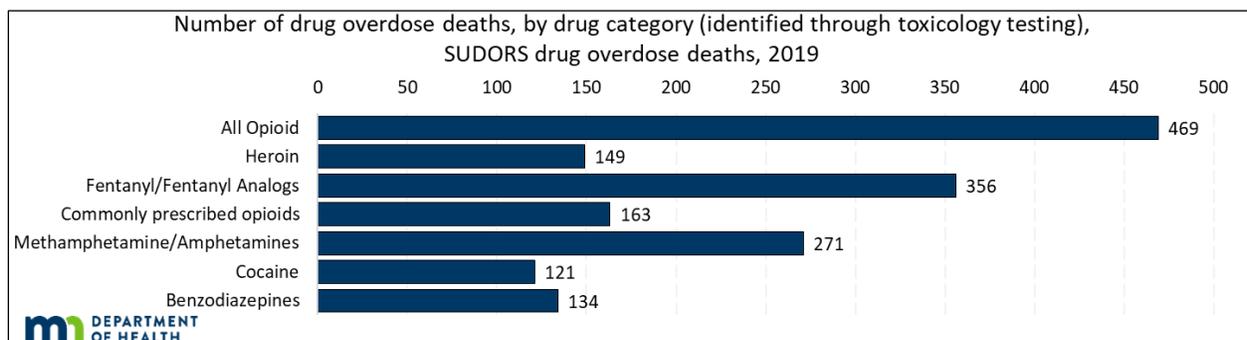
Opioid-involved Deaths

At least one type of opioid was identified by toxicology testing in 73% of all fatal overdoses (469 deaths) (Figure 5). Heroin was identified by toxicology testing in 23% of all fatal overdoses (149 deaths). Fentanyl and/or fentanyl analogs were identified by toxicology testing in 56% of all fatal overdoses (356 deaths). Commonly prescribed opioids (i.e., other opioids and methadone that were either prescribed or obtained illicitly) were identified by toxicology testing in 25% of all fatal overdoses (163 deaths).

Non-opioid Involved Deaths

Amphetamines, including methamphetamine, were identified by toxicology testing in 42% of all fatal overdoses (271 deaths) (Figure 5). Cocaine was identified by toxicology testing in 19% of all fatal overdoses (121 deaths). Benzodiazepines were identified by toxicology testing in 21% of all fatal overdoses (134 deaths).

Figure 5. Opioids, particularly fentanyl and fentanyl analogs, were present in the greatest number of drug overdose deaths.



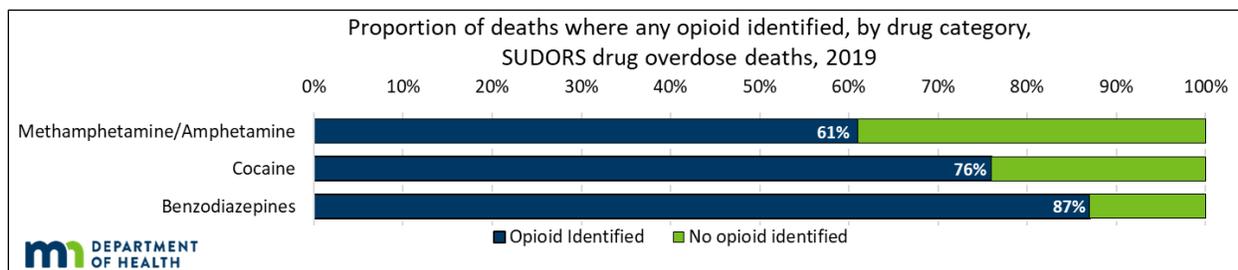
SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

NOTE: Drug categories are non-exclusive.

Opium Presence in Deaths where non-Opiums were also Identified

Polysubstance use, particularly the co-use of opioids and non-opioids, can make responding to an overdose more challenging. For deaths where the presence of methamphetamine/amphetamine, cocaine, and benzodiazepines (all non-opioids) were confirmed through toxicology testing, opioids were also present in a majority of the deaths (Figure 6). Opioids were detected for 61% of deaths where methamphetamine/amphetamine was present, 76% of deaths where cocaine was present, and 87% of deaths where benzodiazepines were present.

Figure 6. Opioids were detected in a majority of the deaths that involved methamphetamine/amphetamine, cocaine, and benzodiazepines.

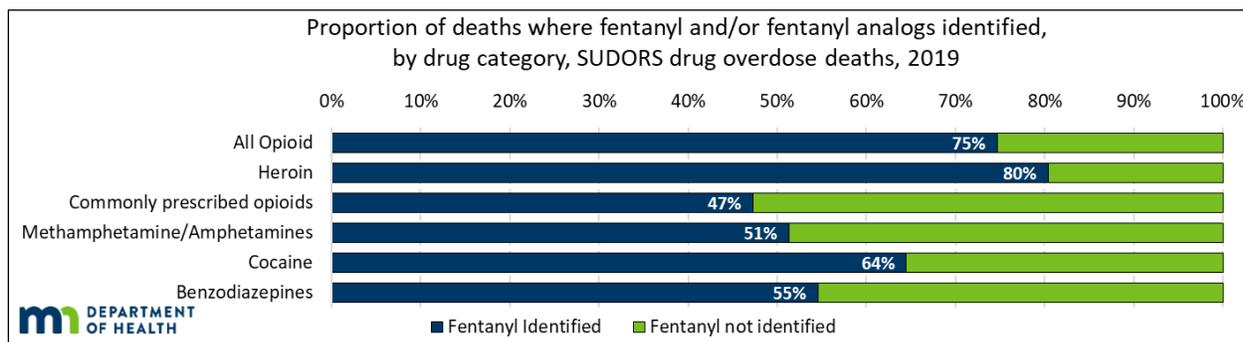


SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019
 NOTE: Drug categories are non-exclusive.

Fentanyl and Fentanyl Analog Presence

Across all drug categories, fentanyl and/or fentanyl analogs were also detected frequently, indicated by a positive result on toxicology testing (Figure 7). Fentanyl and/or fentanyl analogs were present for 75% of deaths with at least one opioid detected, 80% deaths where heroin was detected, 47% of deaths where a commonly prescribed opioid was detected, 51% of deaths where methamphetamine or an amphetamine was detected, 64% of deaths where cocaine was detected, and 55% of deaths where benzodiazepines were detected.

Figure 7. Across all drug categories, both opioid and non-opioid, fentanyl/fentanyl analog co-use frequently occurred.

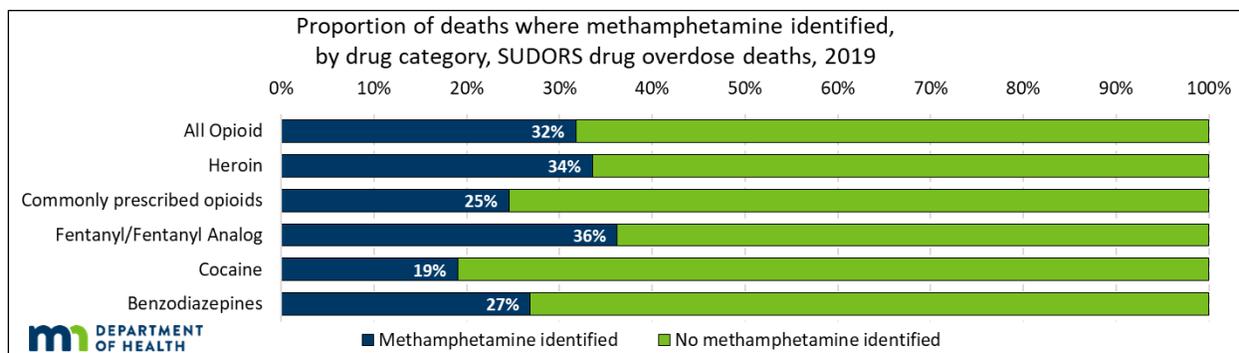


SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019
 NOTE: Drug categories are non-exclusive.

Methamphetamine Presence

Methamphetamine, another known drug of concern in Minnesota, was also frequently identified on toxicology testing across drug categories (Figure 8). Methamphetamine was detected in 32% of all deaths where at least one opioid was present, 34% of deaths where heroin was present, 25% of deaths where a commonly prescribed opioid was present, 36% of deaths where fentanyl and/or fentanyl analogs were present, 19% of deaths where cocaine was present, and 27% of deaths where benzodiazepines were present.

Figure 8. Methamphetamine was frequently detected on toxicology testing across drug categories.



SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

NOTE: Drug categories are non-exclusive.

Alcohol Presence

At the time of death, alcohol involvement was suspected in 18% of fatal overdoses (115 deaths) based on scene evidence. Upon toxicology testing, alcohol was present in 24% of fatal overdoses (157 deaths) and was listed as a contributing cause of death in 13% of fatal overdoses (82 deaths). Of those who tested positive for alcohol, half (50%) had a blood alcohol content (BAC) over the legal limit (0.08% BAC). It should be noted that some deaths with a high blood alcohol content could be due to decomposition which can lead to increased levels of alcohol (i.e., ethanol) in the body postmortem.²

Medical and Social History

Key Findings

- Four out of five decedents had a history of non-alcohol substance misuse and roughly one out of three decedents had previously received treatment for their substance misuse.
- One out of five decedents had evidence of a previous overdose and over half (56%) occurred within the year prior to the fatal overdose.
- Over one-third (38%) of decedents had a known mental health condition; the most common mental health conditions were depression (25%) and anxiety disorder (18%).
- The most common medical conditions that were found among decedents were obesity and chronic pain other than back pain.

Substance Use History

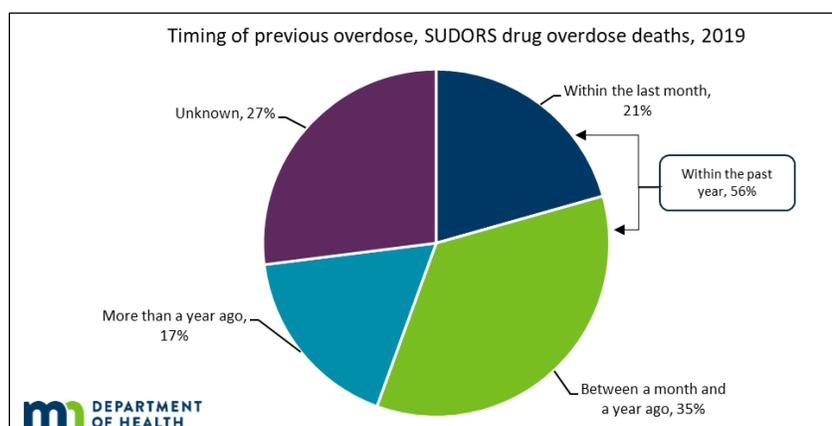
Substance Misuse and Treatment

A large majority of decedents (80%) had a history of non-alcohol substance misuse. A smaller proportion of decedents (24%) had a history of alcohol misuse. Around one-third (35%) of decedents had ever been treated for their substance misuse. Of those who had a history of substance misuse treatment, 26% were receiving treatment at the time of their deaths.

Previous Overdose

One out of five decedents were known to have had a previous overdose. Of those who had a previous overdose, 21% had an overdose within the previous month; 35% had an overdose between a month and a year ago; 17% had an overdose more than a year ago; and for 27% of overdoses, the timing was unclear (Figure 9). As previously mentioned, the information collected in SUDORS is comprehensive, but it may not always be complete if details are not provided in medical examiner investigations and other documents. Because of this, the number of decedents who had a previous overdose is likely an undercount.

Figure 9. Of those who experienced a previous overdose, over half occurred within the year prior to the fatal overdose.



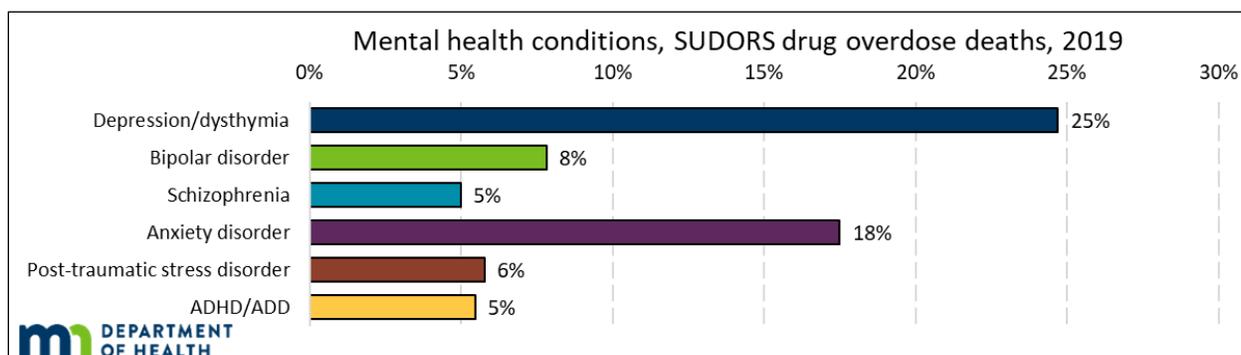
SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

Mental Health History

Among those who died due to drug overdose, it was known that 36% of decedents had a history of at least one mental health condition, indicated by medical records or reported by family/friends, and 18% of decedents were receiving mental health treatment (which includes prescribed medication like an antidepressant) at the time of their death. Of those with a history of at least one mental health condition, the most common were depression/dysthymia (25%), followed by anxiety disorder (18%), bipolar disorder (8%), post-traumatic stress disorder (6%), attention-deficit/hyperactivity disorder or attention-deficit disorder (ADHD/ADD) (5%), and schizophrenia (5%) (Figure 10).

Six percent of decedents had other specified mental health conditions. Other specified conditions that were noted included panic disorder/attacks, adjustment disorder, borderline personality disorder, obsessive compulsive disorder, antisocial personality disorder, unspecified mood disorders, unspecified personality disorders, psychotic disorder, seasonal affective disorder, and schizoaffective disorder.

Figure 10. The most common mental health conditions were depression and anxiety disorders.

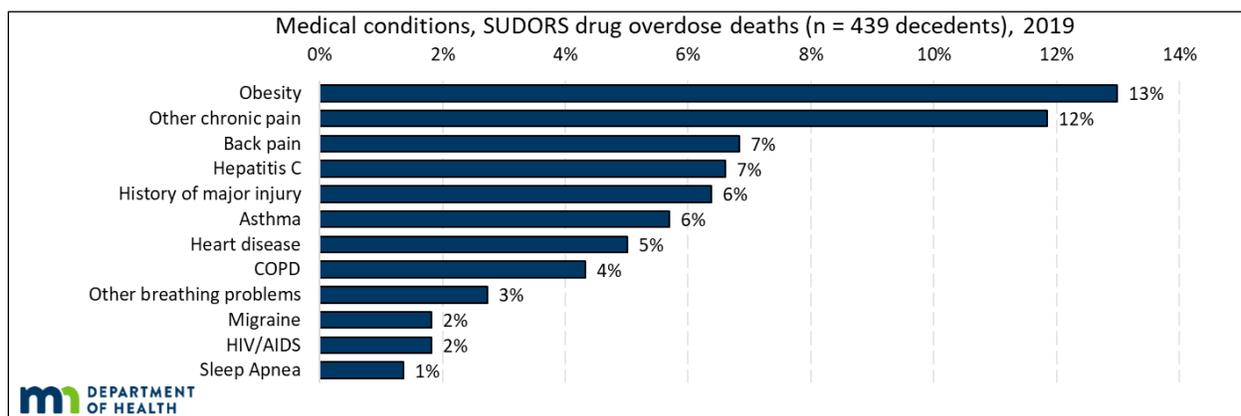


SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

Known Medical Conditions

This section captures information about known medical conditions, but the list is not exhaustive. A few select medical conditions that are known to put someone at a high risk for overdose, are associated with chronic pain, or are associated with injection drug use are captured. Known medical conditions were not collected in SUDORS until May 2019. The following findings are for May through December 2019. Of the 439 decedents who died of an overdose over this time period, the most commonly identified medical conditions were obesity (13%) followed by other chronic pain (12%), back pain (7%), Hepatitis C (7%), history of major injury (6%), asthma (6%), heart disease (5%), chronic obstructive pulmonary disease (COPD) (4%) and other breathing problems (3%) (Figure 11). The remaining conditions were identified for less than 10 decedents (migraines, HIV/AIDS, and sleep apnea).

Figure 11. The most commonly identified medical conditions were obesity and other chronic pain.



SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, May through December 2019

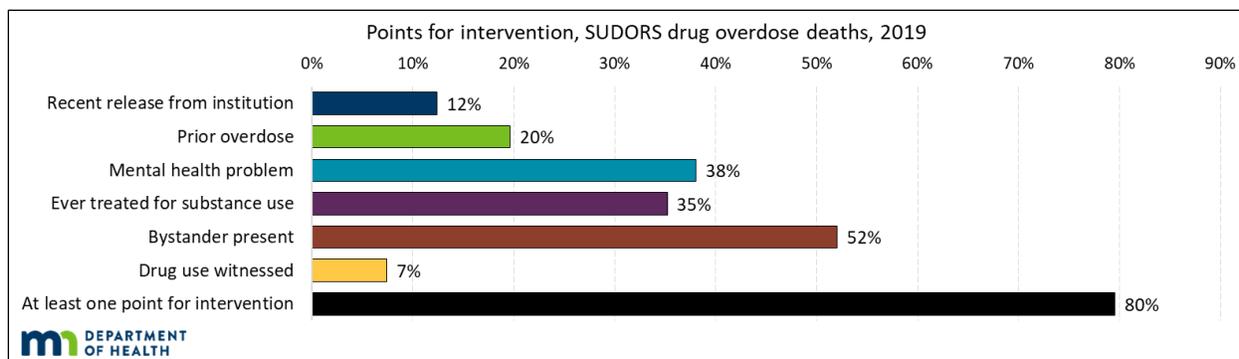
Acute and Chronic Pain

Drug overdoses identified by SUDORS were examined to understand the prevalence of decedents who were receiving any type of treatment for pain and whether at least one opioid, and which type of opioid, was listed as contributing to their death. In 2019, 11% of decedents were being treated for acute or chronic pain at the time of their deaths. Of those who were being treated for pain at the time of the fatal overdose, 78% had opioids listed as a cause of death with the most common opioids listed being commonly prescribed opioids (e.g., oxycodone, hydrocodone) (41%) and/or fentanyl (40%).

Insights for Prevention and Response Efforts

“Circumstances around overdose deaths provide opportunities for intervention, treatment, and response efforts. In most overdose deaths, for example, at least one of the following circumstances were identified to be present, and each of these can impact the risk of overdose and represents a touchpoint for linkage to care.”¹

Figure 12. In Minnesota, four out of five people who died of a drug overdose had an identified opportunity for intervention.



SOURCE: Minnesota SUDORS, Injury and Violence Prevention Section, Minnesota Department of Health, 2019

SUDORS is an effective surveillance tool that describes a set of circumstances that contribute to drug overdose deaths. Analyses of these circumstances, such as this report, can identify opportunities for prevention efforts. In Minnesota, four out of five people who died of a drug overdose had an identified opportunity for intervention (Figure 12). Among decedents who experienced a fatal overdose in Minnesota, 12% were recently released from an institutionalized setting (e.g., hospital, jail or prison, substance use treatment facility). Furthermore, 20% of decedents had evidence of a prior overdose. Before a person is discharged, including those treated in the hospital for a nonfatal overdose, institutions have an opportunity to initiate or continue medications for opioid use disorder and increase access to and participation in linkage to care programs, both of which can mitigate risk of a future overdose, both fatal and nonfatal.¹

In addition to these institutions, facilities that provide mental health and substance use treatment have an opportunity to provide similar medications and access to linkage to care programs. Among decedents who experienced a fatal overdose in Minnesota, 38% had a diagnosed mental health condition and 35% had a history of substance use treatment. Providing concurrent mental health and substance use treatment can improve treatment outcomes, which in turn, can help reduce drug overdoses.¹

There is also an opportunity for others to intervene and respond to an overdose when it occurs, but these people must be provided with the knowledge and resources to adequately do so. Among decedents who experienced a fatal overdose in Minnesota, there was a bystander present at 52% of fatal overdoses and the fatal drug use was witnessed for 7% of drug overdose deaths. This suggests a need to increase bystander naloxone training, access, and use¹ which have the potential to reduce the number of opioid drug overdoses that result in death and save lives.

Many of these prevention and response efforts are being undertaken by the Minnesota Department of Health (MDH) and our invaluable partners in the community. For more information on our current overdose prevention work, please visit: [MDH Overdose Prevention Program \(https://www.health.state.mn.us/communities/opioids/\)](https://www.health.state.mn.us/communities/opioids/).

References

1. O'Donnell, J., Gladden, R. M., Mattson, C. L., Hunter, C. T., & Davis, N. L. (2020). Vital signs: Characteristics of Drug Overdose Deaths Involving Opioids and Stimulants — 24 States and the District of Columbia, January–June 2019. *MMWR. Morbidity and Mortality Weekly Report*, 69(35), 1189-1197.
2. Hanzlick, R. (2014). Postmortem Ethanol Concentrations and Postmortem Ethanol Production. *Academic Forensic Psychology*. Vol 4, Issue 2.
3. Centers for Disease Control and Prevention. National Violent Death Reporting System (NVDRS) Coding Manual Revised [Online] 2020 National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from URL: www.cdc.gov/injury
4. Centers for Disease Control and Prevention. State Unintentional Drug Overdose Reporting System (SUDORS) Coding Manual Revised 2019 National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer).
5. *NOTE: The SUDORS Coding Manual is not available online. Please reach out to us for more details.*
6. Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. *MMWR Recomm Rep* 2016;65(No. RR-1):1–49. DOI: <http://dx.doi.org/10.15585/mmwr.rr6501e1>
7. National Institute on Drug Abuse. “Opioid Overdose Crisis.” National Institutes of Health. Accessed September 24, 2021. <https://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-crisis>

Suggested Citation

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Appendix I. Important Note on Data included in Tables I through VI

Tables I through VI describe the sociodemographic characteristics of the 641 people who died due to drug overdose identified by SUDORS in 2019. As a reminder, SUDORS includes drug overdose deaths of unintentional or undetermined intent that occurred in the state of Minnesota (regardless of whether or not the decedent was a resident of the state). Counts will differ from what is reported in annual reports on drug overdose deaths published to the Minnesota Department of Health website.

Table I. SUDORS Cases by Age Categories, 2019

Age Categories	Count (n=641)	%
Under 15	*	*
15-24	93	15%
25-34	170	27%
35-44	141	22%
45-54	109	17%
55-64	102	16%
65+	25	4%
Unknown	*	*

* Values from one to five are suppressed to maintain data privacy.

a Percentages may not add up to 100% due to rounding and suppression.

Table II. SUDORS Cases by Gender, 2019

Gender ^a	Count (n=641)	%
Male	444	69%
Female	197	31%

* Values from one to five are suppressed to maintain data privacy.

a Percentages may not add up to 100% due to rounding and suppression.

b Gender refers to the biological sex of the decedent. Between one to five decedents were transgender, but the exact count is suppressed.

Table III. SUDORS Cases by Race and Ethnicity, 2019

Race/ethnicity	Count (n=641)	%
Asian/Pacific Islander	9	1%
American Indian/Alaska Native	63	10%
Black/African American	96	15%
Hispanic	26	4%
Multi-race	16	3%
White	427	67%
Missing	4	1%

* Values from one to five are suppressed to maintain data privacy.

a Percentages may not add up to 100% due to rounding and suppression.

Table IV. SUDORS Cases by Education Level, 2019

Education Level	Count (n=641)	%
8 th grade or less	12	2%
9 th to 12 th grade	99	15%
High School/GED	296	46%
Some college credit	102	16%
Associate’s degree	58	9%
Bachelor’s degree	48	7%
Master’s degree	10	2%
Doctorate	*	*
Unknown	*	*

* Values from one to five are suppressed to maintain data privacy.

a Percentages may not add up to 100% due to rounding and suppression.

Table V. SUDORS Cases by Marital Status, 2019

Education Level	Count (n=641)	%
Divorced	127	20%
Married/Civil Union/Domestic Partnership	74	12%
Separated	*	*
Never Married	415	65%
Widowed	17	3%
Unknown	*	*

* Values from one to five are suppressed to maintain data privacy.

a Percentages may not add up to 100% due to rounding and suppression.

Table VI. SUDORS Cases by Other Characteristics, 2019

Other Characteristics	Count (n=641)	%
Current or former military personnel	30	5%
Homeless Status ^b	24	4%

* Values from one to five are suppressed to maintain data privacy.

a Percentages may not add up to 100% due to rounding and suppression.

b “Homeless Status” as defined by the Centers for Disease Control and Prevention. Please refer to definition in [Appendix I](#).

Appendix II. Definitions

The following section provides definitions for each of the variables discussed within this report. The definitions were obtained from the Centers for Disease Control and Prevention's *National Violent Death Reporting System Web Coding Manual 5.4*³ and *State Unintentional Drug Overdose System Coding Manual 4.0*.⁴

Bystander Present - SUDORS

A bystander is a person (older than 10 years old) who was physically nearby either during or shortly preceding an opioid overdose who potentially had an opportunity to intervene and respond to the overdose.

Chronic and Acute Pain - SUDORS

The decedent was receiving any type of treatment for acute and/or chronic pain at the time of the fatal overdose, including prescription opioid pain relievers.

Fatal Drug Use Witnessed - SUDORS

At least one person, aged 11 years or older, witnessed the decedent use the substance(s) that resulted in their overdose.

Homeless Status - NVDRS

Persons experiencing homelessness are those who reside in one of the following: 1) Places not designed for or ordinarily used as a regular sleeping accommodation for human beings, including the following: a car or other private vehicle; park, on the street or other outdoor place; abandoned building (i.e., squatting); bus or train station; airport; or camping ground, or 2) A supervised publicly or privately operated shelter or drop-in center designated to provide temporary living arrangements; congregate shelters; temporary accommodations provided by a homeless shelter (e.g., a motel room provided because the shelter was full); or transitional housing for person experiencing homelessness. Decedents who have no homes of their own, but are staying indefinitely with friends or family, live in a hotel, or have a residential address that is not a shelter are not considered to be experiencing homelessness.

Since the collection of SUDORS data in 2019, the CDC definition has been broadened to better capture housing instability. Because of the more limited definition used in 2019, counts of homeless status among decedents who died due to a drug overdose is likely an undercount.

Known Medical Conditions - SUDORS

This section captures information about known medical conditions, but the list is not exhaustive. A few select medical conditions that are known to put someone at a higher risk for overdose, are associated with chronic pain, or are associated with injection drug use are captured.

Location Where Overdose Occurred - SUDORS

Type of place at which the injury (overdose) occurred.

Mental Health History - NVDRS

Current mental health problem including those disorders and syndromes listed in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), excluding alcohol and other substance dependence, as evidenced by the medical examiner/coroner report.

Prior Drug Overdose - SUDORS

A previous drug overdose, involving any substance including but not limited to opioids, was reported. A drug overdose is defined as the decedent experiencing acute clinical symptoms such as difficulty breathing, unconsciousness/unresponsiveness, irregular heartbeats related to ingestion, inhalation, injection, or absorption of drug in quantities greater than recommended.

Recent Opioid Use Relapse - SUDORS

The decedent has a history of misusing opioids or an opioid use disorder and returned to using opioids after a period of not using opioids for at least one week.

Recent Release from an Institution - NVDRS

Deaths that occurred within a month of the decedent being released from an institutional setting.

Route of Administration - SUDORS

This section captures scene and witness evidence describing how the decedent may have administered substances leading up to the fatal overdose, including substances that were and were not indicated as contributing to death. More than one route of administration can be endorsed if evidence is found at the scene or mentioned by witnesses.

Substance Use Problem - NVDRS

Person had a non-alcohol related substance abuse problem.

Substance Use Treatment - SUDORS

There was evidence that the decedent had ever received substance use treatment, either in the past or currently, including medication-assisted treatment, cognitive behavioral therapy, and Narcotic Anonymous.

Type of Drug Overdose (Poisoning) - SUDORS

This captures the context in which the drug(s) contributing to the fatal overdose were used by the decedent. Specifically, the decedent may have used drugs for the feeling they provided and not for medical reasons, accidentally ingested the drug or an excessive dose of the drug or experienced the overdose while taking the drug as prescribed.

CHARACTERISTICS OF MINNESOTA SUDORS DEATHS, 2019

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To obtain this information in a different format, please email Health.DrugODEpi@state.mn.us.