State Unintentional Drug Overdose Reporting System (SUDORS) CODING MANUAL

VERSION 6.3

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Division of Overdose Prevention
National Center for Injury Prevention and Control
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Contents

KEY ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
CME	Coroner and Medical Examiner
DC	Death Certificate
ESOOS	Enhanced State Opioid Overdose Surveillance
HIV	Human Immunodeficiency Virus
ICD-10	International Classification of Disease, Tenth Revision (ICD-10)
LE	Law Enforcement
NOFO	Notice of Funding Opportunity
NVDRS	National Violent Death Reporting System
OD	Overdose
OD2A	Overdose Data to Action
PDMP	Prescription Drug Monitoring Program
SUDORS	State Unintentional Drug Overdose Reporting System

SECTION 1: INTRODUCTION

The Centers for Disease Control and Prevention's (CDC) Overdose Data to Action (CDC-RFA-CE19-1904) Notice of Funding Opportunity (referred to as OD2A) funds jurisdictions for two main components:

- Surveillance, which supports funded jurisdictions to
    - Increase the timeliness of reporting of nonfatal and fatal unintentional and undetermined intent drug overdoses and associated risk factors along with several key innovative surveillance projects, such as tracking linkage to care, data linkages, and biosurveillance
        - The surveillance strategy of OD2A that tracks the reporting of fatal unintentional and undetermined intent drug overdoses is referred to as the State Unintentional Drug Overdose Reporting System (SUDORS)
    - Disseminate surveillance findings to key stakeholders working to prevent drug overdoses; and
    - Share data with the CDC to support improved multi-state surveillance of and response to drug overdoses.

- Prevention, which supports funded jurisdictions to
    - Strengthen prescription drug monitoring programs
    - Improve state-local integration
    - Establish linkages to care
    - Improve provider and health system support; and
    - Improve partnerships with public safety and first responders; empower individuals to make safer choices; and provide jurisdictions opportunities for innovative prevention approaches

As part of the Notice of Funding Opportunity (NOFO), jurisdictions are required to abstract data from death certificates (DCs) and coroner and medical examiner (CME) reports on unintentional and undetermined intent drug overdose deaths. Abstracted data must be entered into the State Unintentional Drug Overdose Reporting System (SUDORS), which shares a web-based platform with the National Violent Death Reporting System (NVDRS) on a set of required variables. In order to support jurisdictions in meeting these requirements, CDC designed this coding manual that provides the following information:

- Case definitions of drug overdose deaths
- A list of the variables that are required to be abstracted from DCs and CME reports on unintentional and undetermined intent drug overdose deaths
- Guidance for interpretation of the different variables to aid in abstracting data from source documents

OD2A replaced the Enhanced State Surveillance of Opioid-Involved Morbidity and Mortality (CDC-RFA-CE16-1608) Funding Opportunity Announcement (referred to as the Enhanced State Opioid Overdose Surveillance (ESOOS) program), and incorporated drug overdose prevention activities including those previously covered by Prevention for States (CDC-RFA-CE15-1501) and Data-Driven Prevention Initiative (CDC-RFA-CE16-1606) Funding Opportunity Announcements). SUDORS remains as the strategy of OD2A that surveils unintentional and undetermined intent fatal drug overdose data. The main difference in SUDORS for OD2A compared to ESOOS is that in OD2A, SUDORS tracks **all unintentional and undetermined intent drug overdose deaths** (compared to just opioid-involved overdose deaths in ESOOS). The timeline for reporting data is different for OD2A. In OD2A, jurisdictions are funded according to a tier structure, for which data are reported either within 6 months (Tier 1) or 8 months (Tier 2) of the end of a reporting period (with reporting periods covering the first half [January–

June] or second half [July–December] of a calendar year); whereas in ESOOS, all jurisdictions reported data within 8 months of the end of each reporting period.

The coding guidance developed by NVDRS (https://www.cdc.gov/violenceprevention/pdf/nvdrs/NVDRS-Coding-Manual-Version-5.5.pdf) to collect information on homicides, suicides, and deaths of undetermined intent also applies to unintentional and undetermined intent drug overdose deaths, and should be used alongside the SUDORS Coding Manual when abstracting data on these deaths. Below are some considerations to keep in mind when using these Coding Manuals:

- The SUDORS Coding Manual provides coding guidance on drug overdose-specific variables contained in the overdose, or OD, tab. These variables are not addressed in the NVDRS coding manual.
- In order to capture information on key aspects of drug overdoses, the SUDORS Coding Manual provides additional guidance on some variables on the Demographics, Injury and Death, and Circumstances tabs, and extensive guidance on completing the Toxicology tab. This additional guidance is intended to complement and extend the NVDRS guidance; however, if guidance from NVDRS and SUDORS appear to be in direct opposition, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team (Project Officer [PO]and Mortality Science Officer [SO]) for clarification.
- Drug overdose deaths of undetermined intent are part of the case definitions for both SUDORS and NVDRS and therefore are considered shared cases. All variables required by both programs must be abstracted for these cases, and the guidance of both programs must be followed. As above, please request clarification if guidance appears to conflict.
- The SUDORS and NVDRS Coding Manuals are also available in the Help Wiki that is accessible from within the web-based system. While logged into the system, the Wiki can be accessed via the “Help” option on the blue menu at the top of the page. On the left-hand side within the Wiki, the “SUDORS Resources” option will pull up a page with a link to the most up-to-date version of the SUDORS Coding Manual, and the “Coding Help” option will pull up a page with a link to the most up-to-date version of the NVDRS Coding Manual under the NVDRS Web Coding Manual heading.

1.1 SUDORS Abstractor Technical Assistance

A variety of resources are available on the OD2A Technical Assistance Center webpage to support SUDORS abstractors with data abstraction. To access this website, please visit https://od2a-tac.org/sudors. This website is password protected so you will need to request access as a new user. To request access, please complete the online form found here. Resources available on this website include:

- SUDORS Training Videos – a collection of training videos to provide an overview of SUDORS, explain how to access SUDORS, and give detailed guidance on how to complete each individual tab within SUDORS for each case.
- SUDORS Demonstration Videos – a collection of 8 demonstration videos where trainers use a fictional DC and CME report to walk through entering data into each individual tab within SUDORS.
- Coding Manuals – links to access both this SUDORS Coding Manual and the NVDRS Coding Manual.

In addition to the resources available on the OD2A Technical Assistance Center webpage, the following resources are also available.

- Coding Technical Assistance

- ESOOS Q&A – Case inclusion and data abstraction questions the helpdesk received and answers provided during ESOOS that are still applicable to OD2A. Questions and answers that are no longer applicable to OD2A are included in the file in an archive section. The ESOOS Q&A documents are available on the on the Technical Assistance Center SUDORS landing page (https://od2a-tac.org/SUDORS).
- OD2A Q&A – Case inclusion and data abstraction questions the helpdesk received and answers provided during OD2A. This Q&A will be updated with additional questions and answers as the helpdesk receives them throughout this grant. Questions pertaining to the previous version of the web system are included in the file in an archive section. The OD2A Q&A documents are available on the NVDRS/SUDORS Help Wiki or on the Technical Assistance Center SUDORS landing page (https://od2a-tac.org/SUDORS).

- OD Surveillance Help Desk – If you have questions regarding SUDORS case inclusion or coding guidance, please contact the OD Surveillance Help Desk at ODsurveillance@cdc.gov.

END SECTION 1

SECTION 2: DEFINITIONS AND GENERAL GUIDANCE

Drug overdose deaths are deaths where the death certificate (DC) AND/OR the coroner or medical examiner (CME) report indicates that acute drug toxicity (drug poisoning/overdose) directly caused the death, and for SUDORS, all drug overdose deaths of unintentional and undetermined intent should be included. Specific case definitions for the DC and CME are described and discussed in Sections 2.2 and 2.3, respectively. Decedents of all ages should be included if they meet the case definitions. Occurrent deaths (i.e., all deaths meeting the case definitions that occurred within the jurisdiction [regardless of decedent residence]) should be included. Strategies for capturing all drug overdose deaths of unintentional and undetermined intent will need to be developed on a jurisdiction-by-jurisdiction basis; however, it is beneficial to cast an initially broader net to not miss any deaths, then confirm deaths truly caused by an unintentional or undetermined drug overdose. If your jurisdiction is facing barriers regarding identifying deaths for inclusion in SUDORS, please contact the Overdose Surveillance help desk (ODSurveillance@cdc.gov) and copy your CDC support team.

2.1 SUDORS Conceptual Case Definition

The intent of SUDORS is to capture all drug overdose deaths of unintentional and undetermined intent. The case definition requirements are outlined in Table 1, and details for identifying deaths that fit the case definition using DC and CME reports are included in sections 2.2 and 2.3, respectively. Please also see Appendix G for a flowchart aimed at facilitating case identification using different strategies, along with examples of cases that would be included or excluded.

Table 1. SUDORS case definition elements and inclusion criteria

Element	Inclusion criteria	Notes
Cause of death	Drug poisoning/overdose	Acute drug toxicity must have caused the death (i.e., be the underlying cause of death)
Manner of death	Unintentional/accident	Determined from DC, CME reports, and/or LE reports
	Undetermined	
Location of death	Occurrent (within the jurisdiction), regardless of residence of decedent and location of injury (overdose)	Based on jurisdiction's NOFO application, data collected on either 1) all deaths in the jurisdiction or 2) all deaths that occur within counties where 75% of overdose deaths occurred in 2017 or within counties where at least 1,500 overdose deaths occurred in 2017
Age of decedent	All ages	

There are some deaths that may fit some parts of the SUDORS case definition (e.g., ICD-10 cause of death codes in the relevant ranges [see Section 2.2.a]) but that fall outside of the scope of deaths that should be captured in SUDORS. As the case definition guidance is implemented, these cases should be kept in mind. Examples of these types of deaths include overdose deaths related to legal intervention (e.g., law enforcement administered a sedative in trying to subdue someone and it resulted in overdose), and overdose deaths related to medical error (e.g., a healthcare worker administered medication in the wrong dose to an inpatient in the hospital and it resulted in overdose).

The Safe States Injury Surveillance Workgroup (ISW7), in partnership with the Council of State and Territorial Epidemiologists (CSTE), published Consensus Recommendations for National and State Poisoning Surveillance in

April 2012.[1] This report was intended to provide a conceptual definition of drug poisoning for use in surveillance, and the definition provided can be used to determine SUDORS cases. Below is an excerpt from the report highlighting key aspects of the definition:

Monitoring the subset of poisoning involving drugs (i.e., drug poisoning) as a public health concern also requires a conceptual definition of a "drug." The ISW7 consensus definition of a drug is as follows:

> ***A "drug" is any chemical compound that is chiefly used by or administered to humans or animals as an aid in the diagnosis, treatment, or prevention of disease or injury, for the relief of pain or suffering, to control or improve any physiologic or pathologic condition, or for the feeling it causes.***

This definition specifically includes

- *Illicit drugs such as heroin, cocaine, and illicit hallucinogens*
- *Prescription drugs*
- *Over-the-counter drugs*
- *Biological substances such as vaccinations*
- *Veterinary drugs*
- *Dietary supplements; and*
- *Non-medicinal substances used primarily for the feeling they cause.*

This definition specifically excludes

- *Alcohol*
- *Tobacco; and*
- *Chemicals that are deliberately inhaled for the feeling they cause but are chiefly used for other purposes (i.e. organic solvents and halogen derivatives of aliphatic and aromatic hydrocarbons).*

A drug belongs to one of two categories: substances used chiefly for medicinal purposes or substances used chiefly for the feeling they cause. The medicinal category is relatively easy to define by its therapeutic purpose. The other category is more difficult to define because many substances are produced for other specific non-medicinal purposes but are often employed for the feeling they cause, such as organic solvents. Others, like heroin, are employed for the feeling they cause and have limited alternative uses. The ISW7 defined non-medicinal substances whose primary use was for the feeling they caused as drugs. Non-medicinal substances chiefly used for other purposes, such as glue and solvents, were not defined as drugs, even though they might also be used for the feeling they cause. This distinction is similar to that made by the International Classification of Disease coding systems.

If you experience difficulty in determining whether the substance(s) involved in an apparent drug poisoning qualify under the above definition of a drug, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team for assistance.

[1]The ISW7 April 2012 report can be found here: https://cdn.ymaws.com/www.cste.org/resource/resmgr/injury/isw7.pdf

2.2 Identifying SUDORS deaths using death certificates

2.2.a Identifying SUDORS deaths with ICD-10 cause of death codes

The International Classification of Disease, Tenth Revision (ICD-10) classification scheme is used to code text-based causes of death included on death certificates. The ICD-10 underlying cause of death codes that identify unintentional and undetermined intent drug overdose deaths are listed in Table 2. Underlying cause-of-death ICD-10 codes provide information about the general cause and manner of death – for the codes relevant to SUDORS, this includes poisoning deaths with unintentional and undetermined manner.

Table 2. Relevant ICD-10 codes for SUDORS deaths

Underlying cause-of-death codes	
Unintentional poisoning	
X40	Accidental poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics
X41	Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
X42	Accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), not elsewhere classified
X43	Accidental poisoning by and exposure to other drugs acting on the autonomic nervous system
X44	Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances
Poisoning of undetermined intent	
Y10	Poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics, undetermined intent
Y11	Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent
Y12	Poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), not elsewhere classified, undetermined intent
Y13	Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent
Y14	Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent

The Council of State and Territorial Epidemiologists (CSTE) has made recommendations about how to complete the DC for a drug overdose death and provided information on how the ICD-10 codes are assigned.[2] Other resources that provide recommendations on completing DCs for opioid overdose deaths and conducting broader investigations of suspected opioid overdose deaths include a position paper published in 2020 by the National Association of Medical Examiners (NAME)[3] and 2013 findings from a Substance Abuse and Mental Health Services Administration (SAMHSA) consensus panel.[4]

*Limitations to using ICD-10 codes to identify SUDORS deaths (guidance in **bold**):*

1. Delays in obtaining ICD-10 codes from the National Center for Health Statistics (NCHS).

[2] For additional information https://cdn.ymaws.com/www.cste.org/resource/resmgr/PDFs/PDFs2/4_25_2016_FINAL-Drug_Overdos.pdf

[3] For additional information https://journals.lww.com/amjforensicmedicine/fulltext/2020/09000/position_paper__recommendations_for_the.2.aspx

[4] For additional information https://www.ncbi.nlm.nih.gov/pubmed/24074189

DCs are filled out with cause of death information recorded by medical examiners, coroners, or physicians, and sent to NCHS to receive ICD-10 codes that correspond to the cause(s) and manner of death. However, deaths otherwise fitting the SUDORS case definition may not have received ICD-10 codes by the deadlines for SUDORS data initiation/entry. **For deaths with no ICD-10 codes, apply the case definition using the literal cause of death text from section 2.2.b, along with guidance from section 2.3 for drawing on information in CME reports.**

2. ICD-10 codes appear to be incorrect.

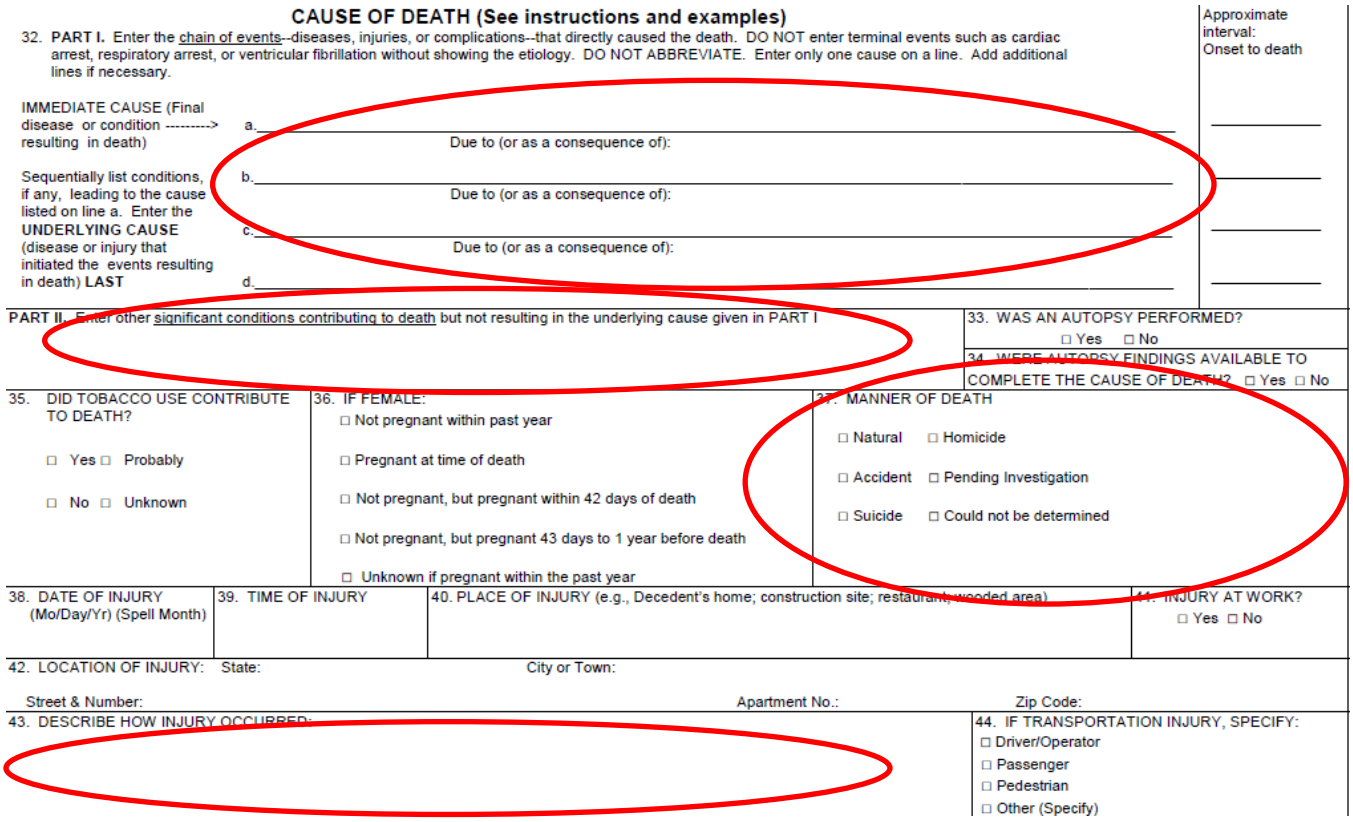
   ICD-10 codes are applied to DCs using automated processes, and, where necessary, manually processed by trained nosologists. Given the variability in how DCs are completed, it is possible that some unintentional and undetermined intent drug overdose deaths receive non-overdose ICD-10 codes, or that non-overdose drug-related deaths receive ICD-10 codes indicating that they are drug overdoses. **For deaths for which the ICD-10 codes appear to be applied incorrectly (i.e., death did not receive codes indicating a causal drug overdose when it should have, or death received codes indicating a causal drug overdose when it shouldn't have), apply the case definition using the literal cause of death text from section 2.2.b, along with guidance from section 2.3 for drawing on information in CME reports. If the death received codes indicating a causal drug overdose but the literal cause of death is unclear, please contact the Overdose Surveillance help desk (ODSurveillance@cdc.gov) and copy your CDC support team to discuss further. For more information on considerations for case inclusion, please refer to Appendix G.**

Please note that, while identifying cases using ICD-10 cause of death codes is a useful and acceptable strategy, it is important to review the literal text cause of death information and other case information on the DC and within the CME report for cases that fall within the SUDORS-relevant ranges (X40–X44 and Y10–Y14) to ensure that they are in fact drug overdose deaths of unintentional and undetermined intent. It is also important to have a process in place to scan text-based cause of death information for cases that do not receive codes in the relevant ranges, to ensure that no overdose deaths are missed. Please see Appendix G for additional guidance and examples of cases that might be included or excluded.

2.2.b Identifying SUDORS deaths with death certificate text

To identify deaths meeting the SUDORS case definition using DCs before ICD-10 cause-of-death codes are available, or if ICD-10 cause-of-death codes appear to be incorrect, the cause of death text and manner of death fields should be reviewed. Below is a screenshot[5] of the standard US death certificate (actual appearance may vary across jurisdictions), with the fields of interest (Part I, Part II, and Describe How Injury Occurred) circled:

[5] https://www.cdc.gov/nchs/data/dvs/death11-03final-acc.pdf



CAUSE OF DEATH (See instructions and examples)

32. **PART I.** Enter the chain of events--diseases, injuries, or complications--that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines if necessary.

Approximate interval: Onset to death

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death) a. _____

Due to (or as a consequence of):

Sequentially list conditions, if any, leading to the cause listed on line a. Enter the **UNDERLYING CAUSE** (disease or injury that initiated the events resulting in death) **LAST**

b. _____

Due to (or as a consequence of):

c. _____

Due to (or as a consequence of):

d. _____

PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I

33. WAS AN AUTOPSY PERFORMED? ☐ Yes ☐ No

34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? ☐ Yes ☐ No

35. DID TOBACCO USE CONTRIBUTE TO DEATH?
☐ Yes ☐ Probably
☐ No ☐ Unknown

36. IF FEMALE:
☐ Not pregnant within past year
☐ Pregnant at time of death
☐ Not pregnant, but pregnant within 42 days of death
☐ Not pregnant, but pregnant 43 days to 1 year before death
☐ Unknown if pregnant within the past year

37. MANNER OF DEATH
☐ Natural ☐ Homicide
☐ Accident ☐ Pending Investigation
☐ Suicide ☐ Could not be determined

38. DATE OF INJURY (Mo/Day/Yr) (Spell Month)

39. TIME OF INJURY

40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area)

41. INJURY AT WORK? ☐ Yes ☐ No

42. LOCATION OF INJURY: State: City or Town:
Street & Number: Apartment No.: Zip Code:

43. DESCRIBE HOW INJURY OCCURRED:

44. IF TRANSPORTATION INJURY, SPECIFY:
☐ Driver/Operator
☐ Passenger
☐ Pedestrian
☐ Other (Specify)

In best practice, SUDORS deaths will consist of those with DCs where the last completed line in Part I contains text indicating that acute drug toxicity (overdose/poisoning) caused the death, and the Manner of Death is "Accident" or "Could not be determined." Examples of such text include:

- Heroin overdose
- Fentanyl toxicity
- Drug toxicity (cocaine and alprazolam)
- Cocaine and heroin intoxication
- Combined effects of amphetamine and morphine

Sometimes, however, there is variability in how the text and other fields of the DC are filled out. Some deaths that are truly due to unintentional or undetermined intent drug overdose are assigned different manners of death (e.g., in some jurisdictions, deaths in a hospital that are certified by a physician can only be certified as "Natural," and in some jurisdictions, overdose deaths may be assigned a manner of "Homicide" for purposes of prosecuting the person who provided the drugs). Full information about the deaths should be assessed, and all text in the fields circled should be reviewed to identify deaths in which acute drug toxicity caused the death, and the manner was most likely accident/unintentional or undetermined (even if the official manner is assigned differently). **If your jurisdiction has difficulty determining whether drug toxicity or some other illness or external injury (e.g., drowning, fall, or car crash) caused the death, contact the Overdose Surveillance help desk (ODSurveillance@cdc.gov) and copy your CDC support team to discuss further.**

2.3 Identifying SUDORS deaths using CME reports

Using CME reports, a drug overdose death is any death caused by **acute drug toxicity,** where "drug" is defined as in Section 2.1. A review of the CME report might be necessary to identify SUDORS deaths if 1) DC cause-of-death codes are not available (e.g., DC has not received codes, or has only R99 codes for pending investigation); 2) the literal text cause-of-death fields are non-specific (e.g., cause of death is "polysubstance toxicity," "drug overdose," "multi-drug intoxication," etc.) and it cannot be determined whether a substance fitting the definition of a drug caused the overdose (vs. a substance that would be excluded – e.g., alcohol, tobacco, carbon monoxide, or a chemical used for other purposes); and/or 3) there is ambiguity in the cause-of-death codes and/or literal cause-of-death fields about whether acute drug toxicity was the underlying cause of death (vs. an illness, a health condition, or an external cause (e.g., drowning, fall, motor vehicle crash), where the decedent was also intoxicated but acute intoxication did not cause death.

In these or similar situations, the CME report (including postmortem toxicology testing results) and the DC should be reviewed in full. If information indicates that acute drug toxicity caused the death, then it should be included in SUDORS. If it remains uncertain whether the underlying cause of death was acute drug toxicity, contact the Overdose Surveillance helpdesk at ODSurveillance@cdc.gov and copy your CDC support team for clarification. Review of CME reports may lead to identifying drug overdose deaths that have ICD-10 codes outside the SUDORS case definition. **These cases should be included in SUDORS if acute drug toxicity caused the death and the manner of death was accident/unintentional or undetermined intent.** CME report review may also lead to identifying deaths that have ICD-10 codes that fit the SUDORS case definition, but for which the cause and/or manner of death appear to fall outside the definition. **Substantial differences may indicate the need to work with vital statistics and/or the CME community to improve DC completion. Contact the Overdose Surveillance help desk (ODSurveillance@cdc.gov) and copy your CDC support team if multiple instances of this situation arise.**

Additionally, some jurisdictions may have access to additional data sources (e.g., CME databases), and thus may use the following additional case identification activities where appropriate:

- If the CME system in your jurisdiction has an independent system to track drug overdose deaths, your jurisdiction should request and abstract information on all deaths identified as drug overdoses in the CME system as well as deaths identified as drug overdoses on the DC.
- In decentralized CME jurisdictions, populous counties (e.g., counties containing large urban areas such as Chicago, New York City, Los Angeles) may have independent systems to track drug overdose deaths even when a state CME system does not exist. If this is the case in your jurisdiction, your jurisdiction should request and abstract CME reports on all deaths identified by those county or city systems as a drug overdose, as well as deaths identified by the DC.
- Some jurisdictions may directly receive forensic toxicology results from investigations of suspected drug overdose deaths. These jurisdictions should request CME reports on all drug overdose deaths.

2.4 Guidance for Abstracting Undetermined Intent Drug Overdose Deaths

Both SUDORS and NVDRS require collection of data on undetermined intent drug overdose deaths. When abstracting data on these deaths from DC and CME reports, please use the following guidance:

- Enter the undetermined intent drug overdose death **only once** in the SUDORS/NVDRS web-based system.
- Request and enter data from the DC, CME report (including toxicology results), and law enforcement (LE) report. Although SUDORS does not require collection of LE data, NVDRS does require collection of

LE data. Abstraction of CME and DC data are required within the timeframe associated with the tier your jurisdiction indicated in the OD2A NOFO application (i.e., within 6 months for SUDORS Tier 1 and within 8 months for SUDORS Tier 2); however, abstraction of LE data is not required to be completed until the NVDRS deadline.

- Complete the required fields on the OD tab as well as the required fields on the other tabs (both those required for SUDORS and those required for NVDRS). SUDORS requires collection of the OD tab fields. Please see section 4 for specific coding guidance on the OD tab.
- When entering toxicology information on the death, use the following guidance:
    a. Enter all substances detected by toxicology tests.
    b. Enter metabolites for all prescription (e.g., opioid pain relievers) and illicit (e.g., heroin and cocaine) drugs.
    c. Enter all substances listed as contributing to the overdose death in the DC or CME report.

Please see section 5.4 for additional guidance on entering toxicology information.

2.5 Guidance for Jurisdictions That Choose to Abstract Data on Drug-Related Deaths Not Meeting the SUDORS Case Definition

(**Note: This activity is not required by the NOFO**)

Jurisdictions funded through the NOFO are only required to collect information on unintentional and undetermined intent drug overdose deaths involving substances determined to fit the definition of "drug" in Section 2.1. Jurisdictions have the option to enter information on overdose deaths involving other substances, and/or drug-related deaths outside of the SUDORS case definition of deaths from acute drug toxicity if they choose, but OD2A funding should not be used to cover data abstraction for non-SUDORS deaths, and SUDORS deaths must be prioritized. Please note that, for overdose deaths involving other substances and drug-related deaths not caused by acute drug toxicity, if they are of undetermined intent and fit the NVDRS case definition, they must be entered according to NVDRS guidance and timelines.

Examples of other deaths that are substance-related, but do not fit the SUDORS definition, are given below;

- Overdose death involving a substance that does not fit the definition of a drug provided in Section 2.1 – e.g., carbon monoxide poisoning, alcohol poisoning, acute chemical toxicity from "huffing" paint.
- Exacerbation of a medical condition by acute or long-term drug use, but absent evidence of acute toxicity.
- Fall, car crash, or other injury while intoxicated, if clear that the other external injury was the underlying cause of death, rather than acute drug toxicity.

Guidance for entering data on deaths that do not meet the SUDORS case definition is below:

- If a jurisdiction chooses to enter data on drug-related deaths outside of the SUDORS case definition (and outside of the NVDRS case definition) for their own purposes (***optional***), an "Incident type" of "Other (State-Defined)" should be entered so these cases can be clearly distinguished from SUDORS deaths, which should be classified as "3-SUDORS" and so that they can be distinguished from NVDRS deaths, which should be classified as "1-NVDRS."
- For the Abstractor Manner of Death field, jurisdictions can enter "11-Unintentional poisoning" as applicable (e.g., for an overdose death involving a substance that doesn't fit the drug definition) to help track overdose deaths.

- OD2A will only analyze and review the data quality of SUDORS deaths. Deaths with Incident Type "Other (State-Defined)" will be excluded from SUDORS.

2.6 Combined and Related Incidents

The web-based platform used by SUDORS and NVDRS is an incident-based system and as such, has the capability to include multiple decedents within one incident (e.g., multiple homicide, homicide-suicide). SUDORS can leverage this capability to include multiple unintentional or undetermined intent drug overdose deaths within an incident if they satisfy the criteria for doing so. The criteria for combining multiple deaths into a single incident are listed below separately for unintentional and undetermined intent drug overdose deaths:

- Unintentional drug overdose deaths
    - All decedents must have Incident Type "3-SUDORS," indicating an unintentional/accidental poisoning/overdose.
    - All decedents must have overdosed within a 24-hour period. If the actual time of overdose was unknown for 1 or more decedents, decedents must have been discovered unresponsive within 24 hours of each other.
    - All decedents must have some additional clear link – e.g., they all overdosed in the same general location (e.g., same house [but could be different rooms], same hotel/motel room, same car), or 1 overdose death directly contributed to another overdose death (e.g., 2nd decedent used excessive amounts of drugs because she/he was upset about the death of the 1st decedent).
- Undetermined intent drug overdose deaths
    - All decedents must have Incident Type "1-NVDRS," combined with Incident Category "5-Single death of undetermined intent" or "10-Multiple deaths of undetermined intent."
    - All decedents must have overdosed within a 24-hour period. If the actual time of overdose was unknown for 1 or more decedents, decedents must have been discovered unresponsive within 24 hours of each other.
    - All decedents must have some additional clear link – e.g., they all overdosed in the same general location (e.g., same house [but could be different rooms], same hotel/motel room, same car), or 1 overdose death directly contributed to another overdose death (e.g., 2nd decedent used excessive amounts of drugs because she/he was upset about the death of the 1st decedent).

After more than one decedent is combined within a single incident, all decedents then have the same Incident Number. The decedents are distinguishable, however, by their Person IDs, which are linked to the specific decedents. Within an incident, all included decedents will be listed as Victim 1, Victim 2, etc. on the Incident Overview page, and can be accessed by clicking on the Victim #.

There is also a feature that allows jurisdictions to link related incidents involving decedents that do not fit the criteria to be combined into one incident, but for which the jurisdiction would like to document some relationship. A panel on the Incident Overview screen allows users to create links between incidents. Each link has a description field and allows users to click through to see the related incident. The panel looks like this:

There is a great deal of flexibility in the use of the Related Incident function that is left to the discretion of the jurisdiction. For example., it can be used to link overdose deaths involving a substance from a single dealer, overdose deaths of people who were related or knew each other, or to link SUDORS deaths to NVDRS deaths (e.g., unintentional overdose death followed by a suicide).

END SECTION 2

SECTION 3: DATA AND VARIABLE REQUIREMENTS

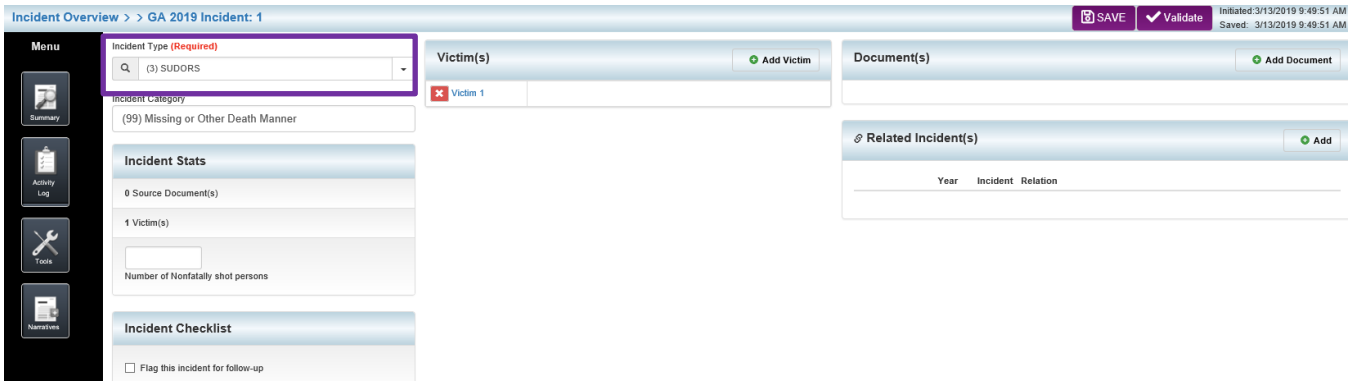
3.1 Data Sources

Jurisdictions are **required to abstract information on unintentional and undetermined intent drug overdose deaths from the DC and CME report (including postmortem toxicology testing results)**. If information from LE reports, medical records, EMS run sheets, and/or any other sources **are available**, please also abstract this information into SUDORS. For unintentional drug overdose deaths, jurisdictions are not required to abstract information from other data sources not included in the CME report, such as prescription drug monitoring programs (PDMP), LE reports, medical records, and EMS run sheets. If jurisdictions choose to abstract information for unintentional drug overdose deaths from sources other than CME reports, the information can either be entered using CME variables and the narrative field only, or can be entered using CME- and LE-specific fields (see section 5.3.a for more detail). If there is doubt as to whether a source can be used, and/or where the information should be entered, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team.

For **undetermined intent** drug overdose deaths, **jurisdictions are required to abstract information from LE reports**, because they are required by the NVDRS program, and should enter the information using the LE fields according to the NVDRS Coding Manual and required deadlines. Abstraction of data from LE reports is not required to be completed in time for SUDORS reporting deadlines. Information from non-required data sources can also be used for undetermined intent drug overdose deaths, but NVDRS has different requirements for where that information should be entered. Information from child fatality review reports should be entered as LE circumstances, but EMS run sheets, hospital/ED discharge reports, and Medicaid claims data should all be entered as CME circumstances. If there is doubt as to whether a source can be used, and/or where the information should be entered, both the NVDRS helpdesk (NVDRS-Coding@cdc.gov) and the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) should be contacted.

If any of the required sources are not available for a given death, an incident should still be created for that death and as much information as possible should be entered into the web system, as long as the existing information allows for identification as a SUDORS case. For example, if there is only a DC and the cause of death information indicates an unintentional or undetermined intent drug overdose, all fields in the web system that can be filled out using the DC should be filled out. A statement should be entered in the CME narrative box indicating which required source documents are not available (e.g., 'CME report not available'), and why they are not available. If the CME report is not available, the "No CME Report Available" checkbox on the OD tab should be checked (see section 4.1.c). A case can be considered complete once data have been abstracted from all available required source documents.

3.2 Required Incident & Document Variables



Jurisdictions are required to enter information for the "Incident Type" variable on the Incident Overview page of the SUDORS/NVDRS web system (refer to the purple box in the image above). This information is important to properly identify and search for drug overdose deaths. Use the following coding:

- If the death is an unintentional drug overdose death, code the death as "3-SUDORS" in the "Incident Type" field.
- If the death is an undetermined intent drug overdose death, then code the death as "1-NVDRS" in the "Incident Type" field.

Drug overdose deaths of undetermined intent fit both SUDORS and NVDRS case definitions. They are entered as "1-NVDRS," but incorporated into SUDORS data using the Incident Category field (relevant categories are "5-Single death of undetermined intent" and "10-Multiple deaths of undetermined intent") and other completed fields. Incident Category is auto-populated depending on the number of victims, the abstractor manner of death, and additional information entered elsewhere in the system.

Jurisdictions are strongly encouraged to develop a system to track requests for DC and CME data and monitor data entry progress. The Document(s) link and Incident Checklist can be used for these purposes. Their use, however, is optional. For an in-depth discussion of the Documents link and Incident Checklist, please review the NVDRS Coding Manual (See Link).

3.3 Required Victim Variables or Items per Tab

Jurisdictions are required to abstract a subset of variables for SUDORS. All other variables are considered optional for unintentional drug overdose deaths. However, if a jurisdiction also receives funding from NVDRS, then NVDRS coding guidance and required variables should be followed, along with the SUDORS coding guidance, for undetermined intent drug overdose deaths. In addition, the variables on the OD tab should be filled in. This section lists the required variables for each of the nine tabs on the victim's page of the SUDORS/NVDRS web system. Requirements for Incident Narratives are also discussed.

Jurisdictions are encouraged to collect optional variables if the data are available, the variable has public health significance, and the jurisdiction has sufficient resources to collect the information. Please see the NVDRS Coding Manual for detailed guidance of coding of both required and optional variables (see Link).

3.3.a Demographics Tab

Please refer to the NVDRS Coding Manual for further coding guidance if coding for a specific variable is not covered in the SUDORS Coding Manual.

Required Variables

Demographics, Race, Ethnicity Variables	
Person Type	Marital status
Sex	Relationship Status
Age & Age Unit	Sex of Partner
Height Feet & Height Inches	Victim Was Pregnant
Weight (lbs)	Sexual Orientation
Race & Ethnicity • White • Black or African American • Asian • Native Hawaiian or Other Pacific Islander • American Indian or Alaska Native • Unspecified Race Hispanic/Latino/Spanish	Current or Former Military Personnel

Place of Residence, Birthplace, Industry, Occupation, and Education Variables	
Country of Residence	Birth Country, if other
State of Residence	Homeless
County of Residence	Housing Instability
City of Residence	Usual Occupation Code
Zip Code of Residence	Usual Occupation Text
Kind of Business/Industry Code	Current Occupation
Usual Industry Text	Education by Degree*
Birth state, Territory, or Country	Education in Number of Years*

*Only one of the two education variables is required for each death

Optional Variables – unintentional drug overdose deaths only (follow NVDRS coding guidance for required/optional variable status for drug overdose deaths of undetermined intent)

- The following variables can be used to link DC and CME data. Although CDC strongly recommends collecting these variables, some jurisdictions may not be able to collect or share this information with CDC.
    - Day of birth
    - First initial of last name
    - Last 4 digits of CME identification number (Note: Most CME reports will be assigned a unique identification number)
    - Last 4 digits of DC identification number (Note: DCs are assigned a unique identification number)
- Some jurisdictions may have census code information on the residence of the decedent. Jurisdictions already collecting this information are strongly encouraged to report it. Census information can be found at this link: *https://geocoding.geo.census.gov/geocoder/geographies/address?form.* The NVDRS coding manual includes information about how to navigate the website found at the link to find the Census Tract and Block Group for an address.
    - US Census Tract of Residence

- US Census Block Group of Residence

3.3.b Injury and Death Tab

Please refer to the NVDRS Coding Manual for further coding guidance if coding for a specific variable is not covered in the SUDORS Coding Manual (see Link).

Required Variables

Manner of Death Variables	
Manner of Death per Abstractor	Manner of Death on CME
Manner of Death on DC	

Injury Locations, Time, and Events Variables	
State or Territory Where Injury Occurred	Injured at Work
County Where Injury Occurred	Injured at Victim's Home
City Where Injury Occurred	EMS at Scene
Zip Code Where Injury Occurred	Victim in Custody When Injured
Type of Location Where Injury Occurred	Children Present and/or Witnessed Fatal Incident
Date of Injury	Recent Release from Institution
Time of Injury	Alcohol Use Suspected When Injured
	Survival time no. of units & Unit of Time Used in Survival Time

Hospital Codes Variables	
Victim Seen in Emergency Department	Victim Admitted to Inpatient Care

Wounds and Death Certificate Variables	
Underlying Cause of Death ICD10 code	Immediate Cause of Death
Underlying Cause of Death ICD10 code 4th digit	Cause Leading to Immediate Cause of Death
Underlying Cause of Death ICD10 code 5th digit	Next Antecedent Cause of Death
Place of Death	Underlying Cause of Death
Other Significant Conditions Contributing to Death	How Injury Occurred
Place of Death, if Other	Date Pronounced Dead
Autopsy Performed	Date of Death
State or Territory of Death	Multiple Conditions Codes on DC (1-10)
County of Death	

Optional Variables – unintentional drug overdose deaths only (all variables required for drug overdose deaths of undetermined intent)

- Jurisdictions do not need to report the "Manner of death per LE" because they are not required to collect LE reports for unintentional drug overdose deaths. If this information is available in the CME report, jurisdictions are encouraged to enter the information. It is helpful to select "9 Record not available or blank" for this field if a LE report is not available, but as an optional variable this is not required, and it is acceptable to leave it blank.
- Some jurisdictions may have census code information on the place of injury (overdose). Jurisdictions already collecting this information are *strongly encouraged* to report it. Census information can be found at this link: *https://geocoding.geo.census.gov/geocoder/geographies/address?form* and the NVDRS coding manual includes information about how to navigate the website found at the link to find the Census Tract and Block Group for an address. The Geocoding website no longer specifically prints the block group in their search outputs. To identify a block group, the single-digit block group code corresponds to the first digit in the block code. The Geocoder tool requires users to select a benchmark (time period) and vintage (census or survey the data refers to). States should use Benchmark: Public_AR_Current and Vintage: Current_Current.
    - US Census Tract of Where Injury Occurred
    - US Census Block Group of Where Injury Occurred
- The field for "This is a School-Associated Violent Death (SAVD)" is not required because it is not likely to be relevant for SUDORS.
- Collection of emergency department and hospitalization records is not required. Consequently, collecting and entering ICD-9-CM and ICD-10-CM diagnosis and treatment codes entered by hospitals on the fatal overdose is optional. These items may be left blank (with no response selected) if information is not collected.
- Collection of information on the number and location of wounds is optional because it does not provide useful information on the vast majority of drug overdose deaths. The collection of information on these items is intended for decedents who died by firearm and sharp instrument injuries only (i.e., weapon type is Firearm or Sharp instrument). If a jurisdiction is interested in collecting information about wounds present on an overdose decedent, these items may be filled in; however, these items may be left blank (with no response selected) if information is not collected.

3.3.c Circumstances Tab

Please refer to the NVDRS Coding Manual for further coding guidance if coding for a specific variable is not covered in the SUDORS Coding Manual.

Required Variables

Circumstances From CME	
Mental Health, Substance Abuse, and Other Addictions Variables	
CME Current Diagnosed Mental Health Problem	CME Crisis Current Diagnosed Mental Health Problem
CME Current depressed mood	
CME Current mental health/substance abuse treatment	

CME Ever treated for mental health or substance abuse problem	
CME Non-adherence to mental health/substance abuse treatment	
CME Alcohol Problem	CME Crisis Alcohol Problem
CME Other Substance Abuse Problem	CME Crisis Other Substance Abuse Problem
CME Other Addiction	CME Crisis Other Addiction
CME Type of First Mental Illness Diagnosed	CME Type of Second Mental Illness Diagnosed
CME History of Traumatic Brain Injury (TBI)	CME Other Mental Health Diagnosis
Relationship and Life Stressors Variables	
CME Disaster Exposure*	
Suicide/Undetermined Specific Circumstances Variables	
CME History of Suicide Attempts	
CME History of Expressed Suicidal Thoughts or Plans	
CME History of Non-Suicidal Self-Injury/Self-Harm	
CME Recently Disclosed Suicidal Thoughts/Plan to Commit Suicide	
Disclosed Intent to Whom From CME	
CME Left a Suicide Note	
Other Circumstances or Crisis Variables	
Other crisis in past two weeks or upcoming two weeks	CME Other circumstance text

*Required for capturing COVID-19 related circumstances, which are described in Appendix F.

Optional Variables – unintentional drug overdose deaths only (all variables required for drug overdose deaths of undetermined intent as indicated by NVDRS Coding Manual [i.e., certain manner-specific variables may not be required])

- Jurisdictions are not required to collect information from law enforcement. If, however, law enforcement information is available in the CME report, and jurisdictions choose to use the information for unintentional drug overdose deaths, data can be abstracted using the **CME** circumstance fields **or** the **LE** fields (see section 5.3.a for more detail).
- The Life Stressor items in the Suicide/Undetermined Specific Circumstances subsection are optional because the items mainly capture information on risk factors associated with suicides.
- All circumstances in the Relationship and Life Stressors, Crime and Criminal Activity, Homicide/Legal Intervention Specific Circumstances, and Manner Specific Circumstances for Unintentional Firearm Deaths subsections are optional because they capture risk factors for violent deaths.

3.3.d Weapons Tab

Please refer to the NVDRS Coding Manual for further coding guidance if coding for a specific variable is not covered in the SUDORS Coding Manual.

Required Variables

- Weapon type is a required variable, and “8 Poisoning” should be selected.

Optional Variables

- “Additional weapon information” is not required but may be used if jurisdictions wish to capture further information.

3.3.e Toxicology Tab

Please refer to the NVDRS Coding Manual for further coding guidance if coding for a specific variable is not covered in the SUDORS Coding Manual.

Required Variables

All variables on the toxicology tab are required. A separate row should be entered for every substance that is detected by postmortem toxicology testing, as well as all substances specified as causing death on the DC or in the CME report. All variables should be filled in for each substance.

Optional Variables

None.

3.3.f OD Tab

Required Variables

All variables are required except for three variables, discussed below.

Optional Variables

The following three variables are optional because they require use of prescription drug monitoring program (PDMP) data that may not be available in all jurisdictions.

- Number of opioid prescriptions in the 30 days preceding injury
- Number of pharmacies dispensing opioids to decedent in 180 days preceding injury
- Number of doctors writing opioid prescriptions to the decedent in the 180 days preceding injury

3.3.g Narratives

Required Variables

The CME narrative needs to be completed for each drug overdose death. Do not enter any potentially identifying information in the narrative. Omit names of decedents, police departments, EMS agencies, hospitals

and treatment centers, medical examiners, witnesses, or other proper names. See Appendix E for detailed guidance for best practices for writing narratives.

Optional Variables – Unintentional Drug Overdose Deaths Only

The LE narrative is optional; if information from LE reports is used, a separate LE narrative can be entered, or all information can be summarized in the CME narrative box, with any discrepancies noted and reconciled where possible (see section 5.3.a for more detail).

3.3.h Optional Data Tabs

All variables on the Suspects Tab, Intimate Partner Violence (IPV) Tab, Child Fatality Review (CFR) Tab, School-Associated Violent Deaths (SAVD) Tab and Public Safety Officer Suicide (PSOS) Tab are optional. Most of the variables on these tabs are not relevant to fatal drug overdoses and may not be accessible within the system for unintentional or undetermined intent drug overdose deaths.

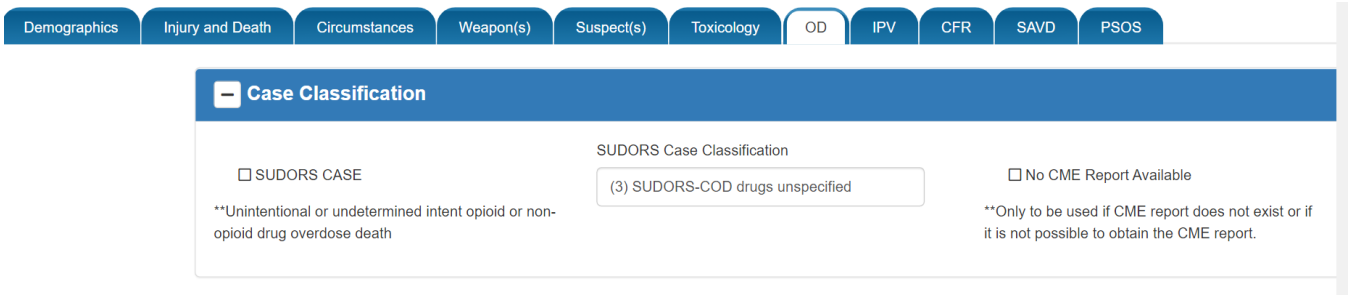
END SECTION 3

SECTION 4: CODING GUIDANCE FOR OVERDOSE (OD) TAB

This section provides coding guidance for overdose-specific variables contained in the Overdose tab, or OD tab, as shown below. While SUDORS includes all unintentional and undetermined intent drug overdose deaths under OD2A funding, there is still a focus on drug overdose deaths involving opioids, as opioids have been involved in the majority of drug overdose deaths across the U.S. in recent years. As a result, several fields specific to overdose deaths where opioids were detected or involved are collected.

Variables are organized into subgroups represented by boxes on the OD tab data entry screen. Specific coding guidance is provided by associated variable subgroup. Some of the response options in the OD tab differ from those used in other tabs. Please note differences, especially if entering numbers directly rather than using the drop-down function. In particular, on the OD tab, "1" often corresponds to "No," whereas in other tabs "0" is used for "No."

4.1 Case Classification



This section was added to help highlight the existing "SUDORS Case" checkbox and ensure it is not missed. Two additional fields were also added to this section to help further classify SUDORS cases with respect to the types of drugs involved (opioid/non-opioid) and availability of a CME report.

4.1.a SUDORS Case

Definition: This variable flags deaths as fitting the SUDORS case definition of fatal drug overdoses that are unintentional or of undetermined intent, and can be used to actively identify which deaths should be included in SUDORS.

Response Options: Checkbox

Discussion: The SUDORS case definition includes all unintentional and undetermined intent drug overdose deaths. Because drug overdose deaths of undetermined intent are also included in NVDRS, a variable to flag cases for inclusion in SUDORS can help in case identification. **This box should be checked for all deaths meeting the SUDORS case definition (see section 2 for further details), even if they also meet the NVDRS case definition (i.e., drug overdose deaths of undetermined intent).** Please contact the Overdose Surveillance help desk (ODSurveillance@cdc.gov) and copy your CDC support team if there is any question about whether a case fits the definition. When data are pulled from the web-based data entry platform for dataset creation, an algorithm to identify SUDORS cases will be applied, and cases will be compared to cases flagged using this variable; CDC staff will follow up with jurisdictions to address any discrepancies (i.e., cases flagged with this

variable that do not meet the algorithm for a SUDORS case, or cases that do meet the algorithm but that are not flagged with this variable).

4.1.b SUDORS Case Classification

Definition: This field allows for classification of deaths as SUDORS (opioid, non-opioid, unspecified) or non-SUDORS. This field is non-editable and the option that is prefilled is determined by the combination of responses entered for the "Incident Type," "Abstractor Manner of Death," and "SUDORS Case" fields, as well as the drug classes entered on the Toxicology tab with the Cause of Death boxes checked. It will update as new data are entered in these fields and the record is saved.

Response Options: Categorical

1 SUDORS-Opioid
2 SUDORS-Non-opioid
3 SUDORS-COD drugs unspecified
88 Non-SUDORS

Discussion: This section was added to help highlight the existing "SUDORS Case" checkbox and ensure it is not missed. Two additional fields were also added to this section to help further classify SUDORS cases with respect to the types of drugs involved (opioid/non-opioid) and availability of a CME report.

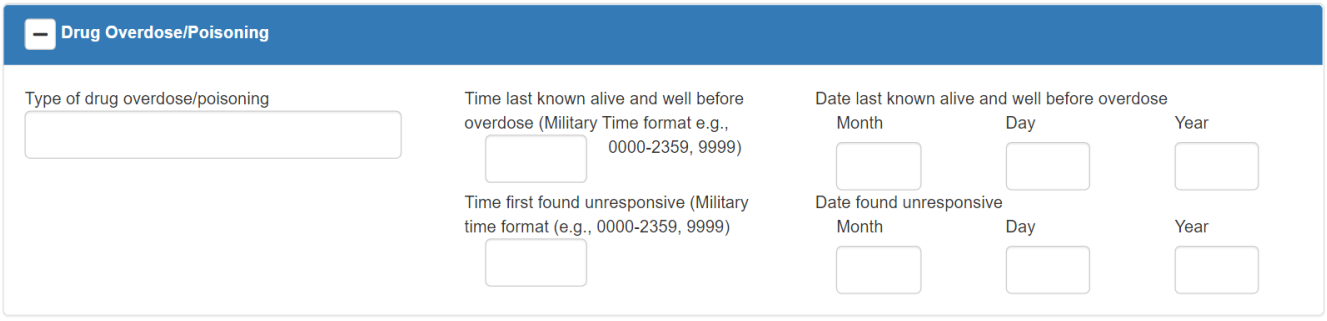
4.1.c No CME Report Available

Definition: This variable should be used to flag deaths for which the CME report is not, and will not become, available.

Response Options: Checkbox

Discussion: This variable will facilitate excluding deaths from analyses of circumstances, for which deaths should only be included if all source materials are available. Do not check this box if a CME report is pending or requested, and it is possible to still receive it. Please note, CME reports are technically required for all SUDORS cases, and checking this box does not exempt any case from this requirement.

4.2 Drug Overdose/Poisoning



The variables in this subgroup capture information on the context of the drug overdose, when the decedent was last seen or known to be alive and well before the fatal overdose, and when the decedent was first found unresponsive after overdosing.

4.2a Type of Drug Poisoning

Definition: This variable 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 illicit substances or misused prescription medications (not for medical reasons), accidentally (unintentionally) ingested the drug or an excessive dose of the drug (e.g., a child took the drug because it looked like candy), took more than the normal dose of a drug for strictly medical reasons, or experienced the overdose while taking the drug as prescribed.

Response Options: Categorical

1 Overdose related to substance use/misuse
2 Victim unintentionally takes a drug or wrong dosage
3 Overmedication
4 Took prescribed dosage
5 Other, please add information to narrative
6 Unknown

Discussion: Understanding why a person who experienced a fatal overdose used the drugs is critical to inform prevention. Each of the six response options is discussed below. In addition to the below guidance, there might be situations where multiple drugs contributed to an overdose, and different response options apply to different drugs (e.g., cause of death ruled a hydrocodone and oxycodone overdose, but there is evidence suggesting hydrocodone misuse and taking prescribed dosage of oxycodone); please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team if this scenario applies and it is not straightforward to select a response for this field. Also, for drug overdose deaths of undetermined intent, the response options for this field might not apply; it is likely that the best options for this type of overdose will be "5 Other, please add information to narrative" or "6 Unknown." Please contact the Overdose Surveillance help desk if there is any question about coding type of drug poisoning for drug overdose deaths of undetermined intent.

1. **Overdose related to substance use/misuse***:* Fatal drug overdoses involving use of illicit substances or misuse of prescription medications, excluding cases where the person misused their own prescription medication by taking more than the prescribed dose of a drug for medical reasons (which should be coded as "3 overmedication") .
    a. Includes, for example:
        i. Any fatal overdose where the decedent used illicit drugs such as heroin or cocaine. Toxicological evidence of illicit drugs is sufficient to code this category.
            1. This includes instances where the decedent consumed prescription drugs in addition to illicit drugs. Please enter more detailed information in the narrative to clearly describe the situation.
        ii. Any fatal overdose involving prescription drugs where the decedent overdosed on drugs not prescribed to them. This includes drugs obtained at no cost from friends and family members as well as drugs from an expired prescription. If there were prescription drugs present on postmortem toxicology testing that were not prescribed to the decedent (or unknown who prescribed to), but that were not ruled to have contributed to the death by the ME/C, it would not necessarily indicate that the overdose belonged in this category.

iii. Any fatal overdose involving prescription drugs where the decedent took more than their prescribed dose solely for reasons other than because they believed it would help their medical condition (e.g., for the feeling they provided).
iv. Witness reports indicate that the decedent was currently misusing drugs or using drugs due to a substance use disorder.
v. The decedent was taking prescription drugs with excessive amounts of alcohol (i.e., more than 1 or 2 drinks).

b. Excludes, for example:
i. Toxicological evidence of prescription drug use and no illicit drug use or excessive alcohol consumption, but no information on whether the decedent was prescribed the drugs or obtained the drugs through diversion. Code this as "6 Unknown" and include an explanation in the narrative.
ii. Toxicological evidence of prescription drug use and no illicit drug use or excessive alcohol consumption, and evidence that the drugs were prescribed to the decedent, but no information on whether the decedent was taking the prescribed dosage, or if there is evidence of taking more than prescribed, no evidence on the reason for taking more than prescribed. Code this as "6 Unknown" and include an explanation in narrative.
iii. The decedent was prescribed a medication for a health condition and was taking more than the prescribed dosage because they believed this would help their medical condition, and there was no illicit drug use. Code this as "3 Overmedication."

2. **Victim unintentionally takes a drug or wrong dosage***:* Fatal overdoses where the decedent accidentally (unintentionally) ingested the drug or excessive dosages of the drug.
a. Includes, for example:
i. A child accidentally took a prescription or illicit drug because they thought it was candy or food or were curious about it.
ii. An adult accidentally took the wrong dosage or amount of a prescribed medication. For instance, the decedent forgot they had already taken their dose of the medication for the day and took it twice.

b. Excludes, for example:
i. A person intentionally took a double dose of a pain reliever because she felt that the current prescribed dose was not working. Code this as "3 Overmedication."
ii. A person could have ingested packages of drugs in order to transport them, and they subsequently leaked or burst, leading to overdose. Code this as "5 Other."

3. **Overmedication***:* Fatal overdoses where the decedent was prescribed a medication for a health condition and was taking more than the prescribed dosage because they believed this would help their medical condition. In order to code this category, the investigation must confirm that the decedent was only taking medication prescribed to him/her.
a. Includes, for example:
i. A decedent was taking more pain relievers than prescribed because he felt the pain reliever was not effectively reducing his pain. Toxicology was consistent with the drugs prescribed to the decedent and there was no evidence of illicit drug use or excessive alcohol consumption.

b. Excludes, for example:

i. The decedent was taking more than the prescribed dosage of a medication and there is evidence to determine that the person was taking the medication for the feeling it provided (rather than to help their medical condition) – code this as "1 Overdose related to substance use/misuse."
ii. The decedent was taking more than the prescribed dosage of a medication and there is insufficient evidence to determine whether the person was taking the medication to address their health issue or for the feeling it provided (i.e., substance use/misuse). Code this as "6 Unknown" and include an explanation in the narrative.

4. **Took prescribed dosage***:* The death investigation indicates that the decedent had a prescription for the drug(s) contributing to his/her death and was taking the drugs as prescribed. In order to code this category, the investigation must confirm that the decedent only overdosed on prescribed medication and the overdose was not a result of illicit drug use or overmedication, or excessive alcohol consumption.
    a. Includes, for example:
        i. A decedent was prescribed multiple medications for health conditions by multiple physicians. An interaction among the medications resulted in the fatal overdose. There was no evidence that the decedent was deceiving physicians (e.g., misrepresenting presence and/or severity of signs/symptoms) in an effort to misuse the medications or taking the medications not as prescribed.
        ii. A decedent was taking only medications prescribed to him/her but had recently experienced major weight loss without having prescriptions adjusted, so the dose prescribed was no longer appropriate.
    b. Excludes, for example:
        i. The decedent took the prescribed drugs with excessive amounts of alcohol. Code this as "1 Overdose related to substance use/misuse."
5. **Other, please add information to narrative**: A drug overdose does not fit into any of the previously described categories, but there is important public health information related to the overdose that needs to be tracked. For instance, a fatal drug overdose may be related to a pharmaceutical product that is accidentally contaminated during production, or a decedent could have ingested packages of drugs in order to transport them, and they subsequently leaked or burst, leading to overdose. If this category is selected, please provide a description in the narrative.
6. **Unknown***:* There is insufficient information to categorize the drug overdose. For instance, a person may overdose on oxycodone, but there is no information available on whether the drug was prescribed to the decedent or was obtained through diversion, or if known to have been prescribed to the decedent, no information about whether the decedent accidentally took the drug, only took the prescribed dosage, took more than prescribed for medical reasons, or took more than prescribed for the feeling it provided.

4.2.b Time Last Known Alive and Well Before Overdose

Definition: This is the time of day that the decedent was last seen or heard from alive before the onset of overdose signs/symptoms. For further discussion of what constitutes overdose signs/symptoms, please see section 4.3.a, Previous Drug Overdose.

Response Options: HHMM

- Military time (0000 – 2359)
- If time is unknown, please enter "9999"

Discussion: This is the time of day in military time that the decedent was last seen or heard from alive before the onset of overdose signs/symptoms. Military time adds "12" to times from 1:00 PM to midnight (e.g., 1:00 PM in military time is 1300).

Key considerations when coding this variable:

- The intent of this variable is to capture the time of day that the decedent was last known to be alive and well before the overdose began, not when last known to be technically alive (i.e., had a pulse).
- If a person witnessed the overdose occurring (i.e., the decedent going unconscious or showing difficulty breathing), the time that the overdose occurred (i.e., time of injury) should be entered. This time would then also match the time first found unresponsive, because it would coincide with both the last time the decedent was seen alive and well and the time the decedent was seen to be unresponsive post-overdose.
- To qualify as having been "known alive," the witness must have had some interaction with the decedent. An interaction includes talking to the decedent on the phone, corresponding with the decedent in real-time through electronic means such as texting or chatting on a phone application or computer. Do not enter the time of an electronic communication that the recipient: 1) read or responded to after the decedent overdosed, 2) never responded to, or 3) responded to after receipt and never heard a response (i.e., there must be some back-and-forth between the witness and decedent prior to overdose onset which would have been an opportunity for intervention).
- Witness report of a decedent having been observed to be "snoring" is often brought up as a potential time last known alive; however, this should not be used to provide information about time/date last known alive. This is because someone could be snoring for one of two reasons: either they are sleeping normally and snoring, or the snoring actually represents agonal breathing, which would indicate that overdose onset has already occurred. In the former scenario, a witness would not be able to verify that the person was alive and well and sleeping normally, because no interaction is possible. In the latter scenario, since the overdose would have already begun, the timing of last being known alive and well would have passed. If there is a specific scenario in which a decedent was observed snoring and it is believed to represent the time they were last known to be alive and well, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team; otherwise, observations of a decedent snoring should not factor into the coding of "Time Last Known Alive and Well Before Overdose."
- In situations where a decedent overdosed and then survived for some time in the ED or as a hospital in-patient before dying, the time last known alive would be the time before the onset of overdose signs/symptoms that ultimately led to hospitalization, not any time during hospitalization in which the decedent was still technically alive.
- In some cases, estimates may be provided about how long before the overdose or death that a person knew the decedent was alive. In these cases, estimate the time last known alive using time of injury or death information. For instance, a report may indicate that someone saw the decedent 3 hours before they died in the hospital. Calculate "Time Last Known Alive and Well Before Overdose" by subtracting 3 hours from the date and time of the death.

- The time last known alive might be given as a range (e.g., the decedent was seen in bedroom between 1200 and 1300). If the range is one hour or less, use the midpoint as the time last known alive (e.g., in this example, the time would be 1230).
- If the time is unknown, please enter "9999."

4.2.c Date Last Known Alive and Well Before Overdose

Definition: Date the decedent was last seen or heard from alive before the onset of overdose signs/symptoms. For further discussion of what constitutes overdose signs/symptoms, please see section 4.3.a, Previous Drug Overdose.

Response Options: MMDDYYYY

- Month (1-12, enter "99" if month is unknown)
- Day (1-31, enter "99" if day is unknown)
- Year (1000 - Present, enter "9999" if year is unknown)

Discussion: This is the date that the decedent was last seen or heard from alive before the fatal overdose occurred. Key considerations when coding this variable:

- The intent of this variable is to capture the date that the decedent was last known to be alive and well before the overdose began, not when last known to be technically alive (i.e., had a pulse).
- If a person witnessed the overdose occurring (i.e., the decedent going unconscious or showing difficulty breathing), the date that the overdose occurred (i.e., date of injury) should be entered. This date would then also match the date first found unresponsive, because it would coincide with both the last date the decedent was seen alive and well and the date the decedent was seen to be unresponsive post-overdose.
- To qualify as having been "known alive," the witness must have had some interaction with the decedent. An interaction includes talking to the decedent on the phone, corresponding with the decedent in real-time through electronic means such as texting or chatting on a phone application or computer. Do not enter the date of an electronic communication that the recipient: 1) read or responded to after the decedent overdosed, 2) never responded to, or 3) responded to after receipt and never heard a response (i.e., there must be some back-and-forth between the witness and decedent prior to overdose onset which would have been an opportunity for intervention).
- Witness report of a decedent having been observed to be "snoring" is often brought up as a potential date last known alive; however, this should not be used to provide information about time/date last known alive. This is because someone could be snoring for one of two reasons: either they are sleeping normally and snoring, or the snoring actually represents agonal breathing, which would indicate that overdose onset has already occurred. In the former scenario, a witness would not be able to verify that the person was alive and well and sleeping normally, because no interaction is possible. In the latter scenario, since the overdose would have already begun, the timing of last being known alive and well would have passed. If there is a specific scenario in which a decedent was observed snoring and it is believed to represent the date they were last known to be alive and well, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team; otherwise, observations of a decedent snoring should not factor into the coding of "Date Last Known Alive and Well Before Overdose."

- In situations where a decedent overdosed and then survived for some time in the ED or as a hospital in-patient before dying, the date last known alive would be the date before the onset of overdose signs/symptoms that ultimately led to hospitalization, not any date during hospitalization at which the decedent was still technically alive.
- Please enter all available information. For instance, information may be available on the month and year that the decedent was last known alive, but not the day. In this case, enter values for month and year and enter "99", or unknown, for the "Day" variable.
- In some cases, estimates may be provided about how long before the overdose or death that a person saw the decedent alive. In these cases, use the information provided to fill in as much of the date as possible without making assumptions. For instance, if a decedent was discovered unresponsive and pronounced dead on 5/17/2019 and the report indicated that s/he was last seen a week earlier, then we know the date last seen was in May 2019, but there is some uncertainty about the exact day of the month (so "Date Last Known Alive Before Overdose" should be filled in as 05/99/2019).
- If the month is unknown, please enter "99."
- If the day is unknown, please enter "99."
- If year is unknown, please enter "9999."

4.2.d Time First Found Unresponsive

Definition: This is the time of day that the decedent was first discovered unresponsive after onset of the fatal overdose.

Response Options: HHMM

- Military time (0000 – 2359)
- If time is unknown, please enter "9999"

Discussion: This is the time of day in military time that the decedent was first found unresponsive. Military time adds "12" to times from 1:00 PM to midnight (e.g., 1:00 PM in military time is 1300). Key considerations when coding this variable:

- The intent of this variable is to capture the time that the decedent was first discovered unresponsive. This time may correspond to the onset of overdose signs/symptoms if a person witnessed the overdose occurring. If the overdose was witnessed, this time would then also match the time last known alive and well, because it would coincide with both the last time the decedent was seen alive and well and the time the decedent was seen to be unresponsive post-overdose. Alternatively, a person may have discovered the decedent already unresponsive (e.g., a family member returns to the home and finds the decedent unresponsive but was not nearby when the overdose signs/symptoms began). For further discussion of what constitutes overdose signs/symptoms, please see section 4.3.a, Previous Drug Overdose.
- If the individual is found already deceased, enter this as the time the decedent was found unresponsive. Do not mark the time as unknown.
- If the time is unknown, please enter "9999."

4.2.e Date Found Unresponsive

Definition: Date the decedent was first found unresponsive after onset of the fatal overdose.

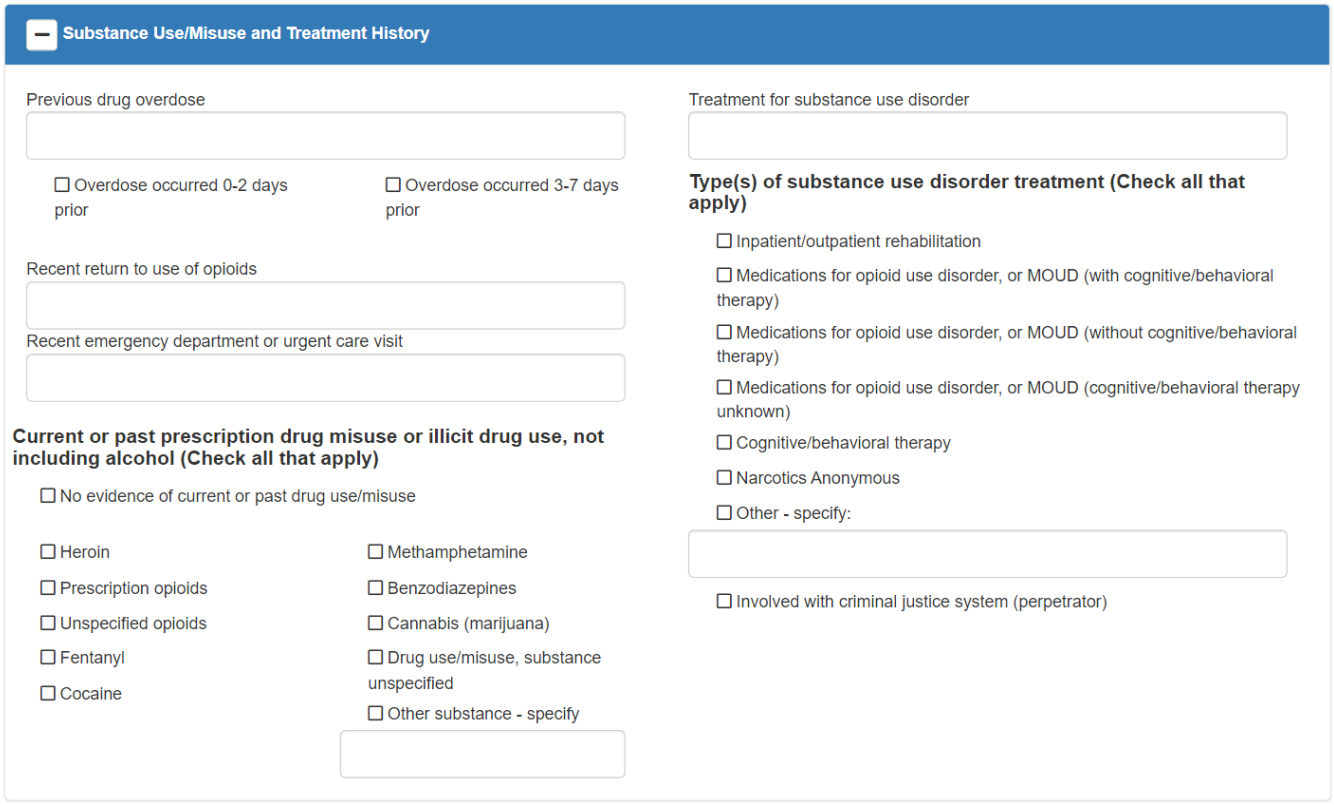
Response Options: MMDDYYYY

- Month (1-12, enter “99” if month is unknown)
- Day (1-31, enter “99” if day is unknown)
- Year (1000 - Present, enter “9999” if year is unknown)

Discussion: This is the date that the decedent was first discovered unresponsive. Key considerations when coding this variable:

- The intent of this variable is to capture the date that the decedent was first discovered unresponsive. This could correspond to when the decedent first went unresponsive, if a person witnessed the overdose occurring. If the overdose was witnessed, this date would then also match the date last known alive and well, because it would coincide with both the last date the decedent was seen alive and well and the date the decedent was seen to be unresponsive post-overdose. Alternatively, a person may have discovered the decedent already unresponsive (e.g., a family member returns to the home and finds the decedent unresponsive but was not nearby when the overdose signs/symptoms began).
- If the individual is found already deceased, enter this as the date the decedent was found unresponsive. Do not mark the date as unknown.
- If a person witnessed the overdose occurring (i.e., the decedent going unconscious or showing difficulty breathing), the date that the overdose occurred (i.e., date of injury) should be entered.
- If the month is unknown, please enter “99.”
- If the day is unknown, please enter “99.”
- If year is unknown, please enter “9999.”

4.3 Substance Use/Misuse and Treatment History Subgroup



These variables capture information on the decedent's current/past drug use/misuse, whether the decedent relapsed and began using opioids after a period of abstinence, current or past treatment for substance use disorders (and type(s) of treatment), previous drug overdoses, recent emergency department visits, and involvement with the criminal justice system.

4.3.a Previous Drug Overdose

Definition: A previous drug overdose, involving any substance, and regardless of intent (e.g., unintentional, undetermined intent, or intentional (i.e., suicide attempt by overdose)) was reported. A drug overdose is defined as an acute drug toxicity. The decedent manifesting signs or symptoms such as difficulty breathing, unconsciousness/unresponsiveness, arrhythmia related to the ingestion, inhalation, injection, or absorption of drug(s) in quantities greater than recommended or of an illicit substance. Opioid overdose symptoms may present as sedation (sleepiness), low blood pressure, slowed or no heart rate, and slowed or no breathing. Signs and symptoms of stimulant (e.g., cocaine, methamphetamine, cathinones) overdose may include dizziness, tremor, irritability, confusion, hostility, hallucinations, panic, headache, skin flushing, chest pain, palpitations, cardiac arrhythmias, hypertension, vomiting, cramps, and excessive sweating. High doses of stimulants may also cause high fever, severely agitated delirium, metabolic acidosis, cardiac arrhythmias and arrest, irregular breathing, seizures, and stroke. Barbiturate and benzodiazepine overdoses may present as respiratory and/or CNS (central nervous system) depression, confusion and disorientation, and/or stupor., High doses or co-ingestion with ethanol or opioids can cause life-threatening or fatal respiratory depression. Overdoses from other novel psychoactive substances (e.g., kratom/mitragynine, synthetic cannabinoids, synthetic

phenethylamines) often have signs and symptoms similar to those of opioid or stimulant overdoses but may also present differently.[6]

Response Options: Categorical

1 No previous overdose reported
2 Previous OD within the last month
3 Previous OD occurred between a month and a year ago
4 Previous OD occurred more than a year ago
5 Previous OD, timing unknown

Discussion: People who experienced a nonfatal overdose in the past are at an increased risk for an overdose in the future.

The following situations should be considered evidence of previous drug overdoses:

- A family member or friend reported that the decedent had previously overdosed but provided no information on the substance(s) involved in the overdose.
- Previous overdoses related to any drug including but not limited to opioids, benzodiazepines, cocaine, or sedatives.
- A drug overdose that required treatment in an emergency department, critical care center, or other medical center.
- An opioid-involved overdose that was treated with naloxone (a drug to reverse opioid overdoses) by a layperson and the person experiencing the overdose did not seek medical treatment.
- A drug overdose to which emergency medical services responded (e.g., after a 9-1-1 call), and the person refused to be transported to the hospital.

The following situations are not considered a previous drug overdose:

- The decedent is reported as previously passing out from or receiving medical care for alcohol intoxication or poisoning.
- The decedent previously experienced adverse effects from substance use that are not acute, such as constipation or skin rashes.

[6] For additional information about overdose symptoms by substance type, please see the following resources:

- Opioids: Centers for Disease Control and Prevention. Know the Signs. Save a Life. Available from: https://www.cdc.gov/drugoverdose/pdf/patients/Preventing-an-Opioid-Overdose-Tip-Card-a.pdf
- Stimulants: Substance Abuse and Mental Health Services Administration. Treatment for Stimulant Use Disorders. Treatment Improvement Protocol (TIP) Series 33. SAMHSA Publication No. PEP21-02-01- 004. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2021. Available from: https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-004.pdfBenzodiazepines: Kang M, Ghassemzadeh S. Benzodiazepine Toxicity. [Updated 2019 Mar 8]. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2019. Available from: https://www.ncbi.nlm.nih.gov/books/NBK482238/
- Barbiturates: Suddock JT, Cain MD. Barbiturate Toxicity. [Updated 2018 Nov 15]. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2019. Available from: https://www.ncbi.nlm.nih.gov/books/NBK499875/
- Synthetic cannabinoids: Cohen J, Morrison S, Greenberg J, Saidinejad M. Clinical Presentation of Intoxication Due to Synthetic Cannabinoids. *Pediatrics* 2012;129(4). Available from: 10.1542/peds.2011-1797
- Synthetic phenethylamines: Vang Dean B, Stellpflug SJ, Burnett AM, Engebretsen KM. 2C or Not 2C: Penethylamine Designer Drug Review. *Journal of Medical Toxicology* 2013;9(2):172-178. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657019/
- Mitragynine/kratom: Post S, Spiller HA, Chounthirath T, Smith GA. Kratom exposures reported to United States poison control centers: 2011-2017. *Clinical Toxicology* 2019; 57(10): 847-854. Available from: https://doi.org/10.1080/15563650.2019.1569236

- The decedent previously sought medical care to manage withdrawal signs/symptoms (may be referred to as "detox").
- The decedent previously sought medical care for injection-related conditions such as abscesses, endocarditis, or fevers.

The following situation would require additional information to determine whether there was a previous overdose:

- The decedent was revived by naloxone and/or admitted to the ED/hospital and was released seemingly recovered. The decedent was later found unresponsive after the overdose that led to death, with no evidence of additional drug use. Timeline, toxicology results, and additional information from the CME report should be used to determine whether it is more likely that the fatal overdose was the same as the overdose that led to naloxone revival or ED/hospital admission, or whether subsequent substance use led to another overdose.

This item also captures the time period from the previous overdose to when the fatal drug overdose occurred.

- If the person experienced multiple overdoses, code the timing of the most recent overdose. For instance, if the decedent experienced an overdose a week before the fatal overdose, two months before the fatal overdose, and a year before, code "2 Previous OD in the past month" because the most recent overdose occurred within a week of the fatal overdose.
- If the person is described as "just" or "recently" experiencing a drug overdose, code "2 Previous OD in the past month."
- If the decedent was reported as overdosing a "long time ago," code "4 Previous OD occurred more than a year ago."
- If the decedent was estimated to have experienced an overdose at "about" or "approximately" a time that is a response option (e.g., "about a month ago" or "about a year ago"), code this in the shorter interval. For instance, if a previous overdose occurred "about a month ago," code this as "2 Previous OD in the past month." Similarly, if a previous overdose occurred "about a year ago," code this as "3 Previous OD occurred between a month and a year ago."
- If no information is supplied on the timing of the overdose, code "5 Previous OD, timing unknown."

4.3.a.i Overdose occurred 0-2 days prior

Definition: A previous drug overdose occurring 0-2 days prior to the fatal overdose, involving any substance, and regardless of intent (e.g., unintentional, undetermined intent, or intentional (i.e., suicide attempt by overdose)) was reported.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence of the decedent having previously, in the past 0-2 days, used a drug or other substance in quantities greater than recommended or tolerated resulting in a toxic state or unconsciousness/unresponsiveness. Do not include the fatal overdose. If there is mention of an overdose during the past 0-2 days, but it is unclear whether it was a distinct overdose from the fatal overdose, or it was all part of the same fatal overdose event, please check this box and note the uncertainty in the incident narrative. This checkbox can be checked before filling in the "Previous drug overdose" field (4.3.a), and by doing so it will auto-populate that field to the "2 Previous OD within the last month" option from the

drop-down menu. If, however, the "Previous drug overdose" field (4.3.a) is filled in first, this checkbox will only be turned on if the "2 Previous OD within the last month" option is selected; otherwise, this checkbox will be turned off. Either this checkbox or the checkbox for "Overdose occurred 3-7 days prior" can be selected, but not both, because the most recent previous overdose should be referenced.

4.3.a.ii Overdose occurred 3-7 days prior

Definition: A previous drug overdose occurring 3-7 days prior to the fatal overdose, involving any substance, and regardless of intent (e.g., unintentional, undetermined intent, or intentional (i.e., suicide attempt by overdose)) was reported.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence of the decedent having previously, in the past 3-7 days, used a drug or other substance in quantities greater than recommended or tolerated resulting in a toxic state or unconsciousness/unresponsiveness. Do not include the fatal overdose. This checkbox can be checked before filling in the "Previous drug overdose" field (4.3.a), and by doing so it will auto-populate that field to the "2 Previous OD within the last month" option from the drop-down menu. If, however, the "Previous drug overdose" field (4.3.a) is filled in first, this checkbox will only be turned on if the "2 Previous OD within the last month" option is selected; otherwise, this checkbox will be turned off. Either this checkbox or the checkbox for "Overdose occurred 0-2 days prior" can be selected, but not both, because the most recent previous overdose should be referenced.

4.3.b Recent Opioid Use Relapse

Definition: The decedent had a past history of using illicit opioids, misusing prescription opioids or having an opioid use disorder, and experienced a relapse, or "return to use", of opioids after a period of abstinence (i.e., not using opioids) for at least one week. This variable should also be used to capture instances where the decedent was taking medication-assisted therapy (also known as medications for opioid use disorder MOUD]) and then returned to using illicit opioids or misusing prescription opioids (if in the relevant time period). While these decedents are not necessarily "opioid-naïve," they were likely taking a lower dose of opioids than they would while misusing opioids, and thus it still represents a risk factor for overdose.[7]

Response Options: Categorical

0 No evidence
1 Relapse occurred < 2 weeks before fatal overdose
2 Relapse occurred between 2 weeks and < 3 months before fatal overdose
3 Relapse mentioned, timing unclear

Discussion: As mentioned at the beginning of section 4, several fields on the OD tab collect information related to opioid use, including this field about recent opioid use relapse. People abstaining from opioid use after prolonged use often lose their tolerance to opioids during periods of abstinence. Loss of tolerance can put people at higher risk for overdose because they may return to using high dosages they had previously been taking .[7] That is, a dose of heroin that was previously sufficient to create a "high" or feelings of euphoria may result in an overdose after a period of abstinence and resulting loss of tolerance. The intent of this variable is to

[7] Babu KM, Brent J, Juurlink DN. Prevention of opioid overdose. Campion EW, editor. N Engl J Med. 2019;380(23):2246–55.

capture evidence of relapse within the 3 months prior to the fatal overdose; the response options therefore reflect that timeframe. If there is clear evidence that a relapse occurred but it was more than 3 months prior to the fatal overdose, code as "0 No evidence," but include the information in the narrative.

"Recent Opioid Use Relapse" should be coded in the following circumstances:

- The decedent was reported as overdosing after starting to use opioids again after a period of abstinence, but when the relapse occurred was not specified. Code this example as "3 Relapse mentioned, timing unclear."
    - The reported period of abstinence should be strongly supported by witness report or other evidence (i.e., do NOT code as relapse if there is a report that a witness "thought" the decedent had not been using opioids, "assumed" that the decedent had not been using opioids, or was surprised that the decedent was using opioids).
- The decedent was recently released from a stay of a week or more in an institutional setting such as prison or residential treatment before they overdosed. The person is assumed abstinent during their institutional stay, unless noted otherwise. The timing of the release can inform timing of relapse, but caution should be used; if the decedent was released from in-patient rehab one month before the fatal overdose, for example, that does not mean that relapse necessarily happened one month prior (i.e., don't automatically code as "2 Relapse occurred between 2 weeks and < 3 months before fatal overdose"). All it means is that, assuming abstinence while in rehab, the relapse happened within the past month (so could qualify as "1 Relapse occurred < 2 weeks before fatal overdose" or "2 Relapse occurred between 2 weeks and < 3 months before fatal overdose"). In this example, code as "3 Relapse mentioned, timing unclear" unless additional evidence can support one timeframe over another.
- The decedent can be considered to have had a relapse if there is evidence that the decedent was abstinent leading up to the drug use that led to the fatal overdose. A witness report of a person living and interacting closely with the decedent or a close friend or family member who was aware of the decedent's substance use and abstinence and had consistent contact with the decedent (e.g., every few days) would be sufficient to code.
- Toxicology testing results can be used to code this variable; if there is evidence that the decedent had a history of opioid use/misuse and a period of abstinence, and there is no other evidence of a return to opioid use/misuse but the toxicology results include one or more opioids, that can be used as evidence of a return to using/misusing opioids.

4.3.c Recent Emergency Department Visit or Urgent Care Visit

Definition: An emergency department (ED) or other urgent care facility visit, whether for an opioid-involved or other drug overdose, or for any other reason, might represent an opportunity for intervention for someone with a substance use disorder. Potential interventions include a warm hand-off to care or treatment and/or education provided while in the ED or urgent care facility.

Response Options: Categorical

0 No evidence of ED or urgent care visit within last year before death
1 ED or urgent care visit within the last month before death
2 ED or urgent care visit between one and three months before death

3 ED or urgent care visit between three and six months before death
4 ED or urgent care visit between six months and one year before death
5 Recent ED or urgent care visit noted, timing unknown

Discussion: Check the box associated with this variable if there is indication that the decedent had visited an ED or urgent care facility within the year preceding the fatal overdose. If an ED or urgent care visit is mentioned without a timeframe, select the option for "5 Recent ED or urgent care visit noted, timing unknown." The ED or urgent care visit does not have to be for an opioid-involved or other drug overdose in order to code this variable. This variable should be coded regardless of the decedent's disposition following the ED or urgent care visit – that is, visits resulting in discharge, admission to inpatient care, transfer to another facility, or any other disposition should be included. ED visits corresponding to the overdose that resulted in death should not be used to code this variable, and will instead be captured by the field "Victim seen in ED" on the Injury and Death tab. If the decedent was seen in the ED or urgent care facility close in time to the fatal overdose and it is unclear whether it represented a distinct ED or urgent care visit, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team for further guidance.

4.3.d Current or Past Prescription Drug Misuse or Illicit Drug Use, Not Including Alcohol

This section contains multiple checkboxes that can be used to capture information about the decedent's history ("history" being used as in medical history, to indicate either previous known drug use/misuse or ongoing/current use/misuse) of drug use/misuse (i.e., use of illicit drugs and/or misuse of prescription drugs).. If there is no indication that the decedent had a history of drug use/misuse (either in the past or ongoing/current), the box for "No evidence of current or past drug use/misuse" should be checked. If, however, there is some indication that the decedent had, either in the past or ongoing/current, a problem with drug use/misuse then one or more of the other checkboxes in this section should be checked. This section does not require evidence of a diagnosed substance use disorder, but there should be some indication of either past or ongoing/current drug use/misuse, outside of drugs being involved in the fatal overdose.

4.3.d.i No evidence of current or past drug use/misuse

Definition: No evidence of current or past use of illicit drugs or misuse of prescription drugs (use/misuse).

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is no evidence of current or past use/misuse of drugs. This variable should be coded independently of toxicology results, as it may be used in the interpretation of those results. If this box is selected, it will prevent the selection of any sub-items in this section.

4.3.d.ii Heroin

Definition: There is evidence of the decedent's current or past use of heroin.

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past use of heroin. Evidence of a substance use disorder is not required to code this variable. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. A positive toxicology test for heroin or its metabolite 6-monoacetylmorphine (also known as 6-MAM or 6-acetylmorphine (6-AM), should not be used as evidence of history of heroin use. This is

because, for example, someone could take heroin for the very first time and die from an overdose – the heroin use that led to the overdose would not necessarily indicate that the person had any history of heroin use (either in the past or ongoing) that would have indicated any risk for overdose

Witness report or other evidence that the decedent took heroin leading to the fatal overdose, without any additional evidence that s/he had a history of heroin use (either current ongoing use or use in the past), should not be used to code evidence of heroin use.

4.3.d.iii Prescription opioids

Definition: There is evidence of the decedent's current or past misuse of prescription opioids (e.g., methadone, oxycodone, hydromorphone).

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past misuse of prescription opioids (e.g., methadone, oxycodone, hydromorphone). Evidence of a substance use disorder is not required to code this variable, but there should be some evidence of misuse (i.e., using more than the prescribed dose, or using prescription opioids that were not prescribed to him/her). Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. The toxicology results will be analyzed separately and could be used to validate this item. A positive toxicology test for prescription opioids should not be used as evidence of history of prescription opioid misuse.

Witness report or other evidence that the decedent took prescription opioids leading to the fatal overdose, without any additional evidence that s/he had a history of prescription opioid misuse (either current ongoing use/misuse or use/misuse in the past), should not be used to code evidence of prescription opioid misuse.

4.3.d.iv Unspecified opioids

Definition: There is evidence of the decedent's current or past use or misuse of opioids, without specification of the type of opioid.

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past use or misuse of opioids, without specification of the type of opioid. Evidence of a substance use disorder is not required to code this variable. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. The toxicology results will be analyzed separately and could be used to validate this item. A positive toxicology test for unspecified opioids should not be used as evidence of history of unspecified opioid use/misuse.

Witness report or other evidence that the decedent took unspecified opioids leading to the fatal overdose, without any additional evidence that s/he had a history of unspecified opioid use/misuse (either current ongoing use/misuse or use/misuse in the past), should not be used to code evidence of unspecified opioid use/misuse.

4.3.d.v Fentanyl

Definition: There is evidence of the decedent's current or past use of illicitly manufactured fentanyl.

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past use of illicitly manufactured fentanyl. Do not include misuse of prescription fentanyl (prescription fentanyl is coded as prescription opioids). If there is a mention of current/past use of fentanyl but not enough information to know whether it was prescription fentanyl or illicitly manufactured fentanyl, do not check this box but instead check the box for Unspecified opioids (section 4.3.d.iv). Evidence of a substance use disorder is not required to code this variable. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. The toxicology results will be analyzed separately and could be used to validate this item. A positive toxicology test for fentanyl should not be used as evidence of history of fentanyl use.

Witness report or other evidence that the decedent took illicitly manufactured fentanyl leading to the fatal overdose, without any additional evidence that s/he had a history of fentanyl use (either current ongoing use or use in the past), should not be used to code evidence of fentanyl use.

4.3.d.vi Cocaine

Definition: There is evidence of the decedent's current or past use of cocaine (including crack cocaine).

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past use of cocaine (including crack cocaine). Evidence of a substance use disorder is not required to code this variable. Current or past substance use should be endorsed on the basis of witness reports or other information in the CME report. A positive toxicology test for cocaine should not be used as evidence of history of cocaine use.

Witness report or other evidence that the decedent took cocaine leading to the fatal overdose, without any additional evidence that s/he had a history of cocaine use (either current ongoing use or use in the past), should not be used to code evidence of cocaine use.

4.3.d.vii Methamphetamine

Definition: There is evidence of the decedent's current or past use of methamphetamine.

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past use of methamphetamine. Evidence of a substance use disorder is not required to code this variable. Current or past substance use should be endorsed on the basis of witness reports or other information in the CME report. A positive toxicology test for methamphetamine should not be used as evidence of history of methamphetamine use.

Witness report or other evidence that the decedent took methamphetamine leading to the fatal overdose, without any additional evidence that s/he had a history of methamphetamine use (either current ongoing use or use in the past), should not be used to code evidence of methamphetamine use.

4.3.d.viii Benzodiazepines

Definition: There is evidence of the decedent's current or past misuse of benzodiazepines.

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past misuse of benzodiazepines. Evidence of a substance use disorder is not required to code this variable. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. A positive toxicology test for benzodiazepines should not be used as evidence of history of benzodiazepine misuse. Since benzodiazepines can be prescribed, simply having toxicological evidence of use does not indicate whether it was misuse or used as prescribed.

Witness report or other evidence that the decedent took benzodiazepines leading to the fatal overdose, without any additional evidence that s/he had a history of benzodiazepine misuse (either current ongoing misuse or misuse in the past), should not be used to code evidence of benzodiazepine misuse.

4.3.d.ix Cannabis (marijuana)

Definition: There is evidence of the decedent's current or past use/misuse of cannabis (marijuana).

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past use of cannabis (marijuana). Evidence of a substance use disorder is not required to code this variable. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. The toxicology results will be analyzed separately and could be used to validate this item. A positive toxicology test for cannabis should not be used as evidence of history of cannabis use/misuse.

Witness report or other evidence that the decedent took cannabis leading to the fatal overdose, without any additional evidence that s/he had a history of cannabis use/misuse of substance (either current ongoing use/misuse or use/misuse in the past), should not be used to code evidence of cannabis use/misuse.

4.3.d.x Drug use/misuse, substance unspecified

Definition: There is evidence of the decedent's current or past drug use/misuse, but the specific substance(s) were not specified.

Response Options: Checkbox

Discussion: Check this box if there was evidence of the decedent's current or past drug use/misuse, but the specific substance(s) were not specified. Evidence of a substance use disorder is not required to code this variable. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. The toxicology results will be analyzed separately and could be used to validate this item.

Witness report or other evidence that the decedent took unspecified substances leading to the fatal overdose, without any additional evidence that s/he had a history of unspecified substance use/misuse (either current ongoing use/misuse or use/misuse in the past), should not be used to code evidence of unspecified substance use/misuse.

4.3.d.xi Other substance-specify

Definition: Decedent was known to misuse (for prescription drugs) or use (for illicit drugs) a drug other than those listed.

Response Options: Checkbox

Discussion: Check this box if the decedent was known to misuse (for prescription drugs) or use (for illicit drugs) a drug that is not listed. Please list the drug(s) in the text box, separated by a comma if there is more than one drug. Evidence of a substance use disorder is not required to code these variables. Current or past substance use/misuse should be endorsed on the basis of witness reports or other information in the CME report, but not the toxicology results related to the fatal overdose. The toxicology results will be analyzed separately and could be used to validate this item. Do not include alcohol as a type of substance.

4.3.e Treatment for Substance Use Disorder

Definition: Receiving treatment for any type of substance use disorder (e.g., opioid use disorder, cocaine use disorder), excluding alcohol.

Response Options: Categorical

1 No evidence of treatment
2 Current treatment
3 No current treatment, but treated in the past

Discussion:

Code "2 Current treatment" if the decedent was receiving treatment for any substance use disorder at the time of the fatal overdose. For example:

- The decedent was prescribed medications for opioid use disorder (MOUD) (also referred to as medication-assisted treatment [MAT]), and there is evidence that the prescription was current
- The decedent was living in an inpatient rehabilitation facility at the time of the fatal overdose
- The decedent saw a mental health/substance use disorder professional within the past month, was participating in treatment for a substance use disorder such as outpatient treatment (with evidence of having seen a provider within the past month) or was attending Narcotics Anonymous or Alcoholics Anonymous (with evidence of having attended a session or meeting within the past month)

Code "3 No current treatment but treated in the past" if the decedent was not currently in treatment (with "current" treatment as defined above) but had received any treatment in the past. For example:

- There was evidence of previous stay(s) at an inpatient rehabilitation facility
- There was evidence of evidence of medications for opioid use disorder (MOUD) (also referred to as medication-assisted treatment [MAT]) that was not still ongoing
- The decedent had attended outpatient treatment sessions or Narcotics Anonymous or Alcoholics Anonymous meetings previously with no evidence of attendance within the past month.

If there is evidence that the decedent was not currently in treatment and had never received treatment, or if no information is available that the decedent either was or was not in treatment (or had ever received treatment), code as "1 No evidence of treatment."

The timeframe for this variable differs slightly from the CME/LE Circumstance variables for "Current mental health/substance abuse treatment," for which the decedent could have seen a mental health professional within the past two months in order to qualify. The reason for this is that the "Treatment for Substance Use Disorder" field on the OD tab is specific to substance use disorder treatment, whereas on the Circumstances tab substance abuse treatment is combined with mental health treatment; here, if the last time seeing a professional was more than a month prior to the fatal overdose, it is not likely to represent ongoing, current treatment. Using any specific timeframe can be complicated, however, since the frequency with which an

individual might receive different forms of treatment (e.g., outpatient visits, NA meetings, etc.), will vary across individuals and over time within an individual in different phases of recovery. If any information is known about the normal frequency with which a decedent had been receiving treatment, it can be used in conjunction with information about last known receipt of treatment to inform the response to this variable. For example, if there is evidence that a decedent had been regularly attending weekly NA meetings for some time but had only attended 1 meeting 3.5 weeks prior to the fatal overdose, this could be coded as "3 No current treatment, but treated in the past" even though there was evidence of meeting attendance in the past month. Or conversely, if a decedent had been regularly attending outpatient visits with a substance use disorder specialist every other month, and there was evidence that he/she had attended the last scheduled visit 1.5 months prior to fatal overdose, it could be coded as "2 Current treatment" even though there was no visit attended in the past month.

Treatment for a substance use disorder includes:

- Seeing a psychiatrist, psychologist, medical clinician, therapist, or other counselor (including religious or spiritual counselors) for a substance use disorder.
- Being prescribed MAT/MOUD, such as buprenorphine (Suboxone™), methadone, or naltrexone. Only include as current or past treatment if there is clear evidence that prescriptions were for treatment of opioid use disorder, and not for treatment of pain. Please note, buprenorphine alone (without naloxone) and methadone can be prescribed for treatment of pain, so evidence of a buprenorphine or methadone prescription without any indication that they were prescribed as MOUD should not be used as evidence of treatment. Suboxone™, however, is the brand name for a combination buprenorphine/naloxone medication that is only prescribed as MOUD (not for pain) – so evidence that the decedent had a Suboxone™ prescription is sufficient to use as evidence of past or current treatment for OUD (depending on information about timing of prescription).
- Residing in an inpatient, group home, or halfway house facility for people with substance use disorders.
- Participating in Narcotics Anonymous or Alcoholics Anonymous.

The following situations should not be included as evidence of treatment for a substance use disorder:

- There is a positive toxicology test for drugs used as MOUD (such as buprenorphine), without further evidence that the drugs were being taken to treat opioid use disorder, because methadone and buprenorphine can both be prescribed for pain. There must also be some indication that the decedent was actually being treated for a substance use disorder, such as a current prescription or a report from/by a family member. If toxicology results and/or scene evidence/witness report indicate that the decedent was taking buprenorphine, methadone, or another medication, but there is no evidence that the medication was prescribed to the decedent, do not code as treatment because the medications can be obtained and used illegally (including to treat substance use disorder without getting a prescription).
- There is evidence that the decedent received care or treatment for something related to a substance use disorder, but there is no evidence that the underlying substance use disorder was treated, e.g.:
    - The decedent is reported as previously losing consciousness from or receiving medical care for alcohol intoxication or poisoning.
    - The decedent previously sought medical care after experiencing adverse effects from drug use that are not acute such as constipation or skin rashes.
    - The decedent previously sought medical care to manage withdrawal signs/symptoms (may be referred to as "detox").
    - The decedent previously sought medical care for injection-related conditions such as skin abscess or endocarditis, or fevers.

A diagnosis does not imply that treatment was received. The decedent may not have adhered to treatment for a diagnosed condition.

Additional required codes:

- If you code "2 Current treatment" you should also code "Current mental health/substance abuse treatment," "Ever treated for mental health/substance abuse," and "Other substance problem" on the Circumstances tab (either the CME version of the fields, the LE version, or both, depending on the source of the information).
- If you code "3 No current treatment, but treated in the past" you should also code "Ever treated for mental health/substance abuse" and "Other substance abuse problem" on the Circumstances tab (either the CME version of the fields, the LE version, or both, depending on the source of the information).

4.3.f Type(s) of Substance Use Disorder Treatment

4.3.f.i Inpatient/outpatient rehabilitation

Definition: Treatment for substance use disorder through physician and therapy services received during the course of a stay in a hospital or residential rehabilitation facility, or via outpatient visits when not admitted to the hospital or any facility.

Response Options: Checkbox

Discussion: This variable should be coded if there is any evidence that the decedent died while receiving inpatient or outpatient rehabilitation services for substance use disorder, or if there is evidence that the decedent had received inpatient or outpatient rehabilitation services for substance use disorder in the past. If there is evidence that the decedent had been receiving outpatient rehabilitation services according to their treatment plan (i.e., daily, weekly, or monthly sessions), treatment should be considered "current." The Treatment for Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable.

4.3.f.ii Medication-assisted treatment, or MAT (with cognitive/behavioral therapy)

Definition: Medication-assisted treatment (MAT)[8] refers to treatment of opioid use disorder with medication, also known as MOUD (medication for opioid use disorder). This is treatment for opioid use disorder that includes the prescribed medications/ buprenorphine, methadone, or naltrexone, along with counseling/behavioral therapy provided by a counselor, therapist, or other provider.

Response Options: Checkbox

[8] Technically the term "medication-assisted treatment" refers to the "the use of medications, in combination with counseling and behavioral therapies" (see https://www.samhsa.gov/medication-assisted-treatment). However, for the purposes of SUDORS coding we use the terms MAT and MOUD interchangeably, and separate receipt of medication for opioid use disorder (referred to as MAT or MOUD) from receipt of counseling/behavioral therapy.

Discussion: MAT, also known as MOUD, refers to the use of medications for the treatment of opioid use disorder. Medications prescribed for MAT/MOUD[9] help normalize brain chemistry, block the euphoric effects of substances, and mitigate physiological cravings. Counseling and behavioral therapy is a type of talk therapy in which a person meets with a counselor or therapist during a limited number of structured sessions. Check the box associated with this type of treatment if there is evidence that the decedent was currently being treated for an opioid use disorder with MOUD or MAT along with counseling and behavioral therapy, or if the decedent had received this type of treatment for substance use disorder in the past. The Treatment for Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable. If evidence indicates that the decedent had received MAT but there is no information about whether it was accompanied by cognitive/behavioral therapy, do not code this variable but instead code "Medication-assisted therapy, or MAT (cognitive/behavioral therapy unknown)" (section 4.3.f.iv) and include the information in the text box.

4.3.f.iii Medication-assisted treatment, or MAT (without cognitive/behavioral therapy)

Definition: MAT, also known as MOUD, refers to the use of medications for the treatment of opioid use disorder. This is treatment for substance use disorder that involves prescribed medications such as buprenorphine, methadone, or naltrexone, with no corresponding counseling and behavioral therapy.

Response Options: Checkbox

Discussion: MAT, also known as MOUD, refers to the use of medications for the treatment of opioid use disorder. Medications prescribed for MOUD or MAT help normalize brain chemistry, block the euphoric effects of substances, and mitigate physiological cravings, without the negative effects associated with substance use disorder itself. Check the box associated with this type of treatment if there is evidence that the decedent was currently being treated for substance use disorder with MOUD or MAT without accompanying cognitive/behavioral therapy, or if the decedent had received this type of treatment for substance use disorder in the past. The Treatment for Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable. If evidence indicates that the decedent had received MOUD or MAT but there is no information about whether it was accompanied by cognitive/behavioral therapy, do not code this variable but instead code "Medication-assisted therapy, or MAT (cognitive/behavioral therapy unknown)" (section 4.3.f.iv) and include the information in the text box.

4.3.f.iv Medication-assisted therapy, or MAT (cognitive/behavioral therapy unknown)

Definition: MAT, also known as MOUD, refers to the use of medications for the treatment of opioid use disorder., this is treatment for substance use disorder that involves prescribed medications such as buprenorphine, methadone, or naltrexone, with no information about whether it was accompanied by cognitive/behavioral therapy.

Response Options: Checkbox

Discussion: MAT, also known as MOUD, refers to the use of medications for the treatment of opioid use disorder. Medications prescribed for MOUD or MAT help normalize brain chemistry, block the euphoric effects

[9] Examples of MAT/MOUD that act as opioid agonists include buprenorphine and methadone. These medications reduce cravings and withdrawal symptoms, while also helping to block the effects of other opioids (such as heroin). The opioid antagonist naltrexone works by blocking the effects of opioids."

of substances, and mitigate physiological cravings, without the negative effects associated with having a substance use disorder itself. Check the box associated with this type of treatment if there is evidence that the decedent was currently being treated for an opioid use disorder with MOUD or MAT or had received MOUD or MAT in the past, and there is no information about whether it was accompanied by cognitive/behavioral therapy. The Treatment for Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable. If evidence indicates that the decedent had received MOUD MAT but there is evidence that it was accompanied by cognitive/behavioral therapy, do not code this variable but instead code "Medication-assisted therapy, or MAT (with cognitive/behavioral therapy)" (section 4.3.f.ii). If there is evidence of MOUD MAT that was not accompanied by cognitive/behavioral therapy, do not code this variable but instead code "Medication-assisted therapy, or MAT (without cognitive/behavioral therapy)" (section 4.3.f.iii).

4.3.f.v Cognitive/behavioral therapy

Definition: Treatment for substance use disorder that involves counseling provided by a counselor, therapist, or other provider.

Response Options: Checkbox

Discussion: Cognitive/behavioral therapy is a type of talk therapy in which a person meets with a counselor or therapist during a limited number of structured sessions. Check the box associated with this type of treatment if there is evidence that the decedent was currently being treated for substance use disorder with cognitive/behavioral therapy, or if the decedent had received this type of treatment for substance use disorder in the past. If the decedent was receiving MOUD or MAT with accompanying cognitive/behavioral therapy, do not check this box but instead check the box for "Medication-assisted treatment, or MAT (with cognitive/behavioral therapy)" (section 4.3.f.ii). The Treatment for Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable.

4.3.f.vi Narcotics Anonymous

Definition: Narcotics Anonymous (NA) is a community-based organization of people recovering from substance use disorder who meet regularly to help each other in recovery. This variable can also be used to document current or past attendance at similar types of community-based meetings such as Alcoholics Anonymous (AA), if there is evidence that attendance was because of substance use disorder rather than alcohol use disorder.

Response Options: Checkbox

Discussion: Check the box associated with this type of treatment if there is evidence that the decedent was participating in NA or AA for a substance use disorder at the time of death (attendance at 1 or more meetings within the past month) or had participated in the past (no attendance within the past month). See section 4.3.e for additional guidance regarding current vs. past treatment. The Treatment for a Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable.

4.3.f.vii Other – specify

Definition: Other types of treatment for a substance use disorder are possible, outside of the ones included in sections 4.3.f.i–4.3.f.v.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent was receiving some other type of treatment for a substance use disorder at the time of death or in the past and include information on the type of treatment in the text box. The Treatment for a Substance Use Disorder variable (section 4.3.e) must be either "2 Current treatment" or "3 No current treatment, but treated in the past" in order to code this variable.

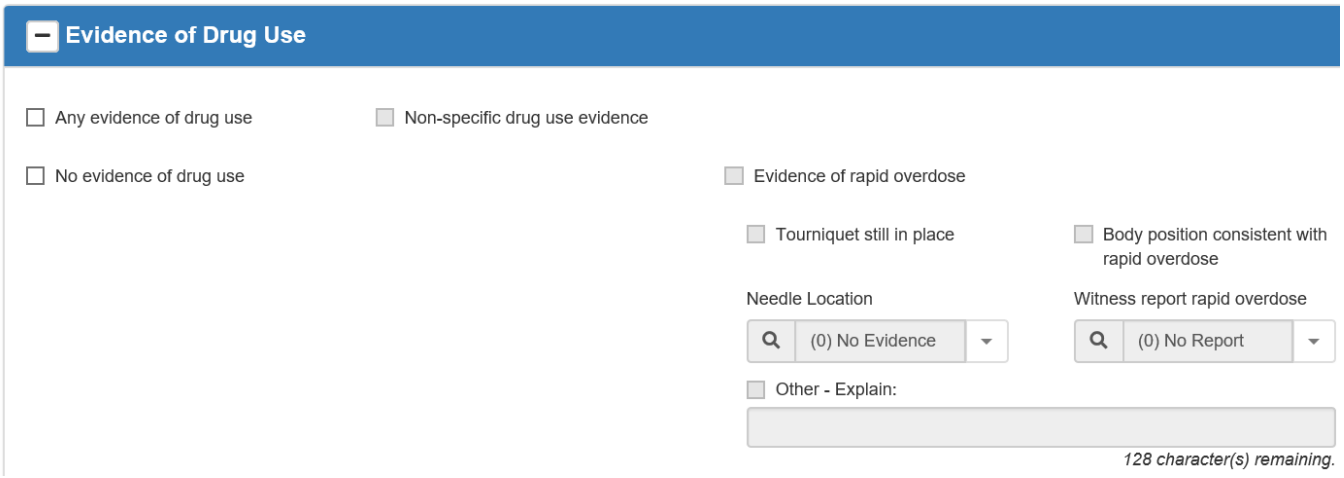
4.3.g Involved with Criminal Justice System (Perpetrator)

Definition: Decedent had interaction with the criminal justice system as a perpetrator (e.g., previous arrest, on probation, Driving Under the Influence/Driving While Intoxicated (DUI/DWI), incarceration).

Response Options: Checkbox

Discussion: Check this box if there is evidence the decedent had interaction with the criminal justice system as a perpetrator (e.g., previous arrest, on probation, DUI/DWI, incarceration), regardless of timing and include any details in the narrative. Do not include if the decedent was the victim of a crime or attending court or other legal proceedings for things like divorce or child custody. The interaction with the criminal justice system does not have to be related to drug use, drug distribution, or any other drug-related scenario, in order to check this box.

4.4 Evidence of Drug Use Subgroup



This subgroup of variables collects information from the CME and/or LE investigations of the fatal drug overdoses, including: interviews of witnesses, autopsy findings, and evidence collected from the scene of the fatal overdose. This information is critical in describing how rapidly the overdose occurred, identifying how the decedent took the drug(s) that contributed to the fatal overdose (e.g., injection, ingestion, or snorting), and determining whether prescription or illicit drugs were involved in the overdose. Do not consider toxicology information when coding variables in this section.

The overdose or death "scene" is broadly defined as any location from which evidence in the CME and/or LE reports was gathered (e.g., can include the room in which the decedent was found, other rooms in a house, or

the decedent's car). If evidence is recorded in the report, the area from which it was obtained is part of the overdose scene.

4.4.a.i Any Evidence of Drug Use

Definition: Any substances or items used for preparing and taking substances were found at the scene of the overdose or on the decedent's body, or witness or other report provided evidence of substance use. Examples include powder or crystal substances in bags or magazine folds, powder on hard surfaces, pill bottles near or on the decedent, prescription pills on the scene, straws for snorting, needles, blackened spoons or bottle caps, tourniquets, cotton balls, Q-tips, pipes, blackened tinfoil, razor blades, naloxone, lighters, mirrors, or other forms of evidence. If non-specific "drug paraphernalia" are mentioned in an investigation report, this variable can be endorsed along with the Non-specific Drug Use Evidence variable (section 4.4.a.iii), and the information should be included in the narrative.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication at the scene, or in witness or other reports (e.g., autopsy report) that the decedent used substances. If witness report corroborates substance use at the scene, it should be included. This variable should be coded independently of toxicology results, as it may be used in the interpretation of those results.

4.4.a.ii No Evidence of Drug Use

Definition: No evidence of any substance use was found at the scene of the overdose or on the decedent's body, and no witness or other report contained any evidence of substance use.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is no indication at the scene or in witness or other reports that the decedent used substances. This variable should be coded independently of toxicology results, as it may be used in the interpretation of those results. If this box is selected, it will prevent the selection of any sub-items in this section.

4.4.a.iii Non-specific Drug Use Evidence

Definition: There was evidence of drug use at the scene, or witnesses reported drug use, but there is not enough information to classify it further with any of the variables in this section.

Response Options: Checkbox

Discussion: Check if there is evidence of drug use at the scene or by witness report, but there is not enough information to classify it further with any of the variables in this section. Mention of non-specific "drug paraphernalia" could be used to code this variable if there is some indication that the paraphernalia was associated with drug use at the overdose scene.

SUBSECTION 4.4.b to 4.4.g: Rapid Overdose

This subsection captures drug overdoses that appeared to occur within 10 minutes of using the drug.

4.4.b Evidence of Rapid Overdose

Definition: Scene evidence indicates that the decedent became unconscious rapidly, within seconds to minutes after taking drugs. Any overdose occurring within 10 minutes of drug use is sufficient to code this variable "Yes."

Response Options: Checkbox

Discussion:

- If the fatal overdose involved injection of substances, scene evidence consistent with a rapid overdose includes finding a needle/syringe still inserted into the arm or other part of the decedent's body (such as leg or foot) or finding a needle/syringe proximate to the decedent's body as if dropped from the decedent's hand. Needle/syringe proximity to the body should be such that it indicates that the decedent did not have time to properly put down or store the needle/syringe. That is, a needle/syringe on a bed-side table with a decedent found in the bed is proximate but does not necessarily imply that the needle/syringe was dropped. Other injection-related scene evidence of rapid overdose could include a tourniquet still tied around the arm or leg of the decedent. Popular tourniquets used to facilitate injection include belts and large elastic bands (like the ones used in hospitals). Tying tourniquets around arms and legs facilitates injection by causing veins to protrude due to restricted blood flow.
- In fatal overdoses involving sniffing or snorting drugs, scene evidence consistent with rapid overdose includes the decedent slumped over powders or a vape pen still in the decedent's hand.
- The position of the decedent's body when discovered may also provide evidence of rapid overdose; if the position is suggestive that the decedent became unresponsive abruptly (e.g., body slumped over as if the decedent fell), this variable can be endorsed.
- Witness reports of the overdose occurring within 10 minutes of the decedent's use of the drug would be consistent with a rapid overdose. This type of evidence would require that the witness observed the drug use and the onset of overdose signs/symptoms.
- If this variable is endorsed, at least one of the supporting variables 4.4.c–4.4.g must be endorsed.

4.4.c Tourniquet Still in Place

Definition: The decedent is found with a belt, large elastic band, or other item wrapped or tied around the upper arm above the elbow, tied around the wrist, or tied around the leg.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the decedent is found with a tourniquet wrapped around the upper arm above the elbow, around the wrist, or around the leg. This suggests that the decedent rapidly went unconscious after using the drugs, without time to untie/unwrap the tourniquet. In order to check this box, the "Evidence of Rapid Overdose" (4.4.b) box must be checked; otherwise, it will be turned off.

4.4.d Needle Location

Definition: A needle/syringe found in the decedent's veins or skin, in or near the decedent's hand, or very close to the decedent's body as if dropped.

Response Options:

0 No evidence
1 Needle inserted
2 Needle in the hand
3 Needle close to the body

Discussion: Finding the decedent with a needle/syringe in his vein or skin, in or near the decedent's hand, or near the decedent's body as if dropped suggests that the decedent rapidly went unconscious after using the drug. Do not check this box if the needle was discovered in a location and/or manner that indicates the decedent had time to put it down or store it after use. This would suggest that the overdose signs/symptoms did not start soon enough after substance use to support rapid overdose. For example, the needle/syringe was placed in a drawer or a surface such as a tabletop next to the body. The type of evidence of needle close to the body that would indicate rapid overdose would be a needle found under a body that was slumped over as if the decedent fell suddenly, or a needle right next to a hand of a decedent who appeared to have collapsed.

The response options are given in order of strength of evidence of rapid overdose (i.e., "1 Needle inserted" is the strongest evidence, and "3 Needle close to the body" is the weakest of the options). If multiple needles/syringes are found at the scene meeting one of these criteria, code this variable to reflect the strongest evidence of rapid overdose; that is, if a needle/syringe is found inserted, and another is found right next to the body as if dropped, code as "1 Needle inserted." In order to code this variable, the "Evidence of Rapid Overdose" (4.4.b) box must be checked; otherwise, it will be turned off.

4.4.e Witness Report of Rapid Overdose

Definition: A witness reports that the decedent was unconscious and unresponsive within 10 minutes of using the drug(s).

Response Options:

0 No report
1 Immediate *(under 1 minute)*
2 1 to 5 minutes
3 5 to 10 minutes

Discussion: A person who witnessed the decedent using the drug(s) reports that the decedent was unconscious and unresponsive within 10 minutes of using the drug(s). In order to code this variable, the "Evidence of Rapid Overdose" (4.4.b) box must be checked; otherwise, it will be turned off. Coding this variable would require that the witness observed the drug use and the onset of overdose signs/symptoms.

4.4.f Body Position Consistent With Rapid Overdose

Definition: The body position of the decedent when discovered unresponsive indicates that the decedent went unconscious and unresponsive within 10 minutes of using the drug(s).

Response Options: Checkbox

Discussion: This field should be checked if the body position of the decedent when discovered corroborates evidence of rapid overdose. This can include a slumped over position as if the decedent fell unexpectedly,

sometimes with needle/syringe found under the body, or other related positions. Body position alone is generally not enough to determine rapid overdose but can be used in combination with additional evidence. This field can only be checked if "Evidence of rapid overdose" (4.4.b) has been checked; otherwise, it will be turned off.

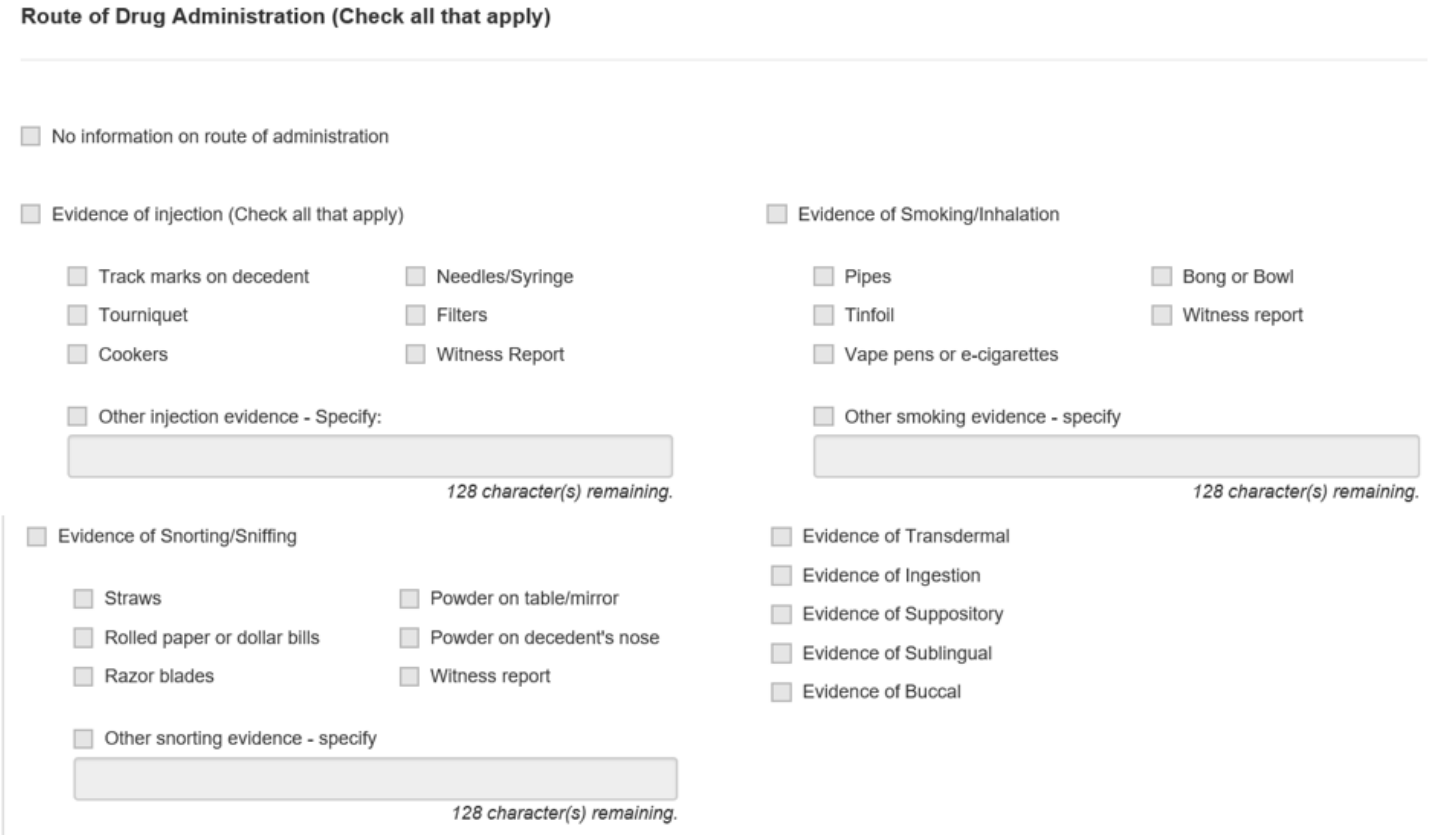
4.4.g Other – Explain

Definition: Other evidence indicates that the decedent went unconscious and unresponsive within 10 minutes of using the drug(s).

Response Options: Checkbox and Text Box

Discussion: Check the box associated with this variable if there is evidence other than witness reports (4.4.e), needle location (4.4.d), a tourniquet being found around the decedent's arm or leg (4.4.c), or body position consistent with rapid overdose (4.4.f) that indicates the decedent went unconscious and unresponsive within 10 minutes of using the drug(s). The abstractor should briefly describe this evidence in the associated text box. In order to check this box and enter information into the text box, the "Evidence of Rapid Overdose" (4.4.b) box must be checked; otherwise, it will be turned off.

SUBSECTION 4.4.h to 4.4.p: Route of Drug Administration



This section captures scene, witness, and autopsy 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, mentioned by witnesses, or included in the autopsy report (e.g., smoked crack cocaine and injected heroin).

Because it can be difficult to link specific substances to the specific routes of administration (e.g., injection, sniffing/snorting, or ingestion), abstractors are asked to only indicate a route of administration if there were any witness reports, overdose scene evidence, or autopsy evidence supporting a particular route of administration (e.g., recent track marks would indicate injection). If a single type of evidence found at the scene could be indicative of more than one route of administration, abstractors should select the route that fits the evidence best.

Physical symptoms alone should not be used as evidence of a specific route of administration (e.g., pulmonary edema would not on its own be evidence of snorting/sniffing, signs that the decedent had vomited would not imply ingestion); however, physical evidence from an autopsy or other report indicating recent track marks could be used to support evidence of injection. If there is evidence to link a specific route of administration to a specific substance, it should be included in the narrative. For example, if the report indicates that the decedent had injected heroin and also ingested alprazolam, Evidence of injection and Evidence of Ingestion should both be checked, and the narrative should include the information about which substance went with which route.

4.4.h No Information on Route of Administration

Definition: There was no witness, death scene, or autopsy evidence that indicated the route of administration.

Response Options: Checkbox

Discussion: For some fatal drug overdoses, no evidence will be available on the route of administration of the substance(s). If this variable is checked, no other checkbox for route of administration (e.g., evidence of injection, evidence of snorting/sniffing, or evidence of smoking) can be checked for items 4.4.i to 4.4.p (they are turned off).

4.4.i Evidence of Injection

Definition: Witness, death scene, or autopsy evidence suggests that the decedent injected substance(s) leading up to the fatal overdose. Evidence of injection includes witness reports of injecting, documentation of items used to prepare and inject substances found at the scene (e.g., needles, cookers, filters, tourniquets, alcohol pads), and/or track marks found on decedent that appear to be recent.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were injected. Multiple routes of administration may be indicated for the same death (e.g., needles and prescription pills found at the scene of the overdose would be coded as Evidence of Injection and Evidence of Ingestion). If this box is checked, please describe the evidence that suggests injection by completing items 4.4.i.i – 4.4.i.vii.

4.4.i.i Track Marks on Decedent

Definition: Track marks often present as dark scars/pigmentation that follow the track of veins. Fresh tracks are identified as non-healed puncture wounds. Track marks may be found on forearms inside the elbow (often

referred to as the “antecubital fossa”) and hands, but can also appear on the decedent’s neck, groin, legs, feet, and other parts of the body. See Figure 1.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the decedent had recent track marks or a full description of the track marks was provided and it was indicated they were recent. Do not check this box if track marks were described as old or healed for a substantial amount of time, or if needle puncture wounds associated with life-saving measures or other medical care were noted. If track marks or puncture wounds are mentioned, but there is no mention of whether they are recent or old, or no mention of whether they were from life-saving measures or from injecting substances, this box should be checked. In order to check this box, the “Evidence of Injection” (4.4.i) box must be checked. Evidence of track marks might be indicated in the CME report, especially the autopsy report.

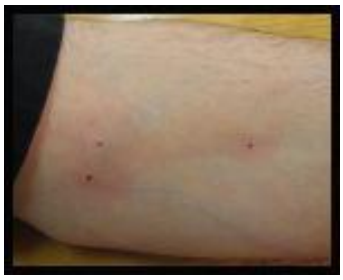


Figure 1. Injection track marks

4.4.i.ii Tourniquet

Definition: Tying tourniquets around arms or legs facilitates injection of drugs by causing veins to bulge out due to restricted blood flow. Popular tourniquets used to facilitate injection include belts and large elastic bands (like those used in hospitals), but other items can be used. See Figure 2.

Response Options: Checkbox

Discussion: Check the box associated with this variable if tourniquets are found on the decedent or at the scene of the fatal overdose. In order to check this box, the “Evidence of Injection” (4.4.i) box must be checked.

Figure 2. Tourniquet used for injection

4.4.i.iii Cookers

Definition: Objects used to dissolve (i.e. cook-up) powdered and solid drugs for injection. Metal spoons, bottle tops, and crushed soda cans are popular items used to “cook” substances. See Figures 3a and 3b.

Response Items: Checkbox

Discussion: Check the box associated with this variable if cookers are found at the scene of the fatal overdose or on the decedent. In order to check this box, the "Evidence of Injection" (4.4.i) box must be checked.

Figures 3a and 3b. Spoons used as cookers for injection

4.4.i.iv Needles/Syringe

Definition: An apparatus that facilitates injecting fluid into the body. This is usually a syringe or hollow needle that pierces the skin to sufficient depth for the fluid to be administered into the body—often directly into the recipient's veins. See Figure 4.

Response Options: Checkbox

Discussion: Check the box associated with this variable if needles or syringes are found at the scene of the fatal overdose or on the decedent. Most needles used by people who inject substances in the U.S. are a single apparatus with the needle fixed to the syringe.[10] In some cases (e.g., intramuscular administration) the needle and syringe are distinct parts where the needle attaches to the syringe via a locking mechanism (e.g., luer lock). In order to check this box, the "Evidence of Injection" (4.4.i) box must be checked. There is no restriction on where needles/syringes are found at the scene (i.e., they do not have to be close to the body or within arm's reach). Both used and unused needles/syringes found at the scene would provide evidence to check this box.

Figure 4. Needles/syringes

4.4.i.v Filters

Definition: Materials used to remove particulate matter and other foreign objects from substance solution before being injected by the person using the substance. Filters commonly used before injecting illicit substances include cotton balls, cotton swabs, and cigarette filters. See Figure 5.

[10] E.J. Liebling et al., "Injection Drug Use and Overdose Among Young Adults Who Use Prescription Opioids Non-Medically," Addictive Behaviors 76 (2018): 20-26, https://www.ncbi.nlm.nih.gov/pubmed/28735037

Response Options: Checkbox

Discussion: Check the box associated with this variable if filters are found at the scene of the fatal overdose or on the decedent. Substance preparations are commonly filtered by people who inject substances illicitly to eliminate impurities and particulate matter mixed with the solution containing the substance. In order to check this box, the "Evidence of Injection" (4.4.i) box must be checked.

Figure 5. Cotton balls used as filters for injection

4.4.i.vi Witness Report

Definition: A witness reports that the decedent injected substance(s) leading up to the fatal overdose.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a witness reports that the decedent injected substance(s) leading up to the fatal overdose. If a witness did not see the decedent inject the substances, but reported that the decedent told them that s/he planned to inject the substances, or that the decedent told them that s/he had just injected substances, check the box. Do not check this box based on witness reports of past injection use by the decedent (outside of the time leading up to the fatal overdose) or reports that the decedent "often" or "usually" injected substances. In order to check this box, the "Evidence of Injection" box (4.4.i) must be checked.

4.4.i.vii Other Injection Evidence – Specify

Definition: Check this box if there was evidence of injection that is not captured by the following 6 variables: track marks on victim (4.4.i.i), tourniquet (4.4.i.ii), cooker (4.4.i.iii), needle/syringe (4.4.i.iv), filters (4.4.i.v), and witness report (4.4.i.vi).

Response Options: Checkbox and Text Box

Discussion: Check the box associated with this variable if other evidence indicated that the decedent was injecting substance(s) leading up to the fatal overdose. If this box is checked, please describe the evidence in the text box. In order to check this box, the "Evidence of Injection" (4.4.i) box must be checked.

4.4.j Evidence of Snorting/Sniffing

Definition: Witness, death scene, or autopsy evidence suggests that the decedent snorted or sniffed substance(s) leading up to the fatal overdose. Snorting may also be called insufflation. Evidence of snorting or sniffing includes witness reports of snorting or sniffing or drug paraphernalia at the overdose scene associated with snorting or sniffing. Scene evidence may include razor blades or credit cards used to chop and separate powder; straws, rolled paper, dollar bills, or tubes for nasal inhalation; powder visible on a table/mirror; or powder on the decedent's nose. See Figure 6.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were snorted or sniffed. Multiple routes of administration may be indicated for the same death (e.g., powder on a mirror with a razor blade indicating snorting/sniffing and needles found at the scene of the overdose indicating injection). Drug paraphernalia related to snorting might be noted in CME or LE reports, and powder on the decedent's nose could be noted in CME, LE, or autopsy reports. If this box is checked, please describe the evidence that suggests snorting/sniffing by completing items 4.4.j.i – 4.4.j.vii.

Figure 6. Powder being sniffed/snorted off mirror

4.4.j.i Straws

Definition: Straws or tubes can be used to facilitate snorting/sniffing powder.

Response Options: Checkbox

Discussion: Check this box if a straw or tube was found at the scene and suspected to be related to drug use. In order to check this box, the "Evidence of Snorting/Sniffing" box (4.4.j) must be checked.

4.4.j.ii Rolled paper or dollar bills

Definition: Rolled paper can be used to facilitate snorting/sniffing powder.

Response Options: Checkbox

Discussion: Check this box if rolled paper or rolled dollar bills were found at the scene and appear to be related to drug use. In order to check this box, the "Evidence of Snorting/Sniffing" box (4.4.j) must be checked.

4.4.j.iii Razor blades

Definition: Razor blades can be used for chopping and separating powder for snorting/sniffing.

Response Options: Checkbox

Discussion: Check this box if a razor blade or sharp edge (e.g., credit card) was found at the scene and suspected to be related to drug use. In order to check this box, the "Evidence of Snorting/Sniffing" box (4.4.j) must be checked.

4.4.j.iv Powder on table/mirror

Definition: Illicit substances, such as heroin, illicitly manufactured fentanyl, and cocaine, often come in powder form. Prescription pills/tablets can also be crushed to make powder. A flat surface like a mirror or table can be used for snorting/sniffing powder.

Response Options: Checkbox

Discussion: Check if powder on a mirror, table, or flat surface was found at the scene. In order to check this box, the "Evidence of Snorting/Sniffing" box (4.4.j) must be checked.

4.4.j.v Powder on decedent's nose

Definition: Illicit substances, such as heroin, illicitly manufactured fentanyl, and cocaine, often come in powder form. Prescription pills/tablets can also be crushed to make powder. Powder residue found on the decedent's nose could suggest snorting/sniffing route of administration.

Response Options: Checkbox

Discussion: Check if powder was detected on the decedent's nose, often noted on autopsy or in CME reports. This box can also be checked if powder is noted elsewhere on the decedent's body (e.g., on cheek, chin, chest, etc.) or clothing. In order to check this box, the "Evidence of Snorting/Sniffing" box (4.4.j) must be checked.

4.4.j.vi Witness report

Definition: Witness report that the decedent was snorting/sniffing the drug(s) related to the fatal overdose.

Response Options: Checkbox

Discussion: Check this box if there is a witness report that the decedent was snorting/sniffing substance(s) leading up to the fatal overdose. If a witness did not see the decedent snort the substances but reported that the decedent told them that s/he planned to snort the substances, or that the decedent told them that s/he had just snorted substances, check the box. Do not check this box based on witness reports of past sniffing/snorting use by the decedent (outside of the time leading up to the fatal overdose) or reports that the decedent "often" or "usually" snorted substances. In order to check this box, the "Evidence of Snorting/Sniffing" box (4.4.j) must be checked.

4.4.j.vii Other snorting evidence – specify

Definition: Check this box if there was evidence of snorting that is not captured by the following 6 variables: straws (4.4.j.i), rolled paper or dollar bills (4.4.j.ii), razor blades (4.4.j.iii), powder on table/mirror (4.4.j.iv), powder on decedent's nose (4.4.j.v), and witness report (4.4.j.vi).

Response Options: Checkbox and Text Box

Discussion: Check the box associated with this variable if other evidence indicated that the decedent was snorting substance(s) leading up to the fatal overdose. If this box is checked, please describe the evidence in the text box. In order to check this box, the "Evidence of Snorting/Sniffing" (4.4.j) box must be checked.

4.4.k Evidence of Smoking

Definition: Witness, death scene, or autopsy evidence suggests that the decedent smoked substance(s) leading up to the fatal overdose. Evidence of smoking includes witness reports of smoking and drug paraphernalia at the scene of the overdose associated with smoking such as pipes, stems, tinfoil, and vape pens. Matches, disposable lighters, and gas torches are also indications of smoking. See Figure 7.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were smoked. Multiple routes of administration may be indicated for the same death (e.g., a pipe and needles were found at the scene of the overdose). If this box is checked, please describe the evidence that suggests smoking by completing items 4.4.k.i – 4.4.k.vi.

Figure 7. Smoking substance off tinfoil

4.4.k.i Pipes

Definition: Pipes or stems can be used to facilitate smoking substance(s).

Response Options: Checkbox

Discussion: Check this box if a pipe or stem was found at the scene and suspected to be related to drug use. In order to check this box, the "Evidence of Smoking" (4.4.k) box must be checked.

4.4.k.ii Tinfoil

Definition: Tinfoil or aluminum foil can be used to smoke some drugs that produce inhalable vapors when heated (e.g., brown heroin and methamphetamine).

Response Options: Checkbox

Discussion: Check this box if tinfoil was found at the scene and suspected to be related to drug use. In order to check this box, the "Evidence of Smoking" (4.4.k) box must be checked.

4.4.k.iii Vape pens or e-cigarettes

Definition: Vape pens or e-cigarettes can be used to facilitate smoking drug(s).

Response Options: Checkbox

Discussion: Check this box if a vape pen, e-cigarette, or other vaping device was found at the scene and suspected to be related to drug use. In order to check this box, the "Evidence of Smoking" (4.4.k) box must be checked. See Figure 8.

Figure 8. E-cigarette

4.4.k.iv Bong or bowl

Definition: A bong, bowl, or makeshift instrument (e.g., a lightbulb) can be used to facilitate inhalation of drugs that are smoked.

Response Options: Checkbox

Discussion: Check this box if a bong, bowl, or makeshift instrument for inhalation (e.g., a lightbulb) was found at the scene and suspected to be related to the fatal drug overdose. In order to check this box, the "Evidence of Smoking" (4.4.k) box must be checked.

4.4.k.v Witness report

Definition: Witness report that the decedent was smoking the drug(s) related to the fatal overdose.

Response Options: Checkbox

Discussion: Check this box if there is a witness report that the decedent was smoking substance(s) leading up to the fatal overdose. If a witness did not see the decedent smoke the substances but reported that the decedent told them that s/he planned to smoke the substances, or that the decedent told them that s/he had just smoked substances, check the box. Do not check this box based on witness reports of past smoking use by the decedent (outside of the time leading up to the fatal overdose) or reports that the decedent "often" or "usually" smoked substances. In order to check this box, the "Evidence of Smoking" (4.4.k) box must be checked.

4.4.k.vi Other smoking evidence - specify

Definition: Check this box if there was evidence of smoking that is not captured by the following 5 variables: pipes (4.4.k.i), tinfoil (4.4.k.ii), vape pens or e-cigarettes (4.4.k.iii), bong or bowl (4.4.k.iv), and witness report (4.4.k.v).

Response Options: Checkbox and Text Box

Discussion: Check the box associated with this variable if other evidence indicated that the decedent was smoking substance(s) leading up to the fatal overdose. If this box is checked, please describe the evidence in the text box. In order to check this box, the "Evidence of Smoking" (4.4.k) box must be checked.

4.4.l Evidence of Transdermal

Definition: Witness, death scene, or autopsy evidence suggests that substance(s) used leading up to the fatal overdose were absorbed through the decedent's skin. Evidence of transdermal administration includes witness reports of the use of transdermal patches or the discovery of transdermal patches on the body of the decedent or at the scene of the overdose. See Figure 9.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were absorbed through the decedent's skin. Sometimes medication patches are found in people's mouths as a result of chewing the patch to absorb more of the drug contained in the patch quickly; if patches or parts of patches are found in the mouth, do not code as Evidence of Transdermal administration, but rather as Evidence of Buccal administration (section 4.4.p). Multiple routes of administration may be indicated for the same death (e.g., a transdermal patch and a pipe). Autopsy reports might indicate evidence of current or past placement of a patch.

Figure 9. Fentanyl patch

4.4.m Evidence of Ingestion

Definition: Witness, death scene, or autopsy evidence suggests that substance(s) used leading up to the fatal overdose were taken orally in pill, tablet, or liquid form. Evidence of ingestion includes witness reports of taking pills or tablets orally or ingesting liquid orally (e.g., liquid methadone), or the discovery of prescription pills, prescription bottles, liquid substance(s), or vials for containing liquid substances at the scene of the overdose or on the decedent's body. See Figure 10.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were orally ingested. Evidence of prescription pills or liquid substance(s) at the

overdose scene or on the decedent's body is sufficient to code this variable. If prescription pills are found in areas where medications are commonly stored (such as drawers, cabinets, or closed pill containers) in a different room than where the overdose occurred and no witnesses or other source of information indicate the decedent took the prescription pills, consider whether there is an indication that they are part of the scene before coding. If pills or liquids are mentioned, but there is no information to help determine whether they are part of the scene, err on the side of including as part of the scene and use to inform coding of this variable. Multiple routes of administration may be indicated for the same death (e.g., a witness reports that the decedent both took benzodiazepine pills and injected heroin).

Figure 10. Prescription bottles with pills

4.4.n Evidence of Suppository

Definition: Witness, death scene, or autopsy evidence suggests that substance(s) used leading up to the fatal overdose were delivered through a suppository. A suppository is a medication that is often cylindrical in shape and less than one inch long. A suppository is designed to be inserted into the rectum or vagina where it dissolves. Evidence of suppository use includes witness reports or the discovery of suppositories at the overdose scene or on the decedent's body. See Figure 11.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were suppositories. Evidence of suppositories at the overdose scene or on the decedent's body is sufficient to code this variable. If suppositories are found in areas where medications are commonly stored (such as drawers, cabinets, or closed pill containers) in a different room than where the overdose occurred and no witnesses or other source of information indicate the decedent used the suppositories, consider whether there is an indication that they are part of the scene before coding. Reports exist of people using suppositories orally; if there is evidence suggesting a suppository was taken orally, do not code as Evidence of Suppository, code instead as Evidence of Ingestion (section 4.4.m). Multiple routes of administration may be indicated for the same death (e.g., a witness reports that the decedent was found with a suppository and smoked crack).

Figure 11. Suppository

4.4.o Evidence of Sublingual

Definition: Witness, death scene, or autopsy evidence suggests that substance(s) used leading up to the fatal overdose were administered sublingually. Sublingual administration involves placing a medication such as pills or lozenges under the tongue to be dissolved. Evidence of sublingual administration includes witness reports or the discovery of lozenges or pills under the decedent's tongue or in the decedent's mouth as well as finding prescription bottles at the drug overdose scene that contain medications administered sublingually. See Figure 12.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were administered sublingually. Popular sublingual opioids are buprenorphine (Suboxone™), fentanyl lozenges (Actiq™), fentanyl tablets (Abstral™), and fentanyl spray (Subsys™). Medicinal sprays should be considered sublingual administration. Over-the-counter lozenges such as cold lozenges should not be coded unless there is additional evidence that they contributed to the fatal overdose. Multiple routes of administration may be indicated for the same death (e.g., a witness reports that the decedent injected cocaine and was using a fentanyl lozenge).

Figure 12. Suboxone pills intended to be taken sublingually

4.4.p Evidence of Buccal

Definition: Witness, death scene, or autopsy evidence suggests that substance(s) used leading up to the fatal overdose were administered buccally. Buccal administration operates by dissolving the medication between the gums and the cheek. Evidence of buccal administration includes witness reports or the discovery of pieces of patches or other medication between the gums and the cheek of the decedent. See Figure 13.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is any indication that substance(s) used leading up to the fatal overdose were administered buccally. Popular buccally administered opioids are fentanyl buccal tablets (Fentora™), fentanyl lollipops (Actiq™), and fentanyl films (Onsolis™). Multiple routes of administration may be indicated for the same death (e.g., a witness reports that the decedent injected cocaine and was using a fentanyl lollipop). If a single type of evidence found at the scene could be indicative of more than one route of administration, abstractors should select the route that fits the evidence best.

Figure 13. Fentanyl lollipop

SUBSECTION 4.4.q to 4.4.r: Illicit or Prescription Drugs

Illicit or Prescription Drugs (Check all that apply)

- ☐ Evidence of unspecified drug type
- ☐ Evidence of prescription drugs (Check all that apply)
  - ☐ Prescribed to decedent
  - ☐ Not prescribed to decedent
  - ☐ Unknown who prescribed for
- ☐ Evidence of Illicit drugs (Check all that apply)
  - ☐ Powder
  - ☐ Witness report
  - ☐ Counterfeit pills
  - ☐ Tar
  - ☐ Crystal
  - ☐ Illicit drug packaging

Type of evidence of prescription drugs found (Check all that apply)

- ☐ Pills/Tablets
- ☐ Patch
- ☐ Prescription bottle
- ☐ Liquid
- ☐ Lozenges/lollipops
- ☐ Vial
- ☐ Witness report of prescription use
- ☐ Evidence of use of prescription fentanyl at scene or by witness report
- ☐ Other form - Specify:

128 character(s) remaining.

- ☐ Other illicit drug - Specify:

128 character(s) remaining.

This subsection captures whether the death investigation found evidence of prescription or illicit drugs at the scene of the overdose or reported by witnesses. This information is critical to understanding the extent to which illicit and prescription drugs contribute to drug overdose deaths. Toxicology findings on tests of the decedent's body, such as blood and urine, should not be considered when coding items in this subsection.

4.4.q Evidence of unspecified drug type

Definition: Witness, death scene, or autopsy evidence suggests that unspecified drugs (i.e., drugs that could not be classified as prescription or illicit) were used leading up to the fatal overdose.

Response Options: Checkbox

Discussion: Check if there is scene or witness evidence of drug(s) found at the scene, but the description is not sufficient to identify whether they were prescription or illicit drugs. Descriptions of unspecified drug type might include, e.g., "drug residue" or simply, "drugs found." If there is evidence that common over-the-counter medications are found at the scene, this box can also be checked. If there is mention of unspecified "drug paraphernalia," do not check this box but instead check the box for Non-specific drug use evidence (section 4.4.a.iii).

4.4.r Evidence of prescription drugs

Definition: Witness, death scene, or autopsy evidence suggests that prescription drugs were used leading up to the fatal overdose.

Response Options: Checkbox

- **Discussion**: If there is any witness report or physical evidence of prescription drug use at the scene, check the box associated with this variable. This includes prescription drugs prescribed and not prescribed for the decedent.

Examples of evidence that should be used to check this box include:

- A witness reports that the decedent was using prescription drugs before overdose onset.
- Investigation tested pills or other drugs found at the scene of the overdose and the forensic findings are consistent with prescription drugs.
- Prescription pills or pill bottles are found at the overdose scene or on the decedent's body. This includes prescription drugs prescribed and not prescribed for the decedent.
- Other forms of prescription drugs were found at the scene of the overdose such as patches, vials, or liquid medicines (either prescribed for the decedent or not).
- Witness or prescription drug monitoring data indicate that the decedent was taking a prescription drug and the prescription drug was found at the scene.
- If prescription drugs were found in medicine cabinets, drawers, or pill containers and other evidence such as witness reports indicate the decedent was taking the drugs before the overdose.

Examples of evidence that should not be coded:

- Do not code evidence of over-the-counter drugs. In the case of lozenges, consider these over-the-counter unless there is additional evidence that the lozenges were prescribed.
- Do not code on the basis of toxicology tests performed on the decedent's body, such as blood and urine.
- Do not code if prescription drugs were found in medicine cabinets, drawers, or pill containers and there was no other evidence the decedent had taken the drugs before the overdose. Since the scene of the overdose can be interpreted broadly, if there is any question about whether to include evidence of

prescription drugs found, err on the side of inclusion. Please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team for additional guidance.

The box associated with this variable must be checked in order to complete items 4.4.r.i to 4.4.r.xi. If this box is checked, at least one of the boxes for items 4.4.r.i–4.4.r.iii must be checked, and at least one of the boxes for items 4.4.r.iv–4.4.r.xii must be checked. Findings from **toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this item.** For instance, do not check the box associated with this variable if oxycodone is found in the blood of the decedent and no scene evidence or witness reports indicated oxycodone use. This is important because scene evidence variables will be used in combination with toxicology findings to assess the likelihood that prescription and illicit drugs contributed to the overdose.

4.4.r.i Prescribed to victim

Definition: Evidence that prescription drugs were used leading up to the fatal overdose, and that the drugs were prescribed to the decedent.

Response Options: Checkbox

Discussion: Check the box associated with this variable when there is evidence that prescription drugs were used leading up to the fatal overdose (i.e., Evidence of Prescription Drugs (4.4.r) is checked), AND the prescription drugs were prescribed to the decedent. Evidence that drugs were prescribed to the decedent include, for example:

- Prescription bottles found at the scene of the overdose have labels indicating the drug was prescribed to the decedent.
- Prescription Drug Monitoring Program (PDMP) data indicate that prescription drugs prescribed to the decedent were consistent with drugs found at the scene.
- Witness report that the drugs were prescribed to the decedent.
- The physician or authorized prescriber confirms that the prescription drugs found at the scene were prescribed to the decedent.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked. At least one of this box (Prescribed to victim), the box for Evidence of Prescription Drugs: Not Prescribed to Victim (4.4.r.ii), and/or the box for Evidence of Prescription Drugs: Unknown Who Prescribed For (4.4.r.iii) must be checked if Evidence of Prescription Drugs (4.4.r) is checked.

Note: Do not check the box if there is evidence that prescription drugs were prescribed to the decedent, but the prescription was not filled (e.g., a prescription was found at the scene for a certain drug, but there is no evidence that it had ever been filled).

4.4.r.ii Not prescribed to victim

Definition: Evidence that prescription drugs were used leading up to the fatal overdose, and that the drugs were not prescribed to the decedent.

Response Options: Checkbox

Discussion: Check the box associated with this variable when there is evidence that prescription drugs were used leading up to the fatal overdose (i.e., Evidence of Prescription Drugs (4.4.r) is checked), and the prescription drugs were not prescribed to the decedent. Evidence that drugs were not prescribed to the decedent include:

- Prescription bottles found at the scene of the overdose have labels indicating the drug was prescribed to a person other than the decedent.
- Prescription drug monitoring program (PDMP) data indicate that the prescription drugs found at the scene did not match the drugs prescribed to the decedent.
- Witness report that the drugs were not prescribed to the decedent or were prescribed to them (i.e., to the witness).
- Witness report that the decedent commonly purchased prescription drugs from illegal sources and had no legitimate prescriptions.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked. At least one of this box (Not prescribed to victim), the box for Evidence of Prescription Drugs: Prescribed to Victim (4.4.r.i), and/or the box for Evidence of Prescription Drugs: Unknown Who Prescribed For (4.4.r.iii) must be checked if Evidence of Prescription Drugs (4.4.r) is checked. If this box is checked and the information is available, indicate to whom (i.e., relationship to the victim) the drugs are prescribed in the narrative.

4.4.r.iii Unknown who prescribed for

Definition: Evidence that prescription drugs were used leading up to the fatal overdose, but there is no information on whether the drugs were prescribed to the decedent or diverted (i.e., prescribed to someone other than the decedent).

Response Options: Checkbox

Discussion: In some deaths, prescription drugs may be found at the scene, but there is insufficient evidence to determine whether the drugs were prescribed to the decedent or were prescribed to someone other than the decedent. For example, the prescription label is damaged or missing and the name cannot be determined. In this case, check the box associated with this variable. In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked. At least one of this box (Unknown who prescribed for), the box for Evidence of Prescription Drugs: Prescribed to Victim (4.4.r.i), and/or the box for Evidence of Prescription Drugs: Not Prescribed to Victim (4.4.r.ii) must be checked if Evidence of Prescription Drugs (4.4.r) is checked.

4.4.r.iv Pills/Tablets

Definition: Prescription pills or tablets were found at the scene of the overdose or on the decedent's body, excluding pills and tablets that are believed to be counterfeit.

Response Options: Checkbox

Discussion: Pills and tablets found at the scene of the overdose or on the decedent's body signify evidence of prescription drugs. If pills or tablets are documented in the CME or LE report and there is no indication that they were counterfeit pills, the abstractor should assume the pills are prescription pills and should check the box associated with this variable. If there is such indication that the pills were counterfeit, please check "Counterfeit

Pills" (4.4.s.v) instead of this variable. Indications that pills found at the scene might be counterfeit can include: pills noted to be unmarked (all legitimate prescription/over the counter pills except for vitamins should have some marking), pills identified as containing a certain prescription drug (e.g., oxycodone) that is not detected by postmortem toxicology testing, pills subsequently tested and revealed to contain something other than what they appear to or were thought to contain, pills noted to be "pressed," or a mention in the CME and/or LE report that pills found were counterfeit.. Also, check the box associated with this variable if pills/tablets were found in medicine cabinets, drawers, or pill containers AND other evidence such as witness reports indicate the decedent was taking the prescription drugs leading up to the overdose (i.e., they were part of the scene).

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.v Prescription bottle

Definition: Prescription bottles with a prescription label or pill bottles with prescription pills were found at the scene of the overdose or on the decedent's body.

Response Options: Checkbox

Discussion: Pill bottles found on scene include those with prescription labels on them (both empty and those containing pills) and bottles containing pills (both with and without labels). Pill bottles without labels AND without pills should not be considered evidence of prescription drugs. If the report mentions "pill bottles" but with no other information, the abstractor should assume prescription pill bottles and check the box associated with this variable. Also, check the box if prescription bottles were found in medicine cabinets or in drawers, AND other evidence such as witness reports indicate the decedent was taking the prescription drugs leading up to the overdose.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.vi Lozenges/lollipops

Definition: Prescription lozenges or lollipops, or empty packaging for prescription lozenges or lollipops, were found at the scene of the overdose or on the decedent's body.

Response Options: Checkbox

Discussion: Some prescription drugs are administered through lozenges or lollipops such as fentanyl lozenges/lollipops (Actiq™). Check the box associated with this variable if prescription lozenges/lollipops, or empty packaging for prescription lozenges/lollipops, were found at the scene or on the decedent's body. Also, check the box if prescription lozenges/lollipops or empty packaging for prescription lozenges/lollipops were found in medicine cabinets, drawers, or pill containers and other evidence such as witness reports indicate the decedent was taking the prescription drugs leading up to the overdose.

Do not check the box associated with this variable if over-the-counter lozenges such as cold lozenges were found. If lozenges are reported, but no information is provided on whether they are prescription or over-the-counter, the abstractor should assume the lozenges are over-the-counter and not check the box associated with this variable.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.vii Witness report of prescription use

Definition: A witness reported that the decedent was using prescription drugs (either misused or as prescribed) leading up to the overdose.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a witness reported that the decedent was using prescription drugs leading up to the overdose, regardless of whether prescription pills and/or bottles were also found. Check Pills/Tablets (4.4.r.iv) and/or Prescription Bottle (4.4.r.v) if prescription pills and/or bottles were also found at the scene of the overdose or on the decedent.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.viii Patch

Definition: A prescription patch, piece of a patch, or empty packaging for prescription patches, was found at the scene of the overdose or on the body of the decedent. See Figure 8.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a prescription patch or empty packaging for prescription patches was found at the scene of the overdose or on the decedent's body. Prescription medicines delivered through medication patches are gradually absorbed through the skin over a long period of time. Consequently, patches may be found attached to the body of the decedent during the death investigation. Also, people misusing prescription patches may chew on them to release the medication in the patch more rapidly. Consequently, patches found in the mouths of the decedent should be considered prescription and this item should be endorsed.

Also, check the box associated with variable if prescription patches or empty packaging for prescription patches were found in medicine cabinets, drawers, or pill containers and other evidence such as witness reports indicate the decedent was taking the prescription drugs leading up to the overdose.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.ix Liquid

Definition: A prescription liquid was found at the scene of the overdose or on the decedent's body.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a prescription liquid was found at the scene of the overdose or on the decedent's body. Also, check the box associated with this variable if prescription liquids were

found in medicine cabinets, drawers, or pill containers and other evidence such as witness reports indicate the decedent was taking the prescription drugs leading up to the overdose.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.x Vial

Definition: A vial used to contain prescription liquid was found at the scene of the overdose or on the decedent's body.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a vial used to contain prescription liquid was found at the scene of the overdose or on the decedent's body. Also, check the box associated with variable if vials used to contain prescription liquids were found in medicine cabinets, drawers, or pill containers and_ other evidence such as witness reports indicate the decedent was taking the prescription drugs leading up to the overdose.

In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.r.xi Evidence of use of prescription fentanyl at scene or by witness report

Definition: Prescription or pharmaceutical fentanyl is a synthetic opioid pain reliever approved for treating severe pain, typically advanced cancer pain. It is 50 to 100 times more potent than morphine, and is often prescribed in the form of patches, lozenges, or lollipops.

Response Options: Checkbox

Discussion: Check the box associated with this variable if evidence from the scene and/or witness report suggested the use of prescription fentanyl leading up to the fatal overdose. There does not have to be evidence that the fentanyl was prescribed to the decedent, but rather just that the form of fentanyl used or found was prescription/pharmaceutical (rather than illicitly manufactured). In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked. If the evidence of prescription fentanyl is in the form of lozenges/lollipops or patches, then the variables in sections 4.4.r.vi and/or 4.4.r.viii should also be checked.

4.4.r.xii Other Form – Specify

Definition: The form of the prescription drugs or prescription containers found at the scene of the overdose or on the decedent's body is not captured by items 4.4.r.iv to 4.4.r.xi.

Response Options: Checkbox & Text Box

Discussion: Check this variable if there is other overdose scene evidence that indicates prescription drug use. If the box associated with this variable is checked, please briefly describe the other evidence in the text box located underneath the item. In order to check this box, the Evidence of Prescription Drugs (4.4.r) box must be checked.

4.4.s Evidence of Illicit drugs

If there is any investigative evidence that suggests that illicit substances were used leading up to the fatal overdose, regardless of the intent of use (e.g., self-medication for pain), this box should be checked. Check the box associated with this variable if:

- Witnesses report that the decedent was using illicit substances leading up to the overdose.
- Evidence of substances consistent with illicit use are noted at the scene, such as white or brown powders, crystal substances, or black tarry substances.
- Substances found at the scene were tested and found to be illicit (e.g., heroin, methamphetamines, or cocaine).
- Marijuana is found at the scene, and it is illegal in that jurisdiction.

This category does not include diverted prescription drugs (i.e., prescription/pharmaceutical drugs that were prescribed for someone other than the person using them). Also, findings from **toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this item.** For instance, do not check the box associated with this variable if cocaine is found in the blood of the decedent and no scene evidence or witness reports indicated cocaine use. This is important because scene evidence variables will be used in combination with toxicology findings to assess the likelihood that prescription or illicit substances contributed to the overdose. If this box is checked, AT LEAST one of the boxes for items 4.4.s.i–4.4.s.vii must be checked.

4.4.s.i Powder

Definition: Illicit substances, such as heroin, illicitly-manufactured fentanyl, and cocaine, often come in powder form. Check the box associated with this variable if powders are found at the scene of the fatal overdose or on the decedent's body. See Figure 13.

Response Options: Checkbox

Discussion: Powders found at the scene of the overdose are consistent with illicit substance use. For instance, powdered cocaine often looks like a white powder, while powdered heroin can be white, tannish, or brown. If powder is mentioned and no information is available on whether the substance was tested and confirmed to be an illicit substance, check the box associated with this variable. Findings from toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this variable. For instance, do not check the box associated with this variable if cocaine is found in the blood of the decedent unless scene evidence of powder is available.

In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

Figure 13. Heroin and fentanyl powder

4.4.s.ii Tar

Definition: One form of heroin, called "black tar," has a tar-like appearance. Check the box associated with this variable if a substance with a tar-like appearance and consistency is found at the scene of the fatal overdose or on the decedent's body. See Figure 14.

Response Options: Checkbox

Discussion: Black tar heroin is commonly sold west of the Mississippi River and often looks like melted tar or a resinous substance that can range in color from dark brown to black. Findings from toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this variable. For instance, do not check the box associated with this variable if heroin is found in the blood of the decedent unless scene evidence of tar is available.

In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

Figure 14. Black tar heroin

4.4.s.iii Witness report

Definition: Check the box associated with this variable if a witness reports that the decedent was using illicit substances leading up to the overdose.

Response Options: Checkbox

Discussion: A witness reports that the decedent was using illicit substances leading up to the overdose. The witness is not required to have seen the decedent use the illicit substances(s). Check the box associated with this variable if, for example:

- A witness reported that he knew about the decedent's intention to use illicit substances on the day of the overdose.
- A witness reported that the decedent purchased illicit substances on the day of the overdose.
- A witness saw the decedent use the illicit substances that precipitated the fatal overdose.

Do not check the box associated with the variable if, for example:

- The decedent has a history of using illicit substances, but witnesses did not know if the decedent was using illicit substances leading up to the overdose.
- A witness reports that the decedent only used illicit substances periodically.
- A witness suspects the decedent used illicit substances, but has no evidence (e.g., friend reported that the decedent was acting strangely and the friend thought the decedent was using heroin).

Findings from toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this variable. For instance, do not check the box associated with this variable solely on the basis of heroin found in the blood of the decedent.

In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

4.4.s.iv Crystal

Definition: Check the box associated with this variable if a crystal, crystalline, or rock substance is found at the scene of the fatal overdose or on the decedent's body. See Figure 15.

Response Options: Checkbox

Discussion: Crystal methamphetamine (crystal meth) is often found in crystalline form and is usually white or slightly yellow. Crystal meth can come in large rock-like chunks. Other drugs, such as crack cocaine, can also come in crystal or rock form. Findings from toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this variable. For instance, do not check the box associated with this variable solely on the basis of methamphetamine found in the blood of the decedent.

In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

Figure 15. Crystal methamphetamine

4.4.s.v Counterfeit pills

Definition: Pills or tablets that strongly resemble prescription pills may be revealed by appearance or forensic chemistry to be counterfeit copies that were not produced by pharmaceutical companies. Check the box associated with this variable if there is evidence that pills found at the scene, or pills reportedly taken by the decedent, were counterfeit.

Response Options: Checkbox

Discussion: Pills and tablets that closely resemble prescription pills and tablets are sometimes illegally manufactured and distributed erroneously as diverted prescription pills (i.e., prescribed to someone other than the person taking them). These counterfeit pills may contain a variety of substances. In 2016 and 2021, the Drug Enforcement Administration and CDC released alerts about widespread distribution of counterfeit prescription pills containing fentanyl.[11]

Only check the box associated with this variable when the CME or LE report (or any other source eligible to be used for data abstraction) contains some evidence/indication that pills found at the scene or used by decedents are counterfeit. Indications that pills found at the scene might be counterfeit can include: pills noted to be unmarked (all legitimate prescription/over the counter pills except for vitamins should have some marking), pills identified as containing oxycodone or alprazolam with no oxycodone or alprazolam detected by postmortem toxicology testing (this type of evidence is limited to oxycodone and alprazolam because counterfeit pills have most commonly been sold as these drugs), pills subsequently tested and revealed to contain something other than what they appear to or were thought to contain, pills noted to be "pressed," or a mention in the CME and/or LE report that pills found were counterfeit (e.g., based on deviations between the design and labeling of the counterfeit pill from the prescription pill). Pills noted to be marked as, e.g., "M30," "M-30," or some other variation, or described as "blues," "roxys" or "roxies", or "percs" are either legitimate or counterfeit oxycodone pills. Pills described as, e.g., "zannies," "zannie-bars," "bricks," or "school bus" are either legitimate or counterfeit alprazolam pills (brand name: Xanax). See Appendix C for lists of additional slang terms for select drugs.

If plastic or other types of capsules containing powder (e.g., heroin, fentanyl) are found at the scene, this probably reflects illicit drug packaging (i.e., powder drugs being sold in capsules that knowingly contain illicit drugs and are then opened to prepare the powder for snorting, smoking, or injection) rather than counterfeit pills trying to be passed off as prescription pills. These types of capsules should therefore most likely not be used as evidence of counterfeit pills but can be used to code the Illicit drug packaging variable (4.4.s.vi).

Findings from toxicology tests of the decedent's body, such as blood and urine, can be considered when coding this variable, but only in combination with other evidence, and only for the select drugs oxycodone and alprazolam because most counterfeit pills are sold as those drugs. That is, if scene evidence indicates the presence of pills that are identified as or resemble oxycodone, or if witnesses report that the decedent took oxycodone or what they thought was oxycodone, but oxycodone is not detected by postmortem toxicology testing, this box can be checked. The same logic applies to the presence/report of alprazolam with no alprazolam detected. In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

[11] For additional information please see: https://www.dea.gov/alert/sharp-increase-fake-prescription-pills-containing-fentanyl-and-meth, https://emergency.cdc.gov/han/han00395.asp, and https://www.dea.gov/onepill

4.4.s.vi Illicit drug packaging

Definition: Packaging associated with illicit substances can be an indication that illicit substances were used. Common illicit drug packaging includes glassine or corner-cut baggies, often used for illicit substances in powder form.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the CME or LE report (or any other source) mentions packaging found at the scene that is consistent with illicit substances. Mention of non-specific "drug paraphernalia" could be used to code this variable if there is some indication that the paraphernalia was for packaging of illicit substances.

Findings from toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this variable. In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

4.4.s.vii Other illicit drug – Specify

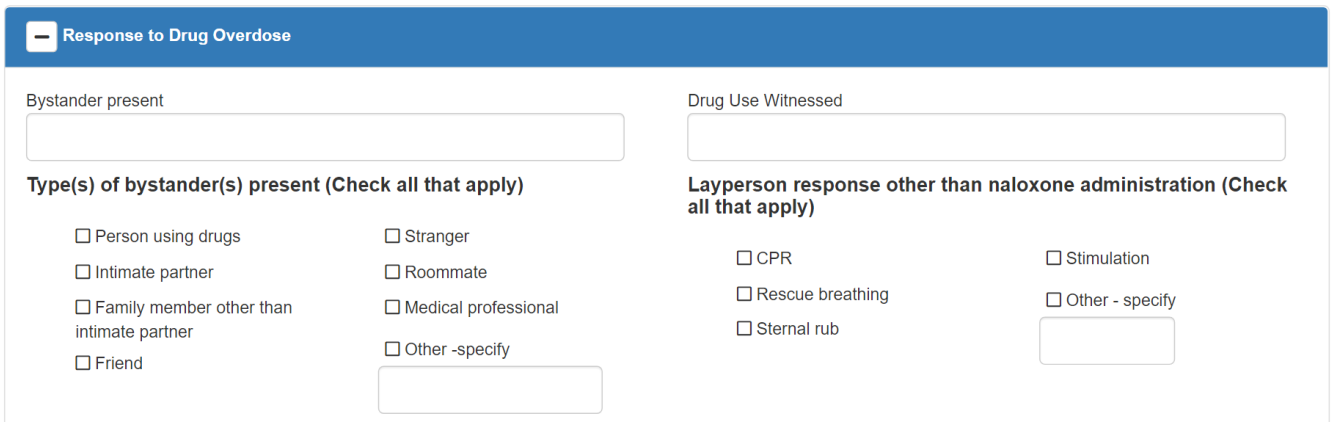
Definition: Evidence of illicit substances found at the scene of the overdose or on the decedent's body for any form of substance or other evidence that is not captured by items 4.4.s.i to 4.4.s.vi.

Response Options: Checkbox and Text box

Discussion: If the box associated with this variable is checked, please briefly describe the evidence in the text box located underneath the variable. This variable can be used for types of evidence such as a mention of heroin, methamphetamine, or other substance at the scene, but without mention of what form the substance was in (e.g., heroin not mentioned to be powder or tar, methamphetamine not mentioned to be crystal). If unspecified "drug paraphernalia" or similar terms are mentioned, this variable should not be used, because paraphernalia could be used for both illicit and prescription drugs. Instead, the box for Non-specific drug use evidence (section 4.4.a.iii) should be checked. Findings from toxicology tests of the decedent's body, such as blood and urine, should not be considered when coding this variable. For instance, do not check the box solely on the basis of heroin found in the blood of the decedent.

In order to check this box, the Evidence of Illicit Drugs (4.4.s) box must be checked.

4.5 Response to Drug Overdose Subgroup



These variables collect information on factors that impacted the emergency response to the drug overdose. Key information includes whether the decedent used the drugs causing the overdose alone or whether there were individuals who intervened to help or had a chance to help the decedent quickly after the overdose. Additionally, information includes the types of individuals who were present and any response they made to the overdose or reasons for not making any response. Information is also collected on first responder interventions. Finally, extensive information is collected regarding the administration of naloxone, a drug used to reverse the effects of an opioid overdose.

4.5.a Bystander present

Definition: A bystander is an individual who was physically nearby either during or shortly preceding a drug overdose who potentially had an opportunity to intervene and respond to the overdose. First responders or medical professionals called to the scene are not considered bystanders.

Response Options: Categorical

1 No bystanders present
2 1 bystander present
3 Multiple bystanders present
4 Bystanders present, unknown number
5 Unknown if bystander present

Discussion: Understanding factors that prevented or slowed the response of bystanders to an overdose is critical to inform efforts to improve emergency responses to future drug overdoses. In particular, the rapid progression of some fentanyl and heroin overdoses highlights the growing urgency for quick response to opioid-involved overdoses. Because a bystander must be an individual with an opportunity to intervene, a cutoff at the minimum age of 11 years old is used. Below are some examples of situations in which it should be coded as bystander present or no bystander present. If there is not enough information to indicate whether a bystander was present or not, this variable can be coded as "5 Unknown if bystander present;" however, abstractors also can interpret what reflects the best possible evidence. For example, if it seems as though the decedent overdosed in isolation, but it does not specifically state in the report that no bystander was present, it might make the most sense to code as "1 No bystanders present."

All the following are examples of individuals who would be considered bystanders:

- A person was at the location where the overdose occurred at the time of the overdose (prior to the onset of signs/symptoms) but may have been spatially separated from the decedent. For instance, the decedent's family may have been in another room in the house when the decedent overdosed in his/her bedroom or a bathroom. This would include a person asleep in the same room or another room of the house.
- A person observed the decedent during the overdose but did not see the decedent use drugs. For instance, a roommate noticed that the decedent had fallen asleep and was loudly snoring on the couch but did not know the decedent had used drugs and/or did not recognize that the decedent had overdosed.
- A person reported that the decedent was intoxicated or high and left the decedent before signs/symptoms of the overdose manifested.
- A person physically observed the decedent using the drugs that resulted in the overdose.

The following are examples of individuals who would not be considered bystanders:

- The decedent electronically communicated (e.g., text, email, etc.) with a friend that they were about to use drugs. The friend would not count as a bystander because s/he was not actually with the decedent and may not have received the message before the overdose occurred.
- The decedent overdosed in a public place such as an alley but could not be seen by people.
- An individual meets all criteria for a bystander but is younger than 11 years old. In this case, it should be coded as "1 No bystander present," but details about the individual and any response made should be included in the narrative. If a potential bystander is noted but no age is given, err on the side of including as a bystander unless other information indicates that the age is likely less than 11 years old (e.g., mention that the decedent's elementary school-aged son was present but doesn't state exactly the age, would indicate that the potential bystander was likely under age 11).
- A person discovers the decedent already unconscious (e.g., a family member returns to the home and finds the decedent unresponsive but was not nearby when the overdose signs/symptoms began).
- A roommate finds the decedent in a state of decomposition in the decedent's bedroom and the roommate has been in and out of the house during the past few days; since it is unknown when the overdose occurred, it should be coded as "5 Unknown if bystander present."
- An individual meets all criteria for a bystander but is noted to have limited mental capacity which would interfere with the ability to respond to the overdose; this instance should be coded as "1 No bystander present," but details about the individual and any response made should be included in the narrative.

4.5.b Drug use witnessed

Definition: At least one person, aged 11 years or older, witnessed the decedent use the substance(s) that resulted in his/her overdose.

Response Options: Categorical

1 No
2 Yes
88 Unknown

Discussion: Using substance(s) alone is a risk factor for a fatal overdose.

The following are examples of situations that should be coded as "2 Yes":

- A witness was physically with the decedent when he/she used the substance(s) that cause the overdose.
- A person saw the decedent use the substance(s) that caused the overdose but left the decedent before signs/symptoms of the overdose presented.

The following are examples of situations that should be coded as "1 No":

- A person joined the decedent right after the decedent used the substance(s) that caused the overdose and reported seeing the signs/symptoms of the overdose as they presented.
- A person was found days after the fatal overdose occurred and evidence suggests that no one was at the scene of the overdose.
- A person knows that the decedent went to their room or the bathroom to use drugs but did not actually observe the decedent use substance(s).
- The decedent emailed a friend right before he/she used the substance(s) that resulted in the overdose.

- A child younger than 11 years witnessed the substance use. Describe the drug use witnessed by the child in the narrative.
- An individual with limited mental capacity witnessed the substance use. Describe the substance use witnessed by the individual in the narrative.

The following are examples of situations that should be coded as "88 Unknown":

- Two decedents were both found deceased in the same location, absent any evidence that they observed each other's substance use.
- Limited information prevents coding as either "Yes" or "No."

SUBSECTION 4.5.c: Type(s) of Bystander(s) Present

4.5.c.i Person using drugs

Definition: The bystander present at the time of overdose was a person who was using substance(s) with the decedent in the time leading up to the overdose.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was a person who was using substance(s) with the decedent in the time leading up to the overdose. If this box is checked, please also identify the relationship of the person to the decedent (i.e., 4.5.c.ii – 4.5.c.viii) if listed in the CME or LE report. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.ii Intimate partner

Definition: The bystander present at the time of overdose was a wife, husband, girlfriend, or boyfriend of the decedent. This category also includes ex-girlfriends, ex-boyfriends, ex-wives, and ex-husbands.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was an intimate partner of the decedent. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.iii Family member/other family member

Definition: The bystander present at the time of overdose was a family member, but not the decedent's intimate partner (4.5.c.ii). For instance, the person could be the decedent's mother, father, brother, sister, aunt, uncle, cousin, son, daughter, or grandparent.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was a family member of the decedent (other than an intimate partner). In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.iv Friend

Definition: The bystander present at the time of overdose was a friend or acquaintance of the decedent. If the decedent knew the bystander even casually, the box associated with this variable should be checked.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was a friend of the decedent. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.v Stranger

Definition: The bystander present at the time of overdose was not someone known to the decedent.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was a stranger to the decedent. Check the box associated with this variable only when the bystander was not: using substance(s) with the decedent at the time of the overdose (4.5.c.i), an intimate partner (4.5.c.ii), another family member (4.5.c.iii), a friend (or acquaintance) (4.5.c.iv), a roommate (4.5.c.vi), or other lay person (a person with no professional medical training) (4.5.c.viii). If a medical professional was present at the time of overdose and that person was a stranger to the decedent, then both this box and the box for Medical professional (4.5.c.vii) can be checked for the same bystander. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.vi Roommate

Definition: The bystander present at the time of overdose lived with the decedent and was not an intimate partner (4.5.c.ii) or other family member (4.5.c.iii).

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was a roommate of the decedent at the time of the overdose. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.vii Medical professional

Definition: The bystander present at the time of overdose was a medical professional.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was a medical professional (this does not include medical professionals who respond to the overdose). If the medical professional present at the time of overdose also fits another category of bystander (e.g., stranger, 4.5.c.v), more than one box can be checked for the same bystander. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

4.5.c.viii Other - Specify

Definition: The bystander present at the time of the overdose had another relationship with the decedent that is not captured by items 4.5.c.i to 4.5.c.vii. For instance, the person may have been a co-worker. If the box associated with this item is checked, please briefly describe the relationship in the text located underneath this variable.

Response options: Checkbox

Discussion: Check this box if the bystander present at the time of overdose was not captured by the options in items 4.5.c.i to 4.5.c.vii. In order to check this box, the Bystander Present field (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one type of bystander in subsection 4.5.c may be checked.

SUBSECTION 4.5.d: Layperson Response Other than Naloxone Administration

4.5.d.i Cardiopulmonary Resuscitation (CPR)

Definition: Cardiopulmonary resuscitation (CPR) is an emergency, potentially life-saving procedure performed when the heart stops beating and pulse is undetectable, consisting primarily of chest compressions (with or without rescue breathing), in order to maintain circulation (blood flow) until help, such as emergency medical services (EMS), arrives.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander or layperson performed CPR on the decedent after onset of overdose signs/symptoms. This variable can be endorsed along with other variables for types of response in this section. The person making the response does not have to qualify for the definition of a bystander but could be any layperson that discovers the decedent before or after onset of overdose signs/symptoms. Do not code this variable if CPR was administered only by a first responder or medical professional called to the scene (section 4.5.l.i).

4.5.d.ii Rescue breathing

Definition: Rescue breathing is an emergency procedure used to help [or support] a person who has stopped breathing by providing mouth-to-mouth ventilation or using assistive equipment such as a mask.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander or layperson performed rescue breathing on the decedent after onset of overdose signs/symptoms. This variable can be endorsed along with other variables for types of response in this section. The person making the response does not have to qualify for the definition of a bystander but could be any layperson that discovers the decedent before or after onset of overdose signs/symptoms. Do not code this variable if rescue breathing was administered only by a first responder or medical professional called to the scene (section 4.5.l.ii).

4.5.d.iii Sternal rub

Definition: One way to attempt to rouse an unconscious person is to apply firm pressure to rub the decedent's sternum (middle of their chest/breastbone) with one's knuckles. Sternal rub is a commonly used method to rouse a person who has "nodded off" or become unresponsive.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander or layperson performed a sternal rub on the decedent after onset of overdose signs /symptoms. This variable can be endorsed along with other variables for types of response in this section. The person making the response does not have to qualify for the definition of a bystander but could be any layperson that discovers the decedent before or after onset of overdose signs/symptoms.

4.5.d.iv Stimulation

Definition: Similar to a sternal rub, external stimulation, e.g., rubbing the upper lip area, shaking or yelling at a person, splashing cold water or ice on a person or applying nail pressure, is often done with the intent to wake a person with potential signs of overdose. These methods are often used as a way to rouse a person who has "nodded off" or become unresponsive.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander or layperson attempted stimulation on the decedent after onset of overdose signs/symptoms. This variable can be endorsed along with other variables for types of response in this section. The person making the response does not have to qualify for the definition of a bystander but could be any layperson that discovers the decedent before or after onset of overdose signs/ symptoms.

4.5.d.v Other - specify

Definition: Potential bystander or layperson responses to overdoses are not limited to those covered by sections 4.5.d.i – 4.5.d.iv. Use this variable if there is evidence indicating that some other response was made and include a description of the response in the text box.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander or layperson made some other response not covered in sections 4.5.d.i – 4.5.d.iv for the decedent after onset of overdose signs/symptoms. This variable can be endorsed along with other variables for types of response in this section. The person making the response does not have to qualify for the definition of a bystander but could be any layperson that discovers the decedent before or after onset of overdose signs /symptoms.

SUBSECTION 4.5.e: Reason(s) for bystander no response or delayed response

If bystander present and no response made or response was delayed (check all reasons for no/delayed response)

- ☐ Did not recognize any abnormalities
- ☐ Bystander using substances or drinking alcohol and impaired
- ☐ Public space and strangers didn't intervene
- ☐ Reported abnormalities but did not recognize as overdose
- ☐ Spatially separated (e.g., different room)
- ☐ Unaware that decedent was using substances
- ☐ Other -specify

This section captures information about reasons a bystander that was present at the time of or shortly preceding an overdose did not attempt any lifesaving responses, or reasons any lifesaving responses were delayed. For example, if the decedent had been using drugs with a friend and nodded off, but the friend thought s/he was just sleeping and did not do anything until finding the decedent cold and unresponsive the next morning, the boxes for "bystander using substances or drinking alcohol and impaired," and "reported abnormalities but did not recognize as overdose" might apply.

4.5.e.i Did not recognize any abnormalities

Definition: Bystander(s) present during or shortly before the onset of overdose did not recognize any overdose signs/ symptoms exhibited by the decedent so they did not know that they needed to provide a response to the overdose. Common overdose symptoms are described in Section 4.3.a.

Response Options: Checkbox

Discussion: Failure to recognize signs/ symptoms of an overdose can impede the ability of a bystander to respond to an overdose. Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose, or provided delayed response, because the signs/symptoms of the overdose were not recognized by the bystander. If it is noted that the bystander did recognize overdose signs/symptoms but did not realize that they indicated that the decedent had overdosed (e.g., the bystander noted that the decedent had nodded off but thought s/he was just sleeping), do not code this variable, but instead code the variable "Reported abnormalities but did not recognize as overdose" (section 4.5.e.iv). In order to check this box, the Bystander Present variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

4.5.e.ii Bystander using substances or drinking alcohol and impaired

Definition: If a bystander is also using substances or drinking alcohol, it may hinder their ability to recognize signs/symptoms of an overdose or to respond even if the overdose is recognized. A bystander who is also using substances or drinking alcohol may additionally hesitate to respond (e.g., call 911) because of a fear of consequences.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose, or provided delayed response, because he or she was also using substances or drinking alcohol. In order to check this box, the "Bystander Present" variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

4.5.e.iii Public space and strangers didn't intervene

Definition: The definition of bystanders allows for inclusion of people nearby in a public space during or shortly preceding a fatal overdose; however, bystanders that are nearby because someone happens to have overdosed where they were in public may be different from bystanders that are nearby because of some interaction or connection with the person who overdosed.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose, or provided delayed response, because the overdose occurred in a public space with strangers as the only bystanders. In order to check this box, the "Bystander Present" variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

4.5.e.iv Reported abnormalities but did not recognize as overdose

Definition: Some abnormalities may not be recognized as signs/symptoms of a drug overdose, which would hinder the ability of a bystander to provide a response to an overdose. For example, someone who has gone unconscious might be thought to be sleeping, or someone with agonal breathing might be thought to be snoring.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose, or provided delayed response, because signs/symptoms of the overdose were not recognized by the bystander to indicate an overdose. If it is noted that the bystander(s) did not recognize that there were any signs/symptoms (e.g., did not notice the decedent nod or snore), do not code this variable but instead code "Did not recognize any abnormalities" (4.5.e.i). In order to check this box, the "Bystander Present" variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders

present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

4.5.e.v Spatially separated (i.e., different room)

Definition: The definition of a bystander allows for inclusion of individuals that were nearby during or shortly preceding an overdose even if they were not directly with the decedent at the onset of overdose. This would include individuals who were in a different room of the same house or otherwise spatially separated from the person who overdosed, therefore hindering the ability to recognize that an overdose was occurring. It is likely that this variable will be endorsed along with "Unaware that decedent was using substances" (4.5.e.vi) in many cases.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose, or provided delayed response, because the bystander was spatially separated from the decedent at the time of overdose. In order to check this box, the "Bystander Present" variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

4.5.e.vi Unaware that decedent was using substances

Definition: If bystanders do not know that someone is using substances, they might be less likely to notice signs/symptoms of overdose than if they were aware of the substance use and they might be less vigilant in checking on the person using substances. It is likely that this variable will be endorsed along with others in this section, such as "Spatially separated" (4.5.e.v) or "Did not recognize any abnormalities" (4.5.e.i).

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose, or provided delayed response, because the bystander did not know the decedent was using substances. In order to check this box, the "Bystander Present" variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

4.5.e.vii Other - specify

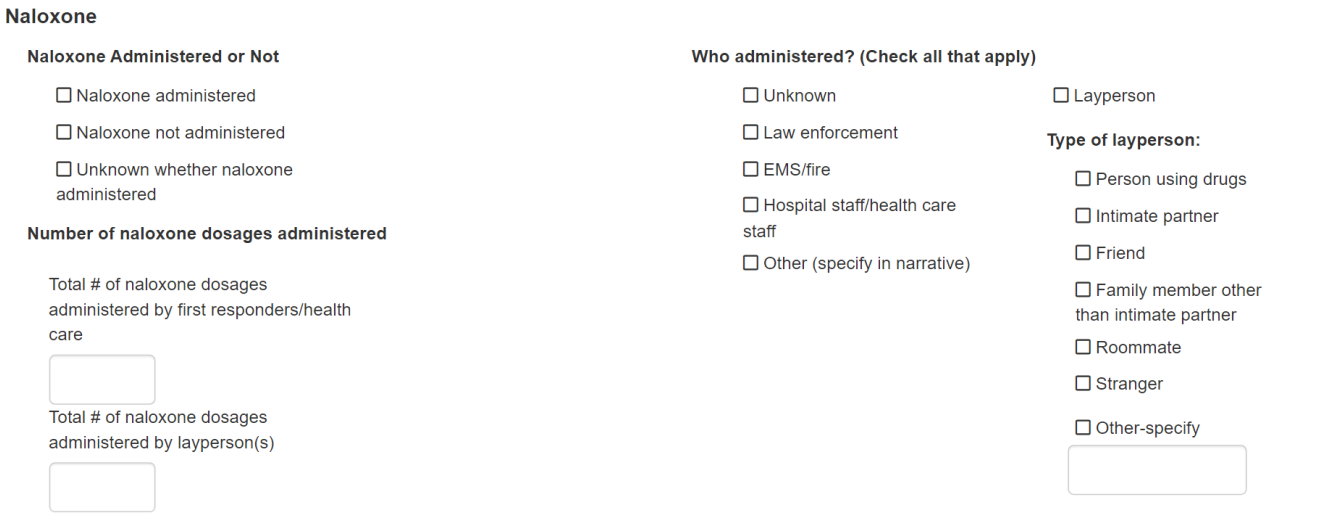
Definition: There might be other reasons a bystander did not provide any response to an overdose, or provided delayed response, other than the options included in sections 4.5.e.i – 4.5.e.vi.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a bystander was present but did not provide any response to the overdose for some reason other than those covered in sections 4.5.e.i – 4.5.e.vi., and type the reason(s) for no response into the text box. In order to check this box, the "Bystander

Present" variable (section 4.5.a) must be coded as "2 1 bystander present," "3 Multiple bystanders present," or "4 Bystanders present, unknown number." More than one reason for no response can be selected in subsection 4.5.e, either for the same or for different bystanders.

NALOXONE



As mentioned at the beginning of section 4, several fields on the OD tab collect information related to opioid use, including these fields about naloxone. The following sections describe fields that collect information about whether naloxone was administered; if administered, by whom; and the number of doses administered. These fields should be filled in for every drug overdose death meeting the SUDORS case definition, regardless of the involvement of opioids.

SUBSECTION 4.5.f: Naloxone Administered or Not

4.5.f.i Naloxone administered

Definition: The decedent was administered naloxone in response to their fatal overdose.

Response Options: Checkbox

Discussion: Naloxone is a drug that can reverse the effects of an opioid overdose. Naloxone can be administered nasally or injected through the skin or via an intravenous line. Narcan™ is one commonly used brand name for naloxone that is used to reverse opioid overdose. In order to check the box associated with this variable, two criteria must be met:

- The decedent was administered naloxone for this overdose by any of the following people: a layperson; EMS responders; LE officers; firefighters; or health care workers in an emergency room, hospital, or critical care center.
- There must be evidence that the naloxone was actually administered. Evidence that naloxone was found at the scene (even with used naloxone packaging) is not sufficient unless there is also evidence that it was administered to the decedent.

If toxicology tests from the decedent detect naloxone, check the box associated with this variable unless buprenorphine is also detected. This could indicate use of Suboxone™, which is a combination of buprenorphine and naloxone.

For every drug overdose death, this variable or one of the following variables should be checked: Naloxone not administered (4.5.f.ii), or Unknown whether naloxone administered (4.5.f.iii).

4.5.f.ii Naloxone not administered

Definition: The decedent was not administered naloxone in response to this overdose.

Response Options: Checkbox

Discussion: Naloxone is a drug that reverses the effects of an opioid overdose. Naloxone can be administered nasally or injected. Narcan™ is a brand name for naloxone. Check the box associated with this variable if there is evidence that Naloxone was not administered.

For every drug overdose death, this variable or one of the following two variables should be checked: Naloxone administered (4.5.f.i) or Unknown whether naloxone administered (4.5.f.iii).

4.5.f.iii Unknown whether naloxone administered

Definition: There was insufficient information to determine whether the decedent was administered naloxone for their overdose.

Response Options: Checkbox

Discussion: Naloxone is a drug that reverses the effects of an opioid overdose. Naloxone can be administered nasally or injected. Narcan™ is a brand name for naloxone. Check the box associated with this variable if there is insufficient evidence to determine whether Naloxone was administered.

For every drug overdose death, this variable or one of the following two variables should be checked: Naloxone administered (4.5.f.i) or Naloxone not administered (4.5.f.ii).

SUBSECTION 4.5.g: Naloxone administered – Who Administered?

Variables 4.5.g.i to 4.5.g.vi identify the type(s) of people who administered naloxone to the decedent in response to the fatal overdose and how many naloxone dosages were administered. The discussion section describes each group. If the box associated with Naloxone administered (4.5.f.i) is checked, the abstractor must identify at least one individual or group who administered naloxone to the decedent by checking the box associated with the individual or group. Multiple groups can be checked because a decedent may have received naloxone from multiple groups. The abstractor can select from the following groups or identify and describe other groups.

4.5.g.i Who Administered – Unknown

Definition: There is evidence that naloxone was administered, but no evidence about the identity of the person(s) who administered it.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that naloxone was administered to the decedent, but no evidence about the identity of the person(s) who administered it. In order to check this box, Naloxone administered (4.5.f.i) must be checked. More than one box in the 4.5.g subsection may be selected (e.g., if it is known that EMS administered a dose of naloxone, EMS/fire (4.5.g.iii) would be checked, and if there is evidence that another dose was administered but does not indicate who administered, this box (Unknown) would be checked).

4.5.g.ii Who Administered–Law Enforcement

Definition: A law enforcement officer administered naloxone. Law enforcement includes sheriffs as well as local and state police. Federal law enforcement and private security are also included in this category.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a law enforcement officer administered naloxone to the decedent. In order to check this box, Naloxone administered (4.5.f.i) must be checked. More than one box in the 4.5.g subsection may be selected (e.g., if it is known that EMS administered a dose of naloxone, EMS/fire (4.5.g.iii) would be checked, and if there is evidence that another dose was administered by law enforcement, this box (Law enforcement) would be checked).

4.5.g.iii Who Administered–EMS/fire

Definition: Emergency medical service (EMS) staff (e.g., ambulance EMTs) or firefighters administered naloxone to the decedent. This category includes all EMS personnel regardless of certification level.

Response Options: Checkbox

Discussion: Check the box associated with this variable if EMS staff or firefighters administered naloxone to the decedent. In order to check this box, Naloxone administered (4.5.f.i) must be checked. More than one box in the 4.5.g subsection may be selected (e.g., if it is known that law enforcement administered a dose of naloxone, Law Enforcement (4.5.g.ii) would be checked, and if there is evidence that another dose was administered by EMS, this box (EMS/fire) would be checked).

4.5.g.iv Who Administered–Hospital (ED/inpatient)

Definition: The decedent was administered naloxone for their overdose in the emergency department or inpatient hospital setting. Naloxone administered in critical care centers should also be coded in this category.

Response Options: Checkbox

Discussion: Check the box associated with this variable if hospital staff, either in-patient or in the ED, administered naloxone to the decedent. In order to check this box, Naloxone administered (4.5.f.i) must be checked. More than one box in the 4.5.g subsection may be selected (e.g., if it is known that EMS administered a dose of naloxone, EMS/fire (4.5.g.iii) would be checked, and if there is evidence that another dose was administered by hospital staff, this box (Hospital (ED/inpatient) would be checked).

4.5.g.v Who Administered–Other (specify in narrative)

Definition: This category captures when naloxone was administered by a trained health or public safety professional that is not covered by section 4.5.g.ii to 4.5.g.iv variables. For instance, if the decedent overdosed at a syringe exchange program and received naloxone from trained health professionals at the syringe exchange program, this box (Other (specify in narrative)) should be checked. If this box is checked, please provide details in the narrative about who administered the naloxone.

Response Options: Checkbox

Discussion: Check the box associated with this variable if someone other than LE (4.5.g.ii), EMS/fire (4.5.g.iii), hospital staff (4.5.g.iv), or a layperson (4.5.g.vi) administered naloxone to the decedent. In order to check this box, Naloxone administered (4.5.f.i) must be checked. More than one box in the 4.5.g subsection may be selected (e.g., if it is known that EMS administered a dose of naloxone, EMS/fire (4.5.g.iii) would be checked, and if there is evidence that another dose was administered by some other type of person not covered by sections 4.5.g.ii – 4.5.g.iv or 4.5.g.vi, this box (Other) would be checked).

4.5.g.vi Who Administered–Layperson

Definition: A layperson (i.e., not a first responder or medical health professional) administered naloxone to the decedent. This would include people who have and have not been trained in administering naloxone (e.g., by a harm reduction organization), but not people who by profession work as first responders or medical health professionals.

Response Options: Checkbox

Discussion: Check the box associated with this variable if a layperson administered naloxone to the decedent. In order to check this box, Naloxone administered (4.5.f.i) must be checked, and at least one of the boxes for subsection 4.5.h must be checked (to indicate the type of layperson). More than one box in the 4.5.g subsection may be selected (e.g., if it is known that EMS administered a dose of naloxone, EMS/fire (4.5.g.iii) would be checked, and if there is evidence that another dose was administered by a layperson, this box (Layperson) would be checked).

SUBSECTION 4.5.h: Naloxone Who Administered – Type of Layperson

Variables 4.5.h.i to 4.5.h.vii identify the type(s) of layperson/people who administered naloxone to the decedent in response to the fatal overdose. The discussion section describes each type. If the box associated with "Who Administered – Layperson" (4.5.g.vi) is checked, the abstractor must identify at least one type of layperson who administered naloxone to the decedent by checking the box associated with the person type. Multiple types can be checked because a decedent may have received naloxone from multiple laypersons or because a layperson

fits into more than one category. The abstractor can select from the following person types or identify and describe other types.

4.5.h.i Layperson – Person using drugs

Definition: The person who administered naloxone was a person who was using drugs or alcohol with the decedent at the time of the overdose. If this box is checked, please also identify the relationship of the person to the decedent (i.e., 4.5.h.ii – 4.5.h.vii) if listed in the CME report.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was someone who was also using substances or alcohol at the time of the overdose. In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of layperson subsection (4.5.h) may be checked, if a layperson fits in more than one category, and/or if more than one layperson administered naloxone.

4.5.h.ii Layperson – Intimate partner

Definition: The person who administered naloxone was a wife, husband, girlfriend, or boyfriend of the decedent. This category also includes ex-girlfriends, ex-boyfriends, ex-wives, and ex-husbands.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was the decedent's intimate partner. In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of layperson subsection (4.5.h) may be checked, if a layperson fits in more than one category, and/or if more than one layperson administered naloxone.

4.5.h.iii Layperson – Friend

Definition: The person who administered the naloxone was a friend or acquaintance of the decedent. If the decedent knew the bystander even casually, the box associated with this variable should be checked.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was the decedent's friend. In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of layperson subsection (4.5.h) may be checked if a layperson fits in more than one category and/or more than one layperson administered naloxone.

4.5.h.iv Layperson – Other family

Definition: The person who administered the naloxone was a family member, but not the decedent's intimate partner (4.5.h.ii). For instance, the person could be the decedent's mother, father, brother, sister, aunt, uncle, cousin, son, daughter, or grandparent.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was the decedent's family member (other than an intimate partner). In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of layperson subsection (4.5.h) may be checked if a layperson fits in more than one category and/or more than one layperson administered naloxone.

4.5.h.v Layperson – Roommate

Definition: The person who administered the naloxone lived with the decedent and was not an intimate partner (4.5.h.ii) or other family member (4.5.h.iv).

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was the decedent's roommate. In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of layperson subsection (4.5.h) may be checked if a layperson fits in more than one category and/or more than one layperson administered naloxone.

4.5.h.vi Layperson – Stranger

Definition: The decedent did not know the person who administered the naloxone. Check the box associated with this variable only when the bystander was not: using drugs with the decedent at the time of the overdose (4.5.h.i), an intimate partner (4.5.h.ii), a friend (or acquaintance) (4.5.h.iii), another family member (4.5.h.iv), a roommate (4.5.h.v), or other layperson (4.5.h.vii).

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was a stranger to the decedent. In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of layperson subsection (4.5.h) may be checked if a layperson fits in more than one category and/or more than one layperson administered naloxone.

4.5.h.vii Layperson – Other - Specify

Definition: The person who administered the naloxone had another relationship with the decedent that is not captured by items 4.5.h.i to 4.5.h.vi. For instance, the person who administered the naloxone may have been a co-worker. If the box associated with this item is checked, please briefly describe the relationship in the text located underneath this variable.

Response Options: Checkbox

Discussion: Check the box associated with this variable if the layperson who administered naloxone to the decedent was someone other than the options covered in sections 4.5.h.i – 4.5.h.vii. In order to check this box, the box for Who Administered-Layperson (4.5.g.vi) must be checked. More than one box in the type of

layperson subsection (4.5.h) may be checked if a layperson fits in more than one category and/or more than one layperson administered naloxone.

4.5.i Total # of naloxone dosages administered by first responders/health care

Definition: The total number of naloxone dosages administered by first responders/health care such as LE, EMS or ED physicians, or persons associated with variables 4.5.g.ii to 4.5.g.iv. Please use the following guidance when calculating dosage:

- The amount of naloxone delivered to a person per dose varies across naloxone products. This variable does not capture the total amount of naloxone the person receives (e.g., total milligrams of naloxone), but instead the total number of doses they receive. For instance, if it is noted that EMS administered nasal naloxone twice to the patient, "2" should be entered for number of dosages. Knowing the number of doses is important to ensure that sufficient dosages are distributed to first responders.
- Nasal naloxone is delivered as a divided dose, with half of each dose going into each nostril; this is considered to be one dose but can be mistaken as two doses. If evidence is available that one dose was given, with half in each nostril, "1" should be entered for the number of dosages. If the person administering the nasal dose only used a half dose (i.e., only administered naloxone in one nostril), the abstractor should round up and count this as 1 dose – enter "1" in the box.
- If details about a nasally-administered dose are unavailable or unclear in the reports, the abstractor should assume a single dose was administered. Enter "1" in the box.
- If the patient received the naloxone intravenously, please count this as a single dose.
- If there is evidence that first responders/health care workers administered naloxone, but it is unknown how many doses were administered, please enter "99." There is no need to enter "99" (can be left blank) if there is no evidence that first responders/health care workers administered naloxone (i.e., none of variables 4.5.g.ii to 4.5.g.iv have been endorsed).

4.5.j Total # of naloxone dosages administered by layperson(s):

Definition: The total number of naloxone dosages administered by bystanders such as family, friends, or people who were using drugs with the decedent, or persons associated with variables 4.5.h.i to 4.5.h.vii. Please use the following guidance when calculating dosage:

- The amount of naloxone delivered to a person per dose varies across naloxone products. This variable does not capture the total amount of naloxone the person receives (e.g., total milligrams of naloxone), but instead the total number of doses they receive. For instance, if it is noted that a family member administered nasal naloxone twice to the decedent and a roommate administered naloxone once to the decedent through an auto injector, "3" should be entered for number of dosages. Knowing the number of doses is important to ensure that sufficient dosages are distributed to family and friends of persons using opioids.
- Nasal naloxone is delivered as a divided dose, with half of each dose going into each nostril; this is considered to be one dose but can be mistaken as two doses. If evidence is available that one dose was given, with half in each nostril, "1" should be entered for the number of dosages. If the person administering the nasal dose only used a half dose (i.e., only administered naloxone in one nostril), the abstractor should round up and count this as 1 dose – enter "1" in the box.
- If details about a nasally administered dose are unavailable or unclear in the reports, the abstractor should assume a single dose was administered. Enter "1" in the box.

- If the patient received the naloxone intravenously, please count this as a single dose.
- If it is unknown how many doses were administered, please enter "99." There is no need to enter "99" (can be left blank) if there is no evidence that layperson(s) administered naloxone (i.e., none of variables 4.5.g.vi or 4.5.h.i to 4.5.h.vii have been endorsed).

FIRST RESPONDERS

Presence of pulse on first-responder arrival

First-responder intervention(s) other than naloxone administration (Check all that apply)

- ☐ CPR
- ☐ Rescue breathing
- ☐ Epinephrine administration
- ☐ Transport to ED
- ☐ Provided oxygen
- ☐ Other - specify

4.5.k Presence of pulse on first responder arrival

Definition: The decedent had a palpable (measurable) pulse at the time EMS, LE, fire, or other first responders arrived at the scene of the overdose; or if the decedent was brought to the ED by laypersons, the decedent had a pulse at arrival to the ED.

Response Options:

1 Victim did not have pulse
2 Victim had pulse
9 Unknown whether victim had pulse

Discussion: The status of someone who has overdosed at the time of first responder arrival will affect the ability of first responders to reverse the overdose and prevent death. If there is mention that a person is clearly deceased at first responder arrival, it is more likely that no life-saving measures will have been undertaken (beyond possibly transporting to the ED, if first responders are unable to declare death in the field). However, if the decedent still had a pulse when first responders arrived, there is a higher likelihood that they administered some care/treatment to reverse the overdose. Evidence of presence of a pulse at first responder arrival may indicate the likelihood of other factors like whether bystanders were present (in order to call 911), any first responder lifesaving interventions, and rapidity of onset of overdose signs/symptoms. Select the response "2 Victim had pulse" if there is evidence that the decedent had a pulse (including instances where a pulse is noted as weak or abnormal) when first responders arrived. Select "1 Victim did not have a pulse" if there is evidence that the decedent did not have a pulse and select "9 Unknown whether victim had pulse" if there is insufficient evidence to determine whether there was a pulse when first responders arrived.

Examples of language in CME and LE reports or other optional source documents, such as EMS run sheets and hospital reports, that would indicate the decedent did not have a pulse when first responders arrived are:

- Decedent was found to be in PEA (pulseless electrical activity) by EMS upon arrival
- EMS arrived to find decedent obviously deceased and pronounced death at the scene
- Decedent was showing signs of decomposition when discovered

- Decedent was found in asystole by EMS

Examples of language that would indicate the decedent did have a pulse when first responders arrived are:

- Decedent was bradycardic, or had signs of bradycardia (bradycardia is a slower than normal heart rate)
- Decedent was tachycardic, or had signs of tachycardia (tachycardia is a faster than normal heart rate)
- Decedent had a weak pulse when EMS arrived

SUBSECTION 4.5.l: First responder intervention(s) other than naloxone administration

4.5.l.i Cardiopulmonary Resuscitation (CPR)

Definition: Cardiopulmonary resuscitation (CPR) is an emergency, potentially life-saving procedure that consists primarily of chest compressions and possibly) ventilation (either mouth-to-mouth breathing or with the use of equipment) in order to maintain circulation (blood flow) until further treatment can be given and/or spontaneous circulation returns. The use of an automated external defibrillator (AED) may be used in conjunction with CPR.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a first responder performed CPR on the decedent after onset of overdose. . Advanced cardiovascular life support, or ACLS, is sometimes mentioned as an intervention. Because ACLS by definition includes CPR, if a report mentions that first responders provided ACLS, the box for CPR should be checked. This variable can be endorsed along with other variables for types of response in this section.

4.5.l.ii Rescue breathing

Definition: Rescue breathing is an emergency procedure used to help [or support] a person who has stopped breathing by providing mouth-to-mouth ventilation or using assistive equipment such as bag-mask.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a first responder performed rescue breathing on the decedent after onset of overdose. Rescue breathing is different from intubation (which involves placing a tube into the airway in preparation for use of a ventilator, or breathing machine); if a report mentions that a decedent was intubated, the box for "Other" (4.5.l.vi) should be checked instead of this box, and "intubation" should be entered into the text box. This variable can be endorsed along with other variables for types of response in this section.

4.5.l.iii Epinephrine administration

Definition: Epinephrine, also called adrenaline, is a medication used in ACLS. . Epinephrine is frequently used in treatment of cardiac arrest, and is sometimes indicated and administered in an overdose situation, if the overdose lead to cardiac arrest.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that first responders administered epinephrine to the decedent. This variable can be endorsed along with other variables for types of response in this section.

4.5.l.iv Transport to ED

Definition: If a person who has overdosed has been resuscitated in the field, s/he will likely be transported to the ED for further treatment. In some instances, if a person has died of an overdose before reaching the ED, but first responders cannot declare death in the field, the person might be transported to the ED for a health care provider to declare death.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that first responders transported the decedent to the ED. This can include instances in which the decedent was transported for further care or for declaration of death. This variable can be endorsed along with other variables for types of response in this section.

4.5.l.v Provided oxygen

Definition: If a person was found unresponsive or hypoxic (with a low oxygen level), supplemental oxygen may have been provided by EMS in the field, via, for example, nasal cannula (prongs) or face mask.
Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that first responders provided supplemental oxygen to the decedent. This variable can be endorsed along with other variables for types of response in this section.

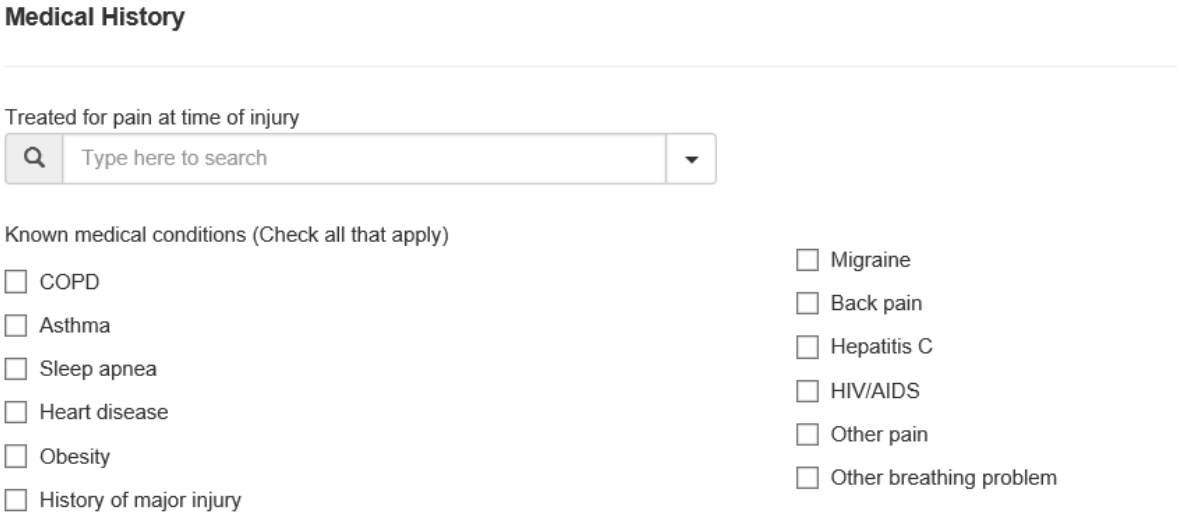
4.5.l.vi Other - specify

Definition: First responder interventions are not limited to those covered by sections 4.5.l.i – 4.5.l.v. Use this variable if there is evidence indicating that some other response was made (e.g., intubation, provided other types of medication), and include a description of the response in the text box.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that a first responder made some other response not covered in sections 4.5.l.i – 4.5.l.v for the decedent after onset of overdose signs/symptoms. The box should only be checked if some other specific intervention was mentioned but should not be checked if a report just says “life-saving attempts” were made, or something similar, with no specifics provided. This variable can be endorsed along with other variables for types of response in this section.

4.6 Medical History Subgroup



As mentioned at the beginning of section 4, several fields on the OD tab collect information related to opioid use, including some of these fields about medical history. This includes, most notably, whether the victim was treated for pain at the time of injury. Prescription opioids have contributed to the opioid overdose epidemic.[12] This variable will help evaluate the current involvement of prescription opioids in drug overdose deaths. Other variables in this section capture information about known medical conditions of the decedent.

4.6.a Treated for Pain at Time of Injury

Definition: The decedent was receiving any type of treatment for acute and/or chronic pain at the time of the fatal overdose, including but not limited to prescription opioid pain relievers.

Response Options:

1 Yes, treated chronic pain
2 Yes, treated acute pain
3 Yes, treated acute and chronic pain
4 Yes, unknown type of pain
5 No/Unknown

Discussion: Possible risks related to opioid therapy include potential for harms such as opioid misuse, opioid use disorder and overdose.[13] Consequently, tracking whether decedents were receiving any type of treatment for acute or chronic pain at the time of death is important.

Key considerations when coding this variable:

[12] Warner M, Chen LH, Makuc DM, Anderson RN, Miniño AM. Drug poisoning deaths in the United States, 1980–2008. NCHS data brief, no 81. Hyattsville, MD: National Center for Health Statistics. 2011.
[13] Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022. MMWR Recomm Rep 2022;71(No. RR-3):1–95

- Chronic pain is defined as pain lasting more than 3 months. Acute pain is defined as pain lasting 3 or fewer months.[14]
- Treatment for pain can be endorsed if there is any evidence the decedent was treated for pain in the last three months, including receiving a prescription for opioid or non-opioid pain relievers. Pain treatments include physical therapy, prescription of opioid pain relievers, exercise plans, treatment by a chiropractor, or prescription of non-opioid pain relievers.
- If the decedent is reported as "recently" receiving treatment for pain or "just getting injured and getting treatment," code as acute pain.
- A decedent may be experiencing both acute and chronic pain at the same time.
- If this variable is endorsed, the box for "Back pain" (Section 4.6.b.viii), "Other pain" (Section 4.6.b.xi), or both should be checked since being treated for pain indicates that the decedent was experiencing some type of pain. If it is not specified in the report what type of pain the decedent was being treated for, "Other pain" should be endorsed.

SUBSECTION 4.6.b: 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 higher risk for overdose, are associated with chronic pain, or are associated with injection drug use are captured; however, if there is evidence that the decedent had additional medical conditions not captured, this information should be documented in the narrative.

4.6.b.i COPD

Definition: Chronic obstructive pulmonary disease, or COPD, refers to a group of diseases that cause airflow blockage and breathing-related problems. It includes emphysema and chronic bronchitis. It is characterized by reduced airflow from the lungs and respiratory signs/symptoms such as shortness of breath or cough. Since opioids can cause respiratory depression, having a pulmonary (lung) condition such as COPD can put someone at higher risk for opioid-involved overdose.[15]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had COPD at the time of the overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.ii Asthma

Definition: Asthma is a chronic inflammatory lung condition characterized by variable reduction in airflow and respiratory signs/symptoms like wheezing, chest tightness, and/or shortness of breath. Since opioids can induce

[14] Acute pain includes sub-acute pain which can last for 1-3 months.

[15] Mahler DA, Selecky PA, Harrod CG, Benditt JO, Carrieri-Kohlman V, Curtis JR, Manning HL, Mularski RA, Varkey B, Campbell M, Carter ER, Chiong JR, Ely EW, Hansen-Flaschen J, O'Donnell DE, Waller A. American College of Chest Physicians consensus statement on the management of dyspnea in patients with advanced lung or heart disease. Chest. 2010 Mar;137(3):674-91.

respiratory depression, having asthma or other conditions that affect breathing can put someone at higher risk for opioid-involved overdose.[16]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had asthma at the time of the overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.iii Sleep apnea

Definition: Sleep apnea is a condition in which breathing starts and stops repeatedly during sleep. Since opioids can induce respiratory depression, having a condition like sleep apnea that affects breathing can put someone at higher risk for opioid overdose.[17]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had sleep apnea at the time of the overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.iv Heart disease

Definition: Heart disease can refer to multiple conditions that affect the functioning of the heart. It is possible that heart disease can put someone at higher risk for overdose or could make it harder to revive someone after an overdose.[18]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had heart disease at the time of the overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.v Obesity

Definition: Obesity is a condition in which there is an excessive amount of body fat, which can lead to health problems. Obesity can affect respiratory function because of extra weight on the rib cage. Since opioids can induce respiratory depression, having obesity or other conditions that affect breathing can put someone at higher risk for opioid-involved overdose.[19]

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[16] Leece, P. Cavacuiti, C. Macdonald, EM. Gomes, T. Kahan, M. Srivastava A, Steele L. Luo J. Mamdani MM. Juurlink DN/ (2015 Apr 15). Predictors of Opioid-Related Death During Methadone Therapy. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/26014916

[17] Chung F, Wong J, Bellingham G on behalf of Op-Safe Investigators, et alPredictive factors for sleep apnoea in patients on opioids for chronic painBMJ Open Respiratory Research 2019;6:e000523.

[18] Dominic P, Ahmad J, Awwab H, Bhuiyan MS, Kevil CG, Goeders NE, Murnane KS, Patterson JC, Sandau KE, Gopinathannair R, Olshansky B. Stimulant Drugs of Abuse and Cardiac Arrhythmias. Circ Arrhythm Electrophysiol. 2022 Jan;15(1):e010273.

[19] Archibald P, Subramoney K, Beydoun HA, Harris CM. The impact of obesity in patients hospitalized with opioid/opiate overdose. Subst Abus. 2022;43(1):253-259.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent was obese at the time of the overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.vi History of major injury

Definition: Opioids may be prescribed for acute or chronic pain following a major injury (e.g., fractures, severe burns, etc.). Being prescribed opioids can be a risk factor for opioid use disorder and for opioid overdose.[20]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had a history of a major injury (i.e., significant enough to have been mentioned in the CME and/or LE report). This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.vii Migraine

Definition: Opioids may have been prescribed for treatment of migraines Being prescribed opioids can be a risk factor for opioid use disorder and for opioid overdose.[13]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent suffered from migraines at the time of the overdose or in the past. This may include a history chronic and/or severe headaches. However, if there is only a vague mention of headache (with no indication of being chronic or severe), then headache should instead be endorsed as "other pain". This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.viii Back pain

Definition: Opioids may have been prescribed for acute or chronic back pain. Being prescribed opioids can be a risk factor for opioid use disorder and for opioid overdose.[21]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had back pain at the time of the overdose or in the past. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

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[20] Salsitz EA. Chronic Pain, Chronic Opioid Addiction: a Complex Nexus. J Med Toxicol. 2016 Mar;12(1):54-7.

[21] CDC's Clinical Practice Guideline for Prescribing Opioids for Pain | Guidelines | Healthcare Professionals | Opioids | CDC

4.6.b.ix Hepatitis C

Definition: Hepatitis C is a liver disease caused by the hepatitis C virus. It can be spread by exposure to infected blood, and injection drug use is a common way in which it is spread.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had hepatitis C at the time of the overdose or in the past. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.x HIV/AIDS

Definition: HIV is a virus that affects the body's immune system and can lead to AIDS, an advanced form of the disease. HIV can be spread through certain body fluids, and injection drug use is a common way in which it is spread.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had HIV or AIDS. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.xi Other pain

Definition: Opioids may be prescribed for many types of pain. Being prescribed opioids can be a risk factor for opioid use disorder and for opioid overdose.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had other pain at the time of the overdose or in the past and include a description of the type of pain the decedent experienced in the narrative. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

4.6.b.xii Other breathing problem

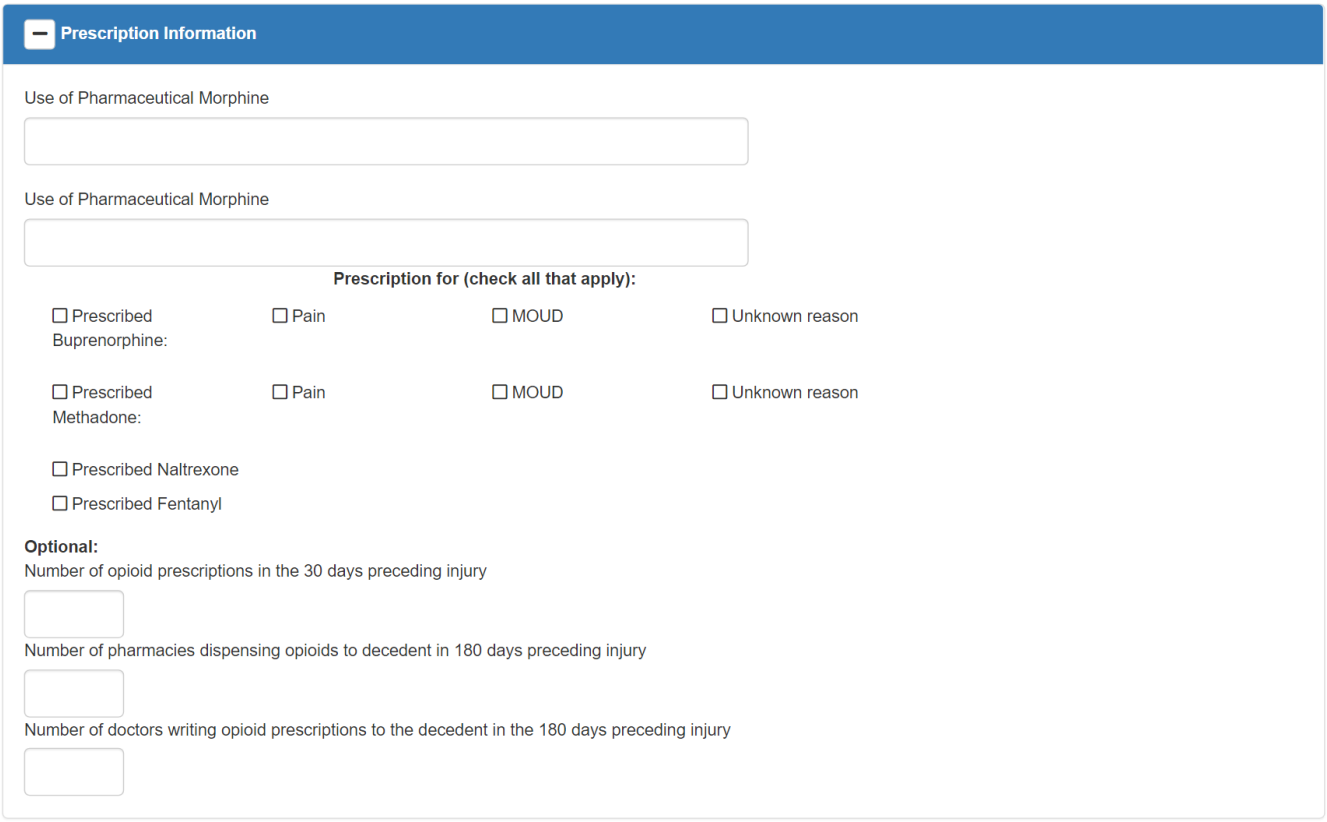
Definition: Since opioids can induce respiratory depression, having conditions that affect breathing can put someone at higher risk for opioid-involved overdose.[22]

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had other breathing problem(s) (e.g., pneumonia, bronchitis, etc.) at the time of the overdose and include a description of the type(s) of breathing problem(s) in the narrative. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available.

[22] Leece, P. Cavacuiti, C. Macdonald, EM. Gomes, T. Kahan, M. Srivastava A, Steele L. Luo J. Mamdani MM. Juurlink DN/ (2015 Apr 15). Predictors of Opioid-Related Death During Methadone Therapy. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/26014916

4.7 Prescription Information Subgroup



This subgroup collects data on the prescription history of the decedent. This information helps assess the likelihood that prescription drugs were involved in the fatal overdose. Some of the items in this section are **optional**. As mentioned at the beginning of section 4, several fields on the OD tab collect information related to opioid use, including some of these fields about prescriptions.

4.7.a Use of Prescription Morphine

Definition: Prescription data, witness reports, or scene evidence indicates that the decedent was prescribed morphine when he/she experienced the fatal overdose. If evidence suggests that prescription morphine was used leading up to the fatal overdose, but there is either 1) no evidence that it was prescribed to the decedent or 2) evidence that it was not prescribed to the decedent, this variable can be endorsed, but please note the information about prescriptions in the "Prescription Morphine Narrative" text box.

Response Options: Categorical and Text box

1 None
2 Evidence of morphine prescription dispensed within last 30 days
3 Prescription morphine found at the scene (vials or tablets)
4 Both prescription and scene evidence of morphine prescription
5 Other evidence (include in narrative)

Discussion: Morphine is both a prescription medicine used to treat pain and a metabolite of heroin. Thus, additional information is needed to determine whether toxicology findings indicating the presence of morphine are related to prescription morphine or heroin.

Check the box associated with this variable if there is any evidence including witness reports, prescription history, and/or scene evidence that suggests that the decedent was prescribed morphine at the time of the fatal overdose. Other evidence, or category 5, would include witness reports of a morphine prescription. If "5 Other evidence (include in narrative)" is selected, please briefly describe the evidence in the "Prescription Morphine Narrative" text box. Detection of morphine on postmortem toxicology testing alone is **not** sufficient to code this variable.

4.7.b Prescribed Buprenorphine

Definition: Prescription data, witness reports, or scene evidence indicates that the decedent was prescribed buprenorphine.

Response Options: Checkbox

Discussion: Buprenorphine is a commonly prescribed example of mediation-assisted treatment, also known as Medications for Opioid Use Disorder, used to treat opioid use disorder. However, it can also be prescribed for pain relief. Even with this limitation, this information in combination with information on treatment for substance use disorder and treatment for pain can be used to estimate the proportion of decedents who were receiving MOUD/MAT or to identify patients who were receiving buprenorphine for pain relief.

Check the box associated with this variable if there is any evidence, including witness reports, prescription history, and/or scene evidence that suggests that the decedent was prescribed buprenorphine at the time of the fatal overdose for either MOUD/MAT or pain relief. Suboxone is the brand name for a medication that contains buprenorphine and naloxone; if there is evidence that the decedent was prescribed Suboxone, this variable should be endorsed.

Buprenorphine is distributed by prescription for both opioid use disorder or pain relief. In the narrative, please provide information on how long the decedent was in treatment, if available.

4.7.b.i Pain

Definition: Buprenorphine may be prescribed for acute or chronic pain.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that buprenorphine was prescribed for pain at the time of the fatal overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available. In order to check this box, the Prescribed Buprenorphine box (4.7.b) must be checked.

4.7.b.ii MAT

Definition: Buprenorphine may be used as medications for opioid use disorder (MOUD)/medication-assisted treatment (MAT).

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had buprenorphine prescribed for MOUD/MAT, at the time of the fatal overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available. In order to check this box, the Prescribed Buprenorphine box (4.7.b) must be checked.

4.7.b.iii Unknown reason

Definition: Buprenorphine was prescribed for an unknown reason at the time of the fatal overdose.

Response Options: Checkbox

Discussion: Check the box associated with this variable if buprenorphine was prescribed for an unknown reason at the time of the fatal overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available. In order to check this box, the Prescribed Buprenorphine box (4.7.b) must be checked.

4.7.c Prescribed Methadone

Definition: Prescription data, witness reports, or scene evidence indicates that the decedent was prescribed methadone.

Response Options: Checkbox

Discussion: Methadone is another example of MOUD/MAT, commonly prescribed for OUD. However, it is also prescribed for pain relief. Even with this limitation, this information in combination with information on treatment for substance use disorder and treatment for pain can be used to estimate the proportion of decedents who were receiving MOUD/MAT or to identify patients who were receiving methadone for pain relief.

Check the box associated with this variable if there is any evidence, including witness reports, prescription history, and/or scene evidence that suggests that the decedent was prescribed methadone at the time of the fatal overdose for either MOUD/MAT or pain relief.

Most prescription drug monitoring programs will only contain methadone prescriptions related to pain relief. When methadone is used as part of MOUD/MAT, it is dispensed to the patient at an opioid treatment program (OTP). In the narrative, please provide information on how long the decedent was in treatment for OUD, if available.

4.7.c.i Pain

Definition: Methadone may be prescribed for acute or chronic pain.

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that methadone was prescribed for pain at the time of the fatal overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available. In order to check this box, the Prescribed Methadone (4.7.c) box must be checked.

4.7.c.ii MAT

Definition: Methadone may be used as medications for opioid use disorder (MOUD), also known as medication-assisted treatment (MAT).

Response Options: Checkbox

Discussion: Check the box associated with this variable if there is evidence that the decedent had methadone prescribed for MOUD/MAT, at the time of the fatal overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available. In order to check this box, the Prescribed Methadone (4.7.c) box must be checked.

4.7.c.iii Unknown reason

Definition: Methadone was prescribed for an unknown reason at the time of the fatal overdose.

Response Options: Checkbox

Discussion: Check the box associated with this variable if methadone was prescribed for an unknown reason at the time of the fatal overdose. This evidence might be included in the autopsy report, the CME report in a section on medical history or in the report narrative, or in medical records if they are available. In order to check this box, the Prescribed Methadone (4.7.c) box must be checked.

4.7.d Prescribed Naltrexone

Definition: Naltrexone is an example of medication-assisted treatment (MAT), also known as medications for opioid use disorder (MOUD), that can be used to treat opioid use disorder. It comes in a pill form or as a monthly injectable.

Response Options: Checkbox

Discussion: Check the box if prescription data, witness report, or scene evidence indicates that the decedent was prescribed naltrexone at the time of the fatal overdose.

4.7.e Prescribed Fentanyl

Definition: Pharmaceutical fentanyl is a synthetic opioid pain reliever approved for treating severe pain, typically advanced cancer pain. It is 50 to 100 times more potent than morphine and is often prescribed in the form of patches, lozenges, or lollipops.

Response Options: Checkbox

Discussion: Check the box associated with this variable if prescription data, witness reports, or scene evidence indicate that the decedent was prescribed fentanyl (e.g., patches, lozenges, or lollipops that were prescribed to the decedent).

4.7.f Prescription Information: Number of Opioid Prescriptions in the 30 Days Preceding Injury (Optional)

Definition: Use prescription drug monitoring program (PDMP) data to calculate the number of opioid prescriptions that the decedent received in the 30 days preceding the drug overdose. Because this variable requires access to PDMP data and PDMP data are not required as part of this NOFO, collection of these data is OPTIONAL.

Response Options: Numeric

Discussion: This variable helps determine whether the decedent was receiving multiple overlapping opioid prescriptions and whether the decedent may have been actively seeking opioid prescriptions in order to misuse the drugs, sometimes referred to as “doctor shopping.” It could also help provide information about co-use of prescription and illicit opioids or switching from prescription to illicit drugs. Using PDMP data, count the number of separate prescriptions for opioids that the decedent received in the 30 days preceding the time and date that the overdose occurred.

If this information is not being abstracted in your jurisdiction, please leave the variable blank. This variable should not be filled in on the basis of partial prescription information (e.g., an opioid prescription found at the scene) because that could underestimate the true number of prescriptions. If the variable is being abstracted in your jurisdiction, please put in “99” if the information is not available for the decedent.

4.7.g Prescription Information: Number of Pharmacies Dispensing Opioid Prescriptions in the 180 Days Preceding Injury (Optional)

Definition: Use prescription drug monitoring program (PDMP) data to calculate the number of pharmacies that distributed prescription opioid medication to the decedent in the 180 days preceding the drug overdose. Because this variable requires access to PDMP data and PDMP data are not required as part of this NOFO, collection of these data is OPTIONAL.

Response Options: Checkbox

Discussion: This variable helps determine whether the decedent was receiving prescription opioids from multiple pharmacies in the six months before the drug overdose occurred. Receiving opioid medications from a large number of pharmacies could increase the chance of unintended interactions between prescribed drugs or indicate that the decedent was actively seeking prescription drugs to misuse. Using PDMP data, count the

number of pharmacies that dispensed opioids to the decedent within 180 days of the drug overdose occurring. Pharmacies include large retail pharmacies such as Walgreens, CVS, Target, and Walmart as well as pharmacies run by insurance companies such as those administered by Kaiser Permanente.

If this information is not being abstracted in your jurisdiction, please leave the variable blank. This variable should not be filled in on the basis of partial prescription information (e.g., an opioid prescription fill receipt from a particular pharmacy found at the scene) because that could underestimate the true number of prescriptions. If the variable is being abstracted in your jurisdiction, please put in "99" if the information is not available for the decedent.

4.7.h Prescription Information: Number of Doctors Writing Opioid Prescriptions to the Decedent in the 180 Days Preceding Injury (Optional)

Definition: Use prescription drug monitoring program (PDMP) data to calculate the number of prescribers (e.g., physicians) that wrote opioid prescriptions for the decedent in the 180 days preceding the drug overdose. Because this variable requires access to PDMP data and PDMP data are not required as part of this NOFO, collection of these data is OPTIONAL.

Response Options: Checkbox

Discussion: This variable helps determine whether the decedent was receiving opioid prescriptions from multiple prescribers. Receiving opioid prescriptions from a large number of prescribers could increase the chance of unintended interactions between prescribed drugs or indicate that the decedent was actively seeking opioids to misuse. Using PDMP data, count the number of prescribers that dispensed opioid to the decedent within 180 days of the drug overdose occurring. CDC currently produces a morphine milligram equivalent file, or MME file, that categorizes all prescription data by drug class, including opioids. This file is publicly available and can be provided upon request or accessed by using the hyperlink.

If this information is not being abstracted in your jurisdiction, please leave the variable blank. This variable should not be filled in on the basis of partial prescription information (e.g., an opioid prescription from a specific doctor found at the scene) because that could underestimate the true number of prescriptions. If the variable is being abstracted in your jurisdiction, please put in "99" if the information is not available for the decedent.

END SECTION 4

SECTION 5: DRUG OVERDOSE-SPECIFIC GUIDANCE FOR THE DEMOGRAPHIC, INJURY & DEATH, CIRCUMSTANCE, AND TOXICOLOGY TABS

In order to capture information on key aspects of drug overdoses, this section provides additional guidance on some fields contained in the Demographics, Injury and Death, Circumstances, and Toxicology tabs of the web-based data entry system. The coding guidance in this manual should be used alongside that in the NVDRS Coding Manual for drug overdose deaths that are unintentional and of undetermined intent. If guidance in the two manuals directly conflicts, please contact the Overdose Surveillance help desk (ODSurveillance@cdc.gov) and copy your CDC support team for further guidance. If a variable in these four tabs is not mentioned in this section, the coding guidance developed by NVDRS to collect information on homicides, suicides, and deaths of undetermined manner should be reviewed and used. The NVDRS coding guidance can be accessed here.

5.1 Drug Overdose Guidance for Demographics Tab

There is no specific drug overdose guidance for variables on the Demographics Tab. The coding guidance developed by NVDRS to collect information on homicides, suicides, and deaths of undetermined manner should be reviewed and used. The NVDRS coding guidance can be accessed here.

5.2 Drug Overdose Guidance for Injury and Death Tab

For any variables not mentioned in this section, the coding guidance developed by NVDRS to collect information on homicides, suicides, and deaths of undetermined manner should be reviewed and used. The NVDRS coding guidance can be accessed here.

5.2.a Date and Time of Injury

"Injury" refers to the onset of overdose, or the manifestation of overdose signs/symptoms such as the decedent becoming unresponsive to stimulation or unconscious, not the use of a substance. The onset of overdose and substance use may often coincide, especially in the case of rapid overdose onset. Focusing on circumstances surrounding onset of overdose provides critical information about response.

When coding the time and date of injury, use the time and date that the overdose occurred (i.e., the signs/ symptoms of the overdose started). Time and date of injury are often listed on the DC and can be used as listed

in the absence of other information. If, however, there is information in the CME report indicating that the date and/or time of injury is different from what is on the DC, the information from the report can be used in place of that from the DC. If the CME report indicates that there is uncertainty about the date and/or time of injury, that should be incorporated into what is entered, even if the DC states specific date/time. For example, if the DC lists January 1st, 2019, at 9am as the date and time of injury, but the CME report indicates that the decedent was last known alive on December 25th 2018 and discovered obviously deceased at 9am on January 1st, it can be assumed that the overdose did not actually occur at 9am on January 1st. In this instance, date of injury should be entered as 99/99/9999 to indicate that it could have happened any time between December 25th and January 1st. All parts of the date are unknown because that period includes two different calendar years.

If it is unknown when the overdose started, use the following guidance:

- For cases where the decedent went to sleep alive with no signs of overdose, enter time as unknown, but enter the date the decedent went to sleep as the date of injury.
- In some cases, estimates may be provided about how long before the overdose death the overdose was recognized. In these cases, estimate the time and date of injury. For instance, a report may indicate that 911 was called by a witness to the overdose 3 hours before the decedent died in the hospital. Calculate the time and date of injury by subtracting 3 hours from the date and time of the death.
    - If the CME report estimates that the overdose occurred during a time range (e.g., 3 or 4 hours before the time and date of death), estimate the time and date of injury by subtracting the time and date of death from the midpoint of the time range (e.g., 3.5 hours if the range was 3 to 4 hours).
- If a decedent was discovered unresponsive less than or equal to one hour after being last known alive, the time last known alive can be used as the time of injury.

The following are examples of how to code location, time, and date of injury:

- Decedent was out with friends and substance use occurred while out; decedent came home and briefly interacted with family, then was observed to nod off after getting into bed.
    - The overdose occurred at home (not while out with friends), so state, county, city, and zip code variables should reflect the home address and the type of location where injury occurred should be coded as “1 House, apartment.”
    - The date/time of injury variables should reflect the date/time decedent got into bed (ideally, date/time would reflect when the decedent actually nodded off, but if this is unknown, date/time decedent went to bed can be a good approximation).
- Decedent was last seen alive and well on 8/15/17 at 9pm and found unresponsive on 8/16/17 at 9am.
    - Date of injury should be entered as 8/99/17 to indicate that the day of overdose is unknown because the decedent could have overdosed between 9pm and midnight on the 15th or between midnight and 9am on the 16th.
    - Similarly, if a decedent is discovered obviously deceased on a different day from that on which s/he was last seen alive and well, date of death should be entered with a “99” for the day portion. Date pronounced will always be entered as the official date of death from the DC.
- Decedent was last seen on 7/31/17 and discovered on 8/1/17 (calendar month is different for date last seen and date discovered)

- Date of injury (and date of death, as applicable) should be entered as 99/99/17 to indicate that both month and day are unknown.

- Decedent was last seen alive and well at 8/12/18 at 10am and found unresponsive later that same day at 2pm.
  - Date of injury is 8/12/18, but time of injury is less clear, so should be filled in as 9999 for unknown unless further information is available.

5.2.b Date of Death

Coding of the date of death should follow the same guiding principles as given in section 5.2.a for coding date of injury. It is often not known when the death actually occurred, if there was some gap between when the decedent was last known alive and then discovered deceased. The date of death is given on the DC, but in some instances, it reflects the date the decedent was pronounced dead rather than the date the decedent actually died.

For example, if someone was last known alive on 5/17/17 and then discovered in early stages of decomposition on 5/25/17, all we know is that the person died sometime between 5/17 and 5/25 – so the date of death would most accurately be entered as 5/99/2017.

If, however, someone was discovered, for example, unconscious but with a weak pulse, we will know for sure on which date the death occurred. For example, the decedent was last known alive on 5/17/17 and discovered unresponsive on 5/25/17 but had a pulse. EMS attempted resuscitation with no success and death was declared on 5/25. In this situation, since the person was technically still alive on 5/25 (had a pulse), we know that the death occurred on 5/25 and the date of death can be entered as 5/25/2017.

5.2.c Date Pronounced Dead

Date pronounced dead should in theory always be known and should reflect the date of death entered on the DC, even if it is not specifically called "Date pronounced dead" (e.g., if the DC field is called "Date of death"). This reflects the guidance given in section 5.2.b – there will always be a recorded date of death, even if it is known that there is some uncertainty about when the death actually occurred.

5.3 Drug Overdose Guidance for Circumstances Tab

For any variables not mentioned in this section, the coding guidance developed by NVDRS to collect information on homicides, suicides, and deaths of undetermined manner should be reviewed and used. The NVDRS coding guidance can be accessed here.

5.3.a Unintentional Drug Overdose Deaths

For unintentional drug overdose deaths, only CME circumstance variables are required because LE reports are not required data sources. If a jurisdiction has access to LE reports, however, it is recommended that the reports are used as data sources. If a jurisdiction does abstract data from LE reports, there are two options for how to enter the data into the web-based system.

The first option is to enter all circumstances in the boxes designated for CME data on the Circumstances Tab (regardless of whether the evidence supporting a given circumstance came from the CME report or the LE report). For instance, a LE report on an unintentional drug overdose death notes that the decedent was

depressed before the overdose and the CME report found that the decedent had alcohol use disorder. This information would be coded as "CME Current Depressed Mood" and "CME Alcohol Problem" (i.e., both variables are coded as CME data irrespective of their data source). If this option is used and there is conflicting information in the LE and CME reports, please reconcile differences before entering data, and note discrepancies in the narrative. Knowledge of the relative accuracy of source documents in a given jurisdiction should be used to determine which source to use in the case of discrepancies.

The second option is to use the LE circumstance fields for evidence that comes from LE reports, and CME circumstance fields for evidence that comes from CME reports. In the previous example, this would result in coding "LE Current Depressed Mood" and "CME Alcohol Problem." Since evidence from LE reports and CME reports is entered in separate fields under this option, it is not necessary to reconcile discrepancies between the two reports, but any discrepancies should also be noted in the narratives.

5.3.b Undetermined Intent Drug Overdose Deaths

For drug overdose deaths of undetermined intent, the guidance for entering data on the Circumstances tab is different from that for unintentional drug overdose deaths because NVDRS funds and requires collection of LE reports in addition to CME reports. Consequently, the abstractor should enter circumstances identified in the CME report in the CME circumstance boxes in the Circumstances Tab. Similarly, circumstances identified in LE reports should be entered in the LE circumstance boxes in the Circumstances Tab. For instance, a LE report on an undetermined intent drug overdose death notes that the decedent was depressed before the overdose and the CME report found that the decedent had alcohol use disorder. This information would be coded as "LE Current Depressed Mood" and "CME Alcohol Problem" (i.e., code the circumstance and identify whether the circumstance was documented in the CME report or LE report). Because LE reports are not required source documents for SUDORS, a case can be considered complete for SUDORS prior to availability and abstraction of LE information.

5.3.c COVID-19 Related Circumstances

The CME and/or LE Disaster Exposure variables should be endorsed for unintentional and undetermined intent drug overdose deaths that have evidence of a COVID-19 related circumstance. In addition to endorsing these variables, the COVID-19 related circumstance should be described in the narrative and include the keyword "COVID." Complete guidance for capturing COVID-19 related circumstances, including examples, is available in Appendix F.

5.4 Drug Overdose Guidance for Toxicology Tab

For any variables not mentioned in this section, the coding guidance developed by NVDRS to collect information on homicides, suicides, and deaths of undetermined intent should be reviewed and used. The NVDRS coding guidance can be accessed here.

5.4.a Substances

When coding the "Substance" variable, all substances with positive toxicology findings should be entered. Substances that are tested for and not found to be present do not need to be entered, unless the substance is mentioned as a cause of death on the DC or CME report. There are, however, some exceptions and additional guidance on which substances to enter:

Type of substance/toxicology result	Action
Substance(s) noted as cause of death on DC or in CME report (or elsewhere), but no toxicology result (likely because a toxicology report was not available)	- Enter substance(s), with "Tested" field coded as "Not tested" or "Unknown," as appropriate; check "Cause of Death" box
Substance(s) noted as cause of death on DC or in CME report (or elsewhere), but with a negative toxicology result	- Enter substance(s), with "Tested" field coded as "Tested," and "Not Present"; check "Cause of Death" box
Presumptive positive toxicology findings (e.g., screening test results only; with or without confirmatory testing conducted/indicated on the toxicology report; might be identified as presumptive positive, indicated, tentative ID, screen positive, etc..)	- Enter substance(s) as "Tested" and "Present" if no confirmatory tests are available, or if unable to differentiate from confirmatory test results - If confirmatory test results negate presumptive/screening results (e.g., presumptive positive for fentanyl, but fentanyl not detected on confirmatory testing) – do not enter substance(s). Note – this is indicative of a false positive screen result that should not be reported. - If presumptive positive for a drug class (e.g., opioids, benzodiazepines, antidepressants) and confirmatory negative for all drugs included in the test for that class, enter the presumptive positive findings (i.e., using the toxicology menu options for the drug class itself). Note – this may indicate the presence of a new drug in that drug class that cannot be identified at the time of testing (i.e., false negative confirmatory results). - If presumptive positive results are available for substance classes (e.g., opioids or benzodiazepines) and confirmatory positive test results are available for at least one substance included in the class(es), it is not required to enter the presumptive results for the class(es), but it is not incorrect to enter both. Note – this is indicative of a true positive finding confirmed by the laboratory. - **If unable to differentiate between the screening and confirmatory results, enter all test results.** - Make note of any presumptive positive findings in the toxicology comments box.
Confirmatory (qualitative and quantitative) positive toxicology findings	- Enter substance(s) as "Tested" and "Present"

Enter all metabolites of substances if they are detected. For instance, enter 6-acetylmorphine (also known as 6-AM or 6-monoacetylmorphine (6-MAM), a metabolite of heroin) or benzoylecgonine (a metabolite of cocaine) when they are detected. Additional examples of major metabolites of common substances are given in Appendix C. If your jurisdiction routinely obtains positive results for metabolites of seemingly extraneous substances (e.g., cotinine (nicotine metabolite) or metabolites of over-the-counter drugs) and would prefer not to enter them, please contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team.

If a metabolite can only come from one parent substance (e.g., 6-AM/heroin, benzoylecgonine/cocaine), the parent and metabolite should be coded in the same manner – that is, if the parent substance is listed on the DC as a cause of death, the cause of death box should be checked for both the parent substance and the metabolite. Appendix C contains a list of substances and their major and minor metabolites, indicating which metabolites are known to only come from one parent substance.

If a decedent tests positive for a substance that is not in the drop-down menu, please use the following guidance:

- Contact the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) to add the substance. CDC staff have the ability to update the toxicology drop-down menu in real time.
- CDC will notify the sender that the new substance has been added to the menu; the newly-added substance should then be entered from the menu.
- In the past, guidance had been to enter a row for "other poison" and type the name of the substance into the toxicology comments box; however, once CDC was able to start updating the toxicology menu in real time, the above approach (notify CDC of the new substance, wait for it to be added, update the case by selecting it from the menu) should be followed in all cases in order to capture all toxicology data in the most efficient way possible.

5.4.b Cause of Death

When coding the "Cause of Death" variable for drug overdose deaths, please use the following guidance:

- The "Cause of Death" variable captures any substance that caused or contributed to the drug overdose death. Multiple substances often contribute to a fatal overdose and all of these substances should be checked as a "Cause of Death."
- A drug listed as a contributing cause of death on the DC OR listed as a contributing cause in the CME report or elsewhere (e.g., within the toxicology report itself) should be checked as a "Cause of Death." For example, if the DC does not specify that a certain drug contributed to death but elsewhere in the CME report it is indicated that the drug did contribute (e.g., ME noted that the decedent tested positive for a lethal concentration of fentanyl), the "Cause of Death" box for that drug should be checked.
- If a drug class (e.g., opioids) is listed as a contributing cause on the DC AND multiple substances in that drug class were identified by toxicology testing, the abstractor should check all of the substances in the drug class detected as a "Cause of Death." For instance, heroin and oxycodone would be checked as "Cause of Death" if the substances were detected by toxicology testing and "opioid" was listed as a contributing cause of death on the DC.
- For drug overdose deaths where the only cause of death information listed on the DC and CME report is "Polysubstance," "Poly drug," "Multiple substances," "Combined toxicity," or another phrase implicating

the involvement of multiple drugs, the abstractor should check "Cause of Death" for all substances that were detected by toxicology tests.

- For overdose deaths with no information on which substances contributed to the overdose (e.g., "drug overdose" or "drug toxicity" listed as the cause of death on the DC, but no language implicating multiple substances), do not list any of the substances as "Cause of Death." We will examine these cases individually and provide further guidance based on our findings.
    - If, however, the cause of death indicates "drug overdose," "drug toxicity," or something similar and only one substance is positive on postmortem toxicology, the "Cause of Death" box should be checked for that substance.
- As mentioned in section 5.4.a, any substance listed as a cause of death on the DC and/or within the CME report must be entered on the Toxicology tab, even if not included in toxicology results, or if no toxicology results were available.
    - If no toxicology results are available, or if the substance listed as a cause of death was not specifically noted in toxicology results (e.g., cause of death includes "heroin" but toxicology results included only 6-AM), the substance name should be selected from the drop-down menu, and either "Not tested" or "Unknown" should be selected as applicable from the Tested field, which will pre-populate the Results field to "Not applicable" or "Unknown."
        - An example of an instance in which a substance was "Not tested" is: heroin is not tested for in postmortem toxicology testing because of the rapidity with which it metabolizes to 6-AM. Unless there is any indication that a specific test for heroin was done, if heroin was mentioned as a cause of death, heroin should be entered as "Not tested," and the Cause of Death box should be checked.
        - An example of an instance in which a substance was "Unknown" is: toxicology testing results are not available, but the DC indicates the cause of death was fentanyl and cocaine overdose. Fentanyl and cocaine should be entered as "Unknown" for the "Tested" field, and the Cause of Death box should be checked for both.
    - If no toxicology results are available, the above process should be followed, and once any substances included in the cause of death have been entered, the "No toxicology information" box in the top-left corner of the Toxicology tab can be checked to indicate that no results were available. Any substances already entered before checking the box will be retained, but will be locked for editing. Please note, if the "No toxicology information" box is checked first, it will lock out the rest of the fields on the tab, so you will be unable to enter any substances. Also note that checking the "No toxicology information" box may clear the Toxicology Summary section.

5.4.c Person Prescribed For

When coding the "Person Prescribed For" variable for drug overdose deaths, please use the following guidance:

- Substances that are only illicit (e.g., heroin), should be coded as "Not applicable," because they cannot be prescribed and therefore none of the other options apply.
    - There are several substances that are nearly always illicit, but can be used in medical procedures and/or prescribed in limited situations (e.g., methamphetamine, cocaine) – given the extreme rarity with which these will be prescribed substances, the guidance is to treat them as illicit and code as "Not applicable" unless there is some indication that they are prescription substances or a jurisdiction feels strongly about coding them with the possibility of being prescription

substances. If there is any question about whether a substance is prescription or illicit, please contact the Overdose Surveillance helpdesk (ODsurveillance@cdc.gov) and copy your CDC support team.

- Fentanyl is available both as a prescription substance and as an illicit substance. Although in the current opioid overdose epidemic the vast majority of overdose deaths involve illicitly manufactured fentanyl rather than prescription fentanyl, the guidance is still to code fentanyl as if it were prescription. That is, one of the options other than "Not applicable" should be selected. This will most often result in coding as "Relationship unknown" unless there is specific information about who fentanyl was prescribed to.
- If a metabolite can only come from one parent substance (see Appendix C), then the "Person Prescribed For" field should be coded the same for both the parent substance and the metabolite(s). E.g., if the decedent was prescribed methadone, and both methadone and EDDP were detected by postmortem toxicology testing, "Self" should be selected for "Person Prescribed For" for both substances. If, however, a metabolite could come from more than one parent substance (or could be a parent substance itself), the "Person Prescribed For" field should be coded independently of any other substance.
- For naloxone, if the jurisdiction in which the death occurred does not require a prescription, then "Person Prescribed For" is likely best coded as "Not applicable." If, however, a prescription is required, then it should be coded as such (any option other than "Not applicable"). If there is a standing prescription for naloxone in a jurisdiction and there is some indication that the decedent was the one who obtained the naloxone, then "Self" might be coded. We recommend coding the "Person prescribed for" field as "Not applicable" for cases in which naloxone (or any other medication) was administered to the decedent, unless there is some additional evidence that the decedent had an existing prescription for it.

5.4.d No Substance(s) Given as Cause of Death

This checkbox allows for identification of drug overdose deaths for which there was no specific drug or drug class (e.g., opioid) identified by the medical examiner/coroner (either on the death certificate or elsewhere in the CME report) as causing death. Cause of death information for such deaths might be listed as, e.g., "drug overdose" or "polysubstance toxicity." If this checkbox is checked, it will lock out the Cause of Death boxes for the entire tab; however, if any Cause of Death boxes were already checked, it will retain that information. For example, if the cause of death is "multi-drug overdose," and toxicology testing detected fentanyl, cocaine, and alprazolam, all three drugs should be entered on the Toxicology tab with the Cause of Death box checked for each, and then the new "No substance(s) given as cause of death" box should be checked. This will flag the death as having a cause of death that does not specify any drugs/drug classes.

5.4.e Guidance on Overdose Deaths with Heroin Involved or Detected

When coding overdose deaths with heroin involved or detected, please use the following guidance:

Heroin (also called diacetylmorphine) metabolizes rapidly to its primary metabolite, 6-acetylmorphine (6-AM), which is also called 6-monoacetylmorphine (6-MAM). Because of the rapid metabolism, heroin itself is rarely tested for during postmortem toxicology testing. Instead, 6-AM/6-MAM detection indicates that heroin was used prior to the overdose. As a result, we have specific guidance for entering heroin and 6-AM/6-MAM on the Toxicology tab. The below tables lay out our guidance for data entry during different combinations of toxicology results and cause of death information. Please note, 6-acetylmorphine (6-AM) and 6-monoacetylmorphine (6-MAM) are equivalent (i.e., two different names for the same substance); if either is detected by toxicology tests,

select the 6-monoacetylmorphine (6-MAM)/6-acetylmorphine (6-AM) option from the substance drop-down menu.

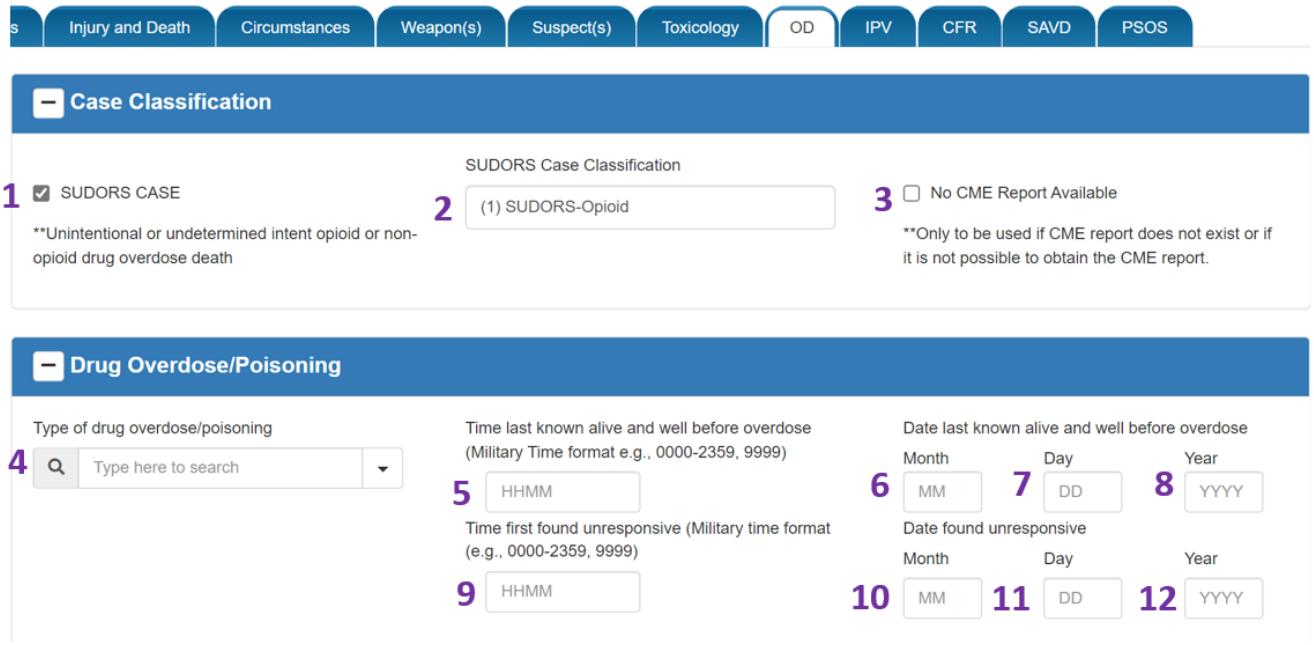
☒ Heroin is NOT present on tox		
Heroin COD Status	**6-AM/6-MAM Tox Status**	**Guidance**
☑ Heroin is listed as COD	☑ 6-AM/6-MAM is present on tox	1. Enter heroin in **Substance** field on Toxicology tab. a. Select "tested", "not tested", or "unknown" in **Tested** field depending on whether or not there is additional evidence present indicating tox testing for heroin was performed. b. If known heroin was tested for, selected “not present” for **Results** field; if “not tested” or “unknown” entered for **Tested**, will auto-populate **Results** c. Select **Cause of Death** checkbox. 2. Enter 6-AM/6-MAM in **Substance** field on Toxicology tab. a. Select "tested"/"present" for **Tested/Results** fields. a. Select **Cause of Death** checkbox.
	☒ 6-AM/6-MAM not present on tox	1. Enter heroin in **Substance** field on Toxicology tab. a. Select "tested", "not tested", or "unknown" in **Tested** field depending on whether or not there is additional evidence present indicating tox testing for heroin was performed. b. If known heroin was tested for, selected “not present” for **Results** field; if “not tested” or “unknown” entered for **Tested**, will auto-populate **Results** b. Select **Cause of Death** checkbox.
☒ Heroin not listed as COD	☑ 6-AM/6-MAM is detected on tox*	1. Enter heroin in **Substance** field on Toxicology tab. a. Select "tested", "not tested", or "unknown" in **Tested** field depending on whether or not there is additional evidence present indicating tox testing for heroin was performed. b. If known heroin was tested for, selected “not present” for **Results** field; if “not tested” or “unknown” entered for **Tested**, will auto-populate **Results** 2. Enter 6-AM/6-MAM in **Substance** field on Toxicology tab. a. Select "tested"/"present" for **Tested/Results** fields.
	☒ 6-AM/6-MAM not present on tox	Do not enter heroin or 6-AM/6-MAM on Toxicology tab.
* Please note, guidance for this scenario is the guidance we have provided during ESOOS and OD2A; however, we recognize that entering both heroin and 6-AM/6-MAM when heroin is not detected or listed as COD is redundant and does not necessarily add information. Therefore, it is also acceptable to only enter 6-AM/6-MAM in this scenario if preferred in your jurisdiction.		

☑ Heroin IS present on tox* *This will be rare, as heroin (diacetylmorphine) is usually not tested for because of rapid metabolism to 6-AM/6-MAM		
Heroin COD Status	**6-AM/6-MAM Tox Status**	**Guidance**
☑ Heroin is listed as COD	☑ 6-AM/6-MAM is present on tox	1. Enter heroin in **Substance** field on Toxicology tab. a. Select “tested”/“present” for **Tested/Results** field b. Select **Cause of Death** checkbox. 2. Enter 6-AM/6-MAM in **Substance** field on Toxicology tab. a. Select “tested”/“present" for **Tested/Results** fields. b. Select **Cause of Death** checkbox.

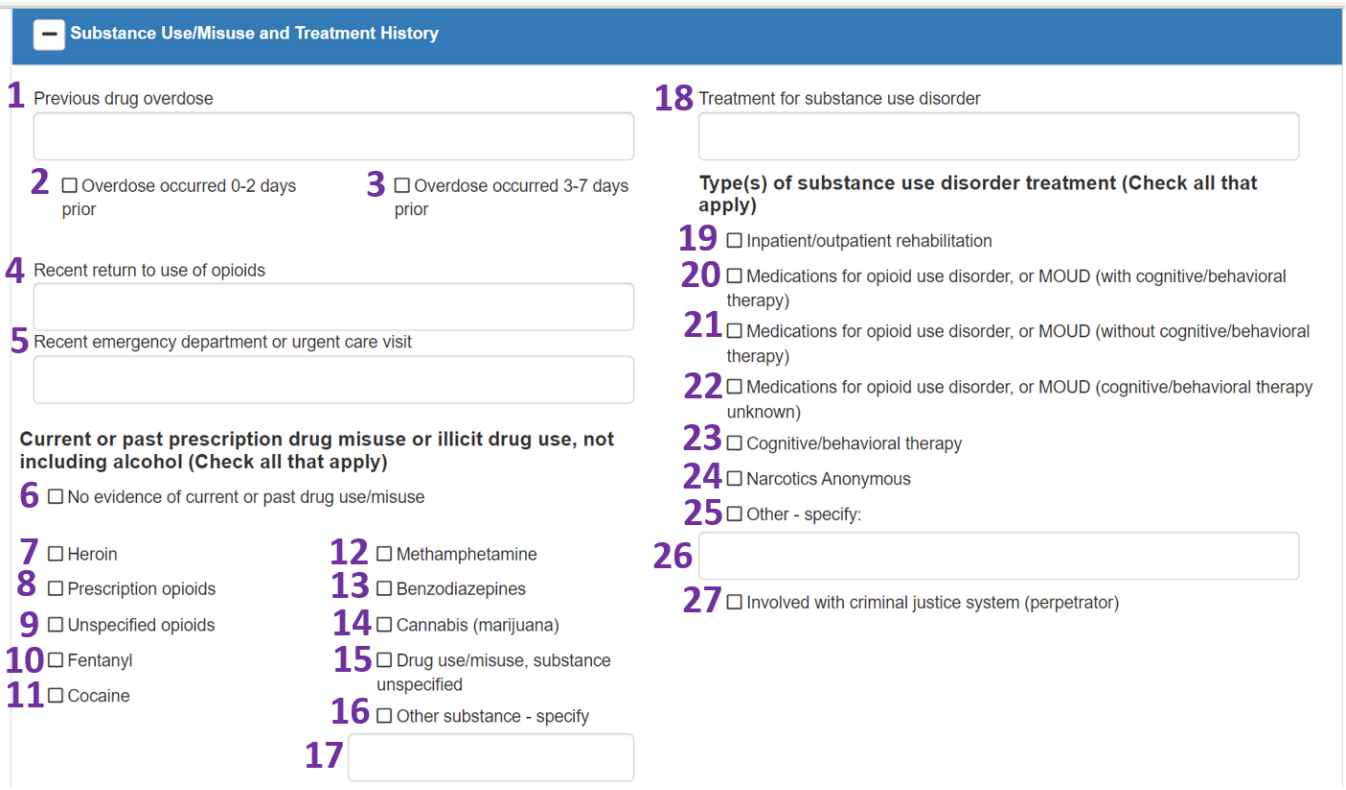
	☒ 6-AM/6-MAM not present on tox	1. Enter heroin in **Substance** field on Toxicology tab. a. Select “tested”/“present” for **Tested/Results** field b. Select **Cause of Death** checkbox.
☒ Heroin not listed as COD	☑ 6-AM/6-MAM is present on tox	1. Enter heroin in **Substance** field on Toxicology tab. a. Select “tested”/“present” for **Tested/Results** field 2. Enter 6-AM/6-MAM in **Substance** field on Toxicology tab. a. Select “tested”/“present" for **Tested/Results** fields.
	☒ 6-AM/6-MAM not present on tox	1. Enter heroin in **Substance** field on Toxicology tab. a. Select “tested”/“present” for **Tested/Results** field

APPENDIX A: OD Tab Variable Mapping

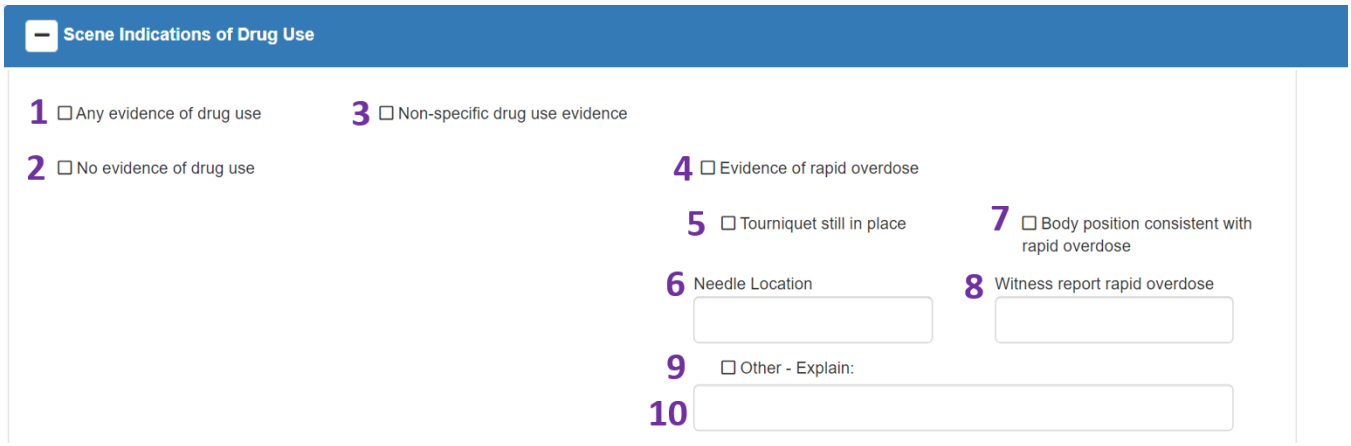
This appendix provides the variable names used in the export file (i.e., PDO.zip) and in SUDORS datasets generated by CDC to capture the information on each of the items on the OD tab. Two variables are produced for most items that have multiple response categories (i.e., 3 or more). One variable lists the numeric information displayed on the tab and the second variable provides the format (i.e., the format variable always ends with the word "Description"). For instance, the numeric responses listed for the "Type of Drug Overdose/Poisoning" question will be captured by the "TypeOfPoisoning" variable (e.g., "1" when the overdose was related to substance use/misuse) and the formatted variable for each response will be listed in TypeOfPoisoningDescription (e.g., lists "overdose related to substance use/misuse" instead of the number "1").



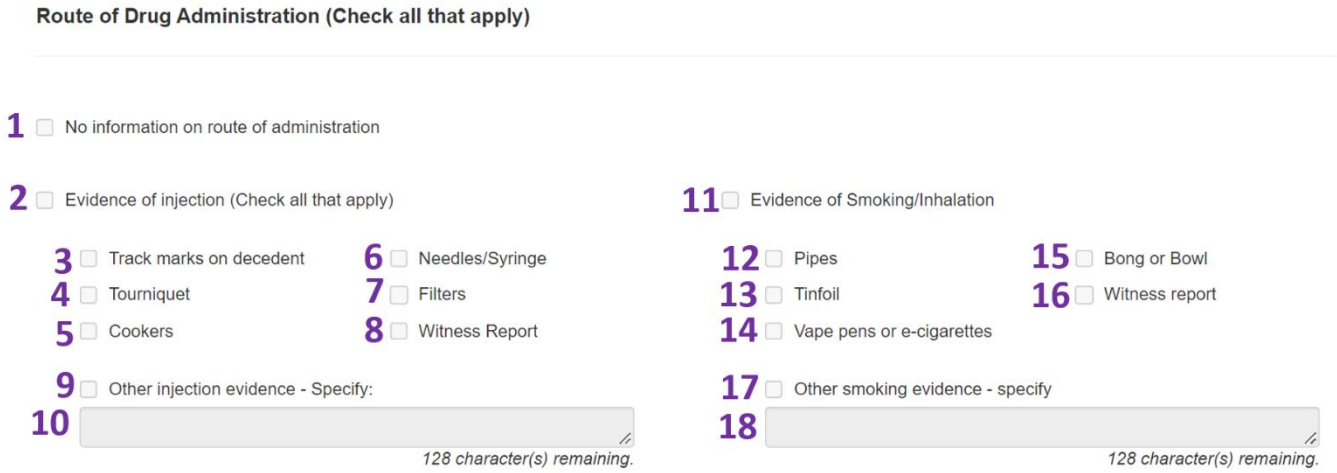
1. SUDORSCase
2. CaseClassification
3. NoCMEReportAvailable
4. TypeOfPoisoning
5. LastSeenAliveTime
6. LastSeenAliveMonth
7. LastSeenAliveDay
8. LastSeenAliveYear
9. Time_unresponsive
10. Month_unresponsive
11. Day_unresponsive
12. Year_unresponsive



1. PreviousOverdose
2. Overdose0to2DaysPrior
3. Overdose3to7DaysPrior
4. RecentOpioidUse
5. RecentED
6. HxDrugNoEvidence
7. HxHeroin
8. HxRxOpioid
9. HxAnyOpioid
10. HxFentanyl
11. HxCocaine
12. HxMeth
13. HxBenzo
14. HxCannabis
15. HxUnspecified
16. HxOther
17. HxOtherDescript
18. TreatmentForSubstanceAbuse
19. SubsTx_rehab
20. SubsTx_MATcog
21. SubsTx_MATnocog
22. SubstTx_MAT
23. SubsTx_CogTherapy
24. SubsTx_NA
25. SubsTx_Other
26. SubsTx_OtherSpecify
27. InvoleCriminalJustice



1. IndicationsDrugPara
2. IndicationsNone
3. DrugUseEvidence_NOS
4. HasRapidOverdoseEvidence
5. IsTourniquetAroundArm
6. NeedleLocation
7. BodyPosition
8. RapidOverdoseWitnessReport
9. RapidOverdoseOther
10. RapidOverdoseOtherDescription



1. RouteUnknown
2. RouteInjection
3. IndicationsTracks
4. HasEvidenceOfInjectionTourniquet
5. HasEvidenceOfInjectionCooker
6. HasEvidenceOfInjectionNeedle
7. HasEvidenceOfInjectionFilter
8. HasEvidenceOfInjectionWitnessReport
9. HasEvidenceOfInjectionOther
10. EvidenceOfInjectionOtherDescription
11. HasRouteSmoking
12. SmokingPipe
13. SmokingTinfoil
14. SmokingVape
15. SmokingBongBowl
16. SmokingWitness
17. SmokingOther
18. SmokingOtherDescript

1 ☐ Evidence of Snorting/Sniffing

2 ☐ Straws
3 ☐ Rolled paper or dollar bills
4 ☐ Razor blades
5 ☐ Powder on table/mirror
6 ☐ Powder on decedent's nose
7 ☐ Witness report

8 ☐ Other snorting evidence - specify
9

128 character(s) remaining.

10 ☐ Evidence of Transdermal
11 ☐ Evidence of Ingestion
12 ☐ Evidence of Suppository
13 ☐ Evidence of Sublingual
14 ☐ Evidence of Buccal

Illicit or Prescription Drugs (Check all that apply)

15 ☐ Evidence of unspecified drug type

16 ☐ Evidence of prescription drugs (Check all that apply)

17 ☐ Prescribed to decedent
18 ☐ Not prescribed to decedent
19 ☐ Unknown who prescribed for

Type of evidence of prescription drugs found (Check all that apply)

20 ☐ Pills/Tablets
21 ☐ Patch
22 ☐ Prescription bottle
23 ☐ Liquid
24 ☐ Lozenges/lollipops
25 ☐ Vial
26 ☐ Witness report of prescription use
27 ☐ Evidence of use of prescription fentanyl at scene or by witness report

28 ☐ Other form - Specify:
29

128 character(s) remaining.

30 ☐ Evidence of Illicit drugs (Check all that apply)

31 ☐ Powder
32 ☐ Witness report
33 ☐ Counterfeit pills
34 ☐ Tar
35 ☐ Crystal
36 ☐ Illicit drug packaging

37 ☐ Other illicit drug - Specify:
38

128 character(s) remaining.

1. RouteSnorting
2. SnortingStraw
3. SnortingRolled
4. SnortingRazor
5. SnortingPowderMirror
6. SnortingPowderNose
7. SnortingWitness
8. SnortingOther
9. SnortingOtherDescript
10. HasRouteTransdermal
11. RouteIngestion
12. RouteSuppository
13. HasRouteSublingual
14. HasRouteBuccal
15. DrugEvidence_NOS
16. HasEvidenceOfPrescriptionDrug
17. IsPrescribedToVictim
18. IndicationsRxDrugs
19. IsUnknownWhoPrescribed
20. IsPrescriptionPill
21. IsPrescriptionPatch
22. IsPrescriptionBottle
23. IsPrescriptionLiquid
24. IsPrescriptionLozenge
25. IsPrescriptionVial
26. HasEvidenceOfInjectionReportRxUse
27. IsPrescriptionFentanyl
28. IsPrescriptionOther
29. PrescriptionOtherDescription
30. IndicationsDrugsatScene
31. HasEvidenceOfIllicitPowder
32. HasEvidenceOfIllicitWitnessReport
33. IsPrescriptionCounterfeit
34. HasEvidenceOfIllicitTar
35. HasEvidenceOfIllicitCrystal
36. HasEvidenceOfIllicitPackage
37. IndicationsOther
38. IndicationsOtherNarrative

Response to Drug Overdose

1 Bystander present

Type here to search

Type(s) of bystander(s) present (Check all that apply)

2 ☐ Person using drugs
3 ☐ Intimate partner
4 ☐ Family member other than intimate partner
5 ☐ Friend
6 ☐ Stranger
7 ☐ Roommate
8 ☐ Medical professional
9 ☐ Other -specify
10 _____
128 character(s) remaining.

11 Drug Use Witnessed

Type here to search

Layperson response other than naloxone administration (Check all that apply)

12 ☐ CPR
13 ☐ Rescue breathing
14 ☐ Sternal rub
15 ☐ Stimulation
16 ☐ Other - specify
17 _____
128 character(s) remaining.

Naloxone

Naloxone Administered Or Not

18 ☐ Naloxone administered
19 ☐ Naloxone not administered
20 ☐ Unknown whether naloxone administered

Who Administered? (Check all that apply)

21 ☐ Unknown
22 ☐ Law enforcement
23 ☐ EMS/fire
24 ☐ Hospital staff/health care staff
25 ☐ Other-specify
26 ☐ Layperson

Type of layperson:

27 ☐ Person using drugs
28 ☐ Intimate partner
29 ☐ Friend
30 ☐ Family member other than intimate partner
31 ☐ Roommate
32 ☐ Stranger
33 ☐ Other-specify
34 _____
128 character(s) remaining.

35 Total # of naloxone dosages administered by first responders/health care

_____

36 Total # of naloxone dosages administered by layperson(s)

_____

Presence of pulse on first-responder arrival

37 Type here to search

First-responder intervention(s) other than naloxone administration (Check all that apply)

38 ☐ CPR
39 ☐ Rescue breathing
40 ☐ Epinephrine administration
41 ☐ Transport to ED
42 ☐ Provided oxygen
43 ☐ Other - specify
44 _____
128 character(s) remaining.

1. BystandersPresent
2. BystanderUser
3. BystanderPartner
4. BystanderFamily
5. BystanderFriend
6. BystanderStranger
7. BystanderRoommate
8. BystanderMedical
9. BystanderOther
10. BystanderOther_specify
11. WitnessedDrugUse
12. BystanderCPR
13. BystanderBreathing
14. BystanderSternal
15. BystanderStim
16. BystanderIntOther
17. BystanderIntOther_specify
18. NaloxoneAdministered
19. IsNaloxoneNotAdmin
20. IsNaloxoneUnknown
21. IsNaloxoneAdminUnknown
22. IsNaloxoneAdminLaw
23. IsNaloxoneAdminEms
24. IsNaloxoneAdminHospital
25. IsNaloxoneAdminOther
26. IsNaloxoneAdminBystander
27. IsNaloxoneWhoPerson
28. IsNaloxoneWhoPartner
29. IsNaloxoneWhoFriend
30. IsNaloxoneWhoOtherFamily
31. IsNaloxoneWhoRoommate
32. IsNaloxoneWhoStranger
33. IsNaloxoneWhoOther
34. NaloxoneWhoOtherDescription
35. NaloxoneTotalResponder
36. NaloxoneTotalBystander
37. HadPulse
38. InterventionCPR
39. InterventionBreathing
40. InterventionEpinephrine
41. InterventionTransport
42. InterventionOxygen
43. InterventionOther
44. InterventionOtherSpecify

If bystander present and no response made or response was delayed (check all reasons for no/delayed response)

1 ☐ Did not recognize any abnormalities
2 ☐ Bystander using substances or drinking alcohol and impaired
3 ☐ Public space and strangers didn't intervene
4 ☐ Reported abnormalities but did not recognize as overdose
5 ☐ Spatially separated (e.g., different room)
6 ☐ Unaware that decedent was using substances
7 ☐ Other -specify
8 [ ]

128 character(s) remaining.

1. BystanderNotRecognize
2. BystanderUsing
3. BystanderPublic
4. BystanderNoOD
5. BystanderSeparated
6. BystanderUnaware
7. BystanderReasonOther
8. BystanderReasonOther_specify

Medical History

1 Treated for pain at time of injury

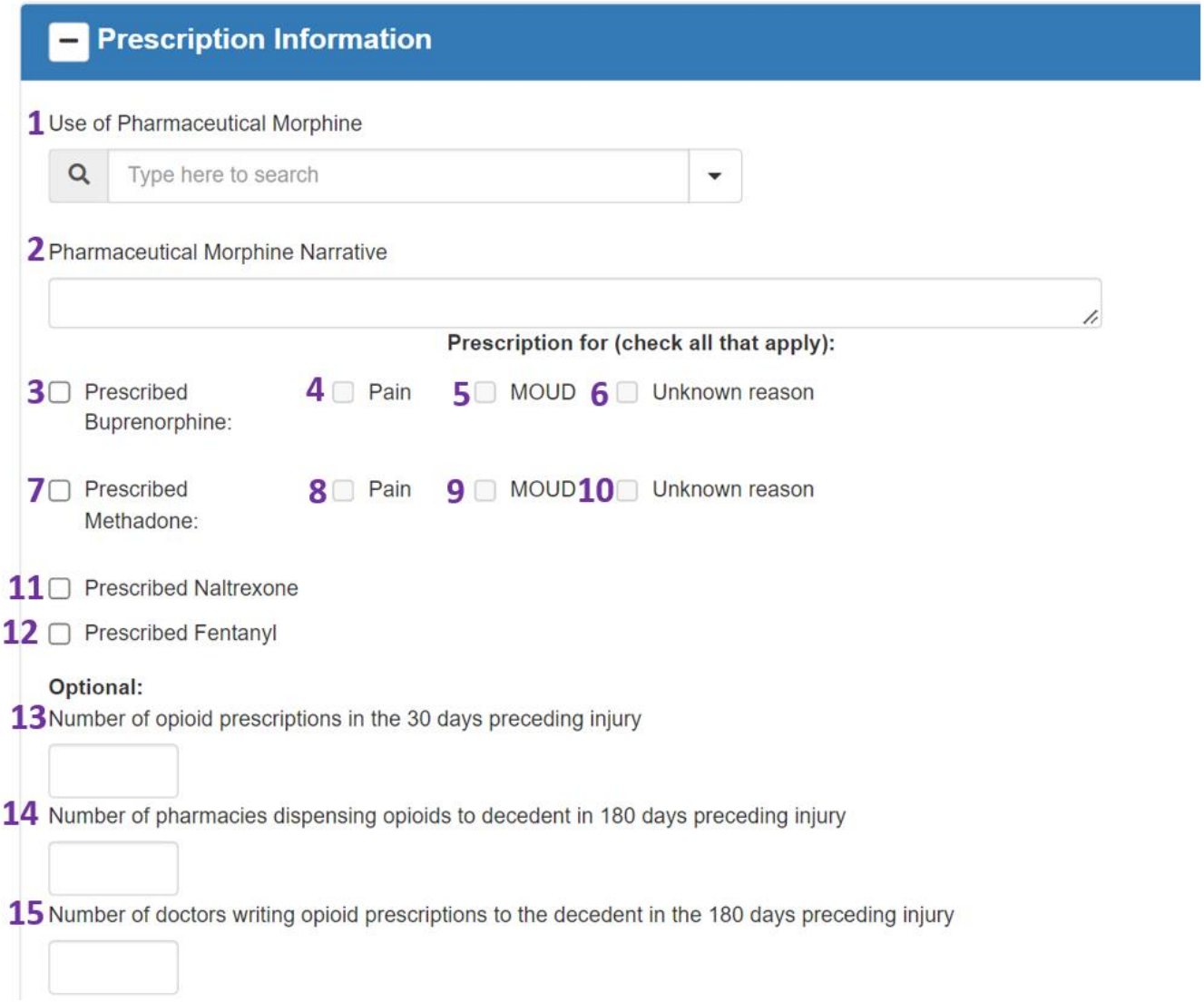
Type here to search

Known medical conditions (Check all that apply)

2 ☐ COPD
3 ☐ Asthma
4 ☐ Sleep apnea
5 ☐ Heart disease
6 ☐ Obesity
7 ☐ History of major injury
8 ☐ Migraine
9 ☐ Back pain
10 ☐ Hepatitis C
11 ☐ HIV/AIDS
12 ☐ Other pain
13 ☐ Other breathing problem

1. TreatedforPain
2. MedHx_COPD
3. MedHx_Asthma
4. MedHx_Apnea
5. MedHx_Heart
6. MedHx_Obesity
7. MedHx_Injury
8. MedHx_Migraine
9. MedHx_Backpain
10. MedHx_hepc
11. MedHx_hiv
12. MedHx_OtherPain
13. MedHx_OtherBreathing

-



1. PrescriptionMorphine
2. PrescriptionMorphineNarrative
3. RxBuprenorphine
4. RxBuprenorphine_pain
5. RxBuprenorphine_MAT
6. RxBuprenorphine_unknown
7. RxMethadone
8. RxMethadone_pain
9. RxMethadone_MAT
10. RxMethadone_unknown
11. RxNaltrexone
12. FentanylRx
13. NumScripsPast30Days
14. NumPharmaciesPast30Days
15. NumDoctorsPrescribing30Days

APPENDIX B: 2022 & 2021 Web-System Updates

2022 Updates

County of Death

Below "state or territory of death" on the "Injury and Death" panel, we have added a data element to capture the county of death. It is tied to the state entered, just as county of residence and injury are. County of death will appear on the victim.csv export file. It is **not** yet available for import—we will be including this field in an upcoming revision to the import program and file specifications.

Field Expansions

Two recently added fields in the Injury and Death panel, "other significant conditions contributing to death" and "how injury occurred" have been expanded to accommodate 240 characters of text. Again, we have **not** changed the import file format with this release, where they are still limited to 120 characters each. We will be expanding the allowed sizes for these fields in the import file in an upcoming revision.

Dashboard Changes

Several changes have been made to our Dashboard and Reports functions:

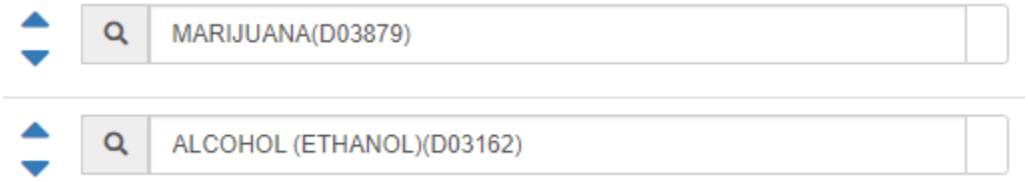
- We have added a column to the Victim Data Quality report showing the percentage of incidents initiated within 90 days of the date of death, and removed the column that showed the percentage initiated within 180 days, reflecting new standards for timely initiation of NVDRS cases.
- We have added a column showing the percentage of victims with circumstances from any data source—that is either C/ME or LE circumstances (or both, of course)—to better reflect the standard we use for inclusion in the national dataset. This number will always be at least as large as either of the single data source circumstance percentages, and often larger than either alone.

Victim Data Quality

Incident Year	% Initiated within 90 days	% Initiated within 120 days	Median Days to initiate	% Demographics	% with any CME circumstances checked	% with any LE Circumstances Checked	% with any Circumstances Checked	% Toxicology / Overdose
2022	00.00	00.00	598	00.00	05.88	00.00	05.88	11.76
2021	00.00	00.00	281	00.00	00.00	00.00	00.00	01.54
2020	00.00	00.00	6463	00.00	08.33	08.33	08.33	08.33
2019	00.00	00.00	0	00.00	00.00	00.00	00.00	00.00

Toxicology Sorting

To give programs better control over the ordering of substances entered on the Toxicology panel, we have added a function to allow users to move substances up and down by means of arrows on the screen. This will make it easier for programs to, for instance, make sure substances are entered in the same order as they appear on a toxicology report.

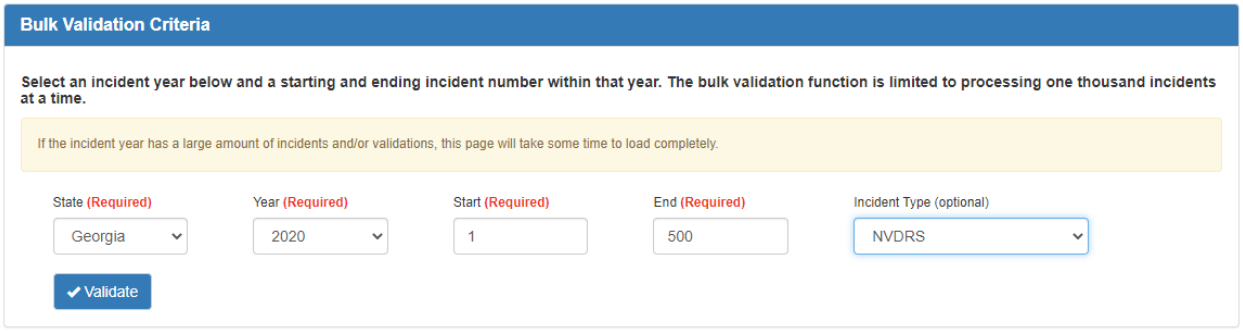


Bulk Validation

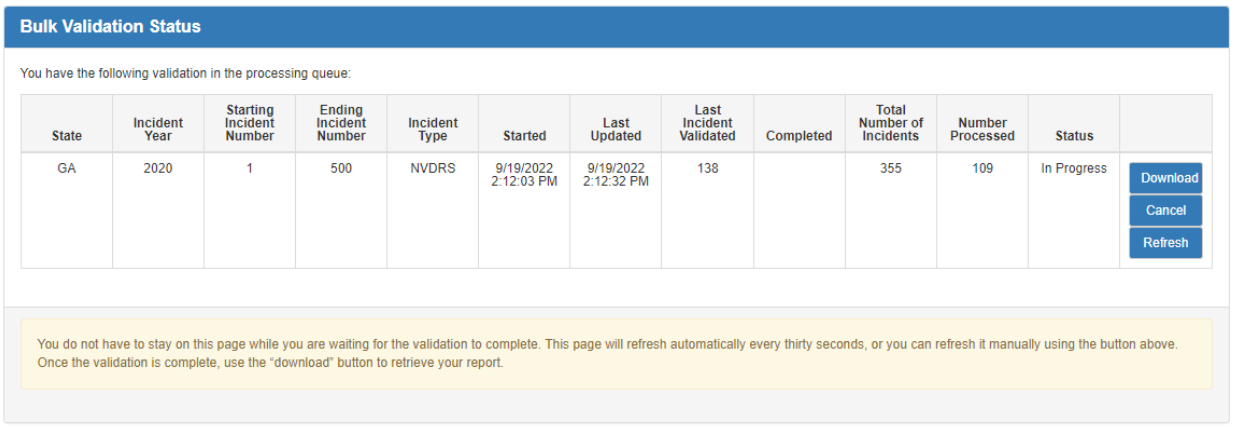
Finally, we are happy to release our "first cut" at a feature that has long been requested: a bulk record validation function that can generate error reports on demand. Essentially, it runs our existing "validate" function against a series of incidents and gathers all the error, warning, and quality messages together into a single CSV text file that can be opened in Excel or any number of other programs.

Bulk Validation is currently limited only to State Administrators, and only to validating one thousand records or fewer at a time. We hope to relax both of those limitations as we move onto the higher-capacity cloud platform later this year.

To run bulk validation, it is necessary to select an incident year and a range of incident numbers. You can additionally limit the validation batch based on incident type if desired.



The function runs in a way similar to our Import program. Once you have submitted a validation job, you can leave the screen or even shut your computer down. When the validation job finishes running, you will be able to download the compiled report as shown below.



2021 Updates

On August 17, 2021, the NVDRS/SUDORS software was updated to Version 2.3. Information about updates to the OD tab, as well as other general updates, is included here.

OD Tab

1. **New section added: "Case Classification"**

This section was added to help highlight the existing "SUDORS Case" checkbox and ensure it is not missed. Two additional fields were also added to this section to help further classify SUDORS cases with respect to the types of drugs involved (opioid/non-opioid) and availability of a CME report.

The **"SUDORS Case Classification"** field is a non-editable field that pre-populates as one of the following options:

(1) SUDORS-Opioid
(2) SUDORS-Non-opioid
(3) SUDORS-COD drugs unspecified

The option that is prefilled is determined by the combination of responses entered for the "Incident Type," "Abstractor Manner of Death," and "SUDORS Case" fields, as well as the drug classes entered on the Toxicology tab with the Cause of Death boxes checked. It will update as new data are entered in these fields and the record is saved.

The **"No CME Report Available"** checkbox should be used to flag deaths for which the CME report is not, and will not become, available. This will facilitate excluding deaths from analyses of circumstances, for which deaths should only be included if all source materials are available. Do not check this box if a CME report is pending or requested, and it is possible to still receive it. Please note, CME reports are technically required for all SUDORS cases, and checking this box does not exempt any case from this requirement.

2. **Logic rules removed from the "Date found unresponsive" field**

This change was made to allow for more flexible data entry. For example, previously the system would not allow a record to be saved if the "Date found unresponsive" was entered as a later date than the "Date of death" on the Injury and Death tab. There have been instances, however, of dates of death being assigned as earlier than a decedent was first discovered unresponsive (e.g., if a decedent was discovered in stages of decomposition, the actual date of death was likely earlier than the date of discovery).

Toxicology Tab

1. **New checkbox added: "No substance(s) given as cause of death"**

This checkbox was added to allow for identification of drug overdose deaths (intentional, unintentional, and undetermined intent) for which there was no specific drug or drug class (e.g., opioid) identified by the medical examiner/coroner (either on the death certificate or elsewhere in the medical examiner/coroner report) as causing death. Cause of death information for such deaths might be listed as, e.g., "drug overdose" or "polysubstance toxicity."

If this checkbox is checked, it will lock out the Cause of Death boxes for the entire tab; however, if any Cause of Death boxes were already checked, it will retain that information. This allows for SUDORS-specific guidance (for unintentional and undetermined intent drug overdose deaths) to be followed if the cause of death implicates more than one drug. For example, if the cause of death is "multi-drug overdose," and toxicology testing detected fentanyl, cocaine, and alprazolam, all three drugs should be entered on the Toxicology tab with the Cause of Death box checked for each, and then the new "No substance(s) given as cause of death" box should be checked. This will flag the death as having a cause of death that does not specify any drugs/drug classes.

Incident Overview Page

1. **"Incident Category" options added for SUDORS Incident Type**

The "Incident Category" field was previously always pre-filled to a value of "(99) Missing or Other Death Manner" for all deaths entered with an "Incident Type" of "SUDORS" (i.e., unintentional overdose deaths). This field will now be pre-populated as "(16) Single Unintentional Poisoning" for incidents with one unintentional overdose decedent or as "(17) Multiple Unintentional Poisoning" for incidents with more than one unintentional overdose decedent.

Data/Variable Migration

1. **Data for historical "History of prescription opioid/heroin use" field migrated to new "Current or Past Prescription Drug Misuse or Illicit Drug Use, Not Including Alcohol" fields**

During the update to version 2.2 of the NVDRS/SUDORS web-system (November 2020), the "History of prescription opioid/heroin use" field was replaced by multiple checkbox fields to capture different types of drug use history under the "Current or Past Prescription Drug Misuse or Illicit Drug Use, Not Including Alcohol" section. Because the response options for the historical field map on to some of the new fields, data have been migrated so as to fill in the new fields retrospectively. This can facilitate analyses by allowing for prescription opioid misuse and heroin use history to be analyzed with one set of variables.

If this value of the variable HistoryOpioid was entered:	**This new variable/these new variables will be filled in as true:**
HistoryOpioid=2	HxRxOpioid
HistoryOpioid=3	HxHeroin
HistoryOpioid=4	HxRxOpioid AND HxHeroin
HistoryOpioid=8	HxAnyOpioid

APPENDIX C: Expanded Toxicology Information and Guidance

This appendix contains some expanded toxicology information and guidance; however, it is not an exhaustive source of all information needed for data abstraction. If further toxicology guidance is needed, please email the Overdose Surveillance helpdesk (ODSurveillance@cdc.gov) and copy your CDC support team. In addition, the following websites can be helpful in providing information about substances, including lists of substances (both prescription and illicit) and substance class information:

- DailyMed, provided by the National Library of Medicine (NLM): https://dailymed.nlm.nih.gov/dailymed/
- SWGDRUG (Scientific Working Group for the Analysis of Seized Drugs): http://www.swgdrug.org/
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA): http://www.emcdda.europa.eu/
- NPS Discovery, by the Center for Forensic Science & Research Education: https://www.npsdiscovery.org/ [23]

Substance Metabolites

Major and minor substance metabolites are listed below for substances in the broad categories of Prescription Opioids, Benzodiazepines, and Illicit Substances. **All substances listed in these tables are controlled substances.** Metabolites that can only come from the parent substance listed are marked with an asterisk (*). These metabolites can be treated in the same way as the parent drug, if both parent and metabolite are detected (e.g., if fentanyl is listed as a cause of death and both fentanyl and norfentanyl are detected on toxicology, the Cause of Death can be checked for both fentanyl and norfentanyl). Please note, the lists below provide many of the primary and secondary metabolites of the given parent substances, but are not exhaustive; additional metabolites may exist.

Prescription Opioids[24]

Parent Substance	Primary Relevant Metabolites	Secondary Relevant Metabolites
Buprenorphine	Norbuprenorphine*	
Codeine	Morphine	Norcodeine*
Fentanyl	Norfentanyl*	
Hydrocodone	Hydromorphone	Dihydrocodeine, Norhydrocodone*
Hydromorphone	—	
Meperidine	Normeperidine*	
Methadone	EDDP*	EMDP*
Morphine	Hydromorphone	Normorphine*
Oxycodone	Oxymorphone	Noroxycodone*
Oxymorphone	—	
Tapentadol	N-Desmethyltapentadol*	

[23] The Centers for Disease Control and Prevention (CDC) cannot attest to the accuracy of a non-federal website. Linking to a non-federal website does not constitute an endorsement by CDC or any of its employees of the sponsors or the information and products presented on the website.

[24] Information provided in the table developed in consultation with a forensic toxicologist

Tramadol	N-Desmethyltramadol*, O-Desmethyltramadol	

Benzodiazepines

Parent Substance	Primary Relevant Metabolites	Secondary Relevant Metabolites
Prescription benzodiazepines		
Alprazolam	α-Hydroxyalprazolam	
Chlordiazepoxide	Demoxepam, Nordiazepam, Oxazepam	
Clonazepam	7-Aminoclonazepam*	
Diazepam	Nordiazepam, Oxazepam, Temazepam	
Lorazepam	—	
Nordiazepam	Oxazepam	
Oxazepam	—	
Temazepam	Oxazepam	
Designer/Illicit benzodiazepines		
Adinazolam	N-Desmethyladinazolam,* α-Hydroxyalprazolam	
Clonazolam	7-Aminoclonazolam*	
Diclazepam	Nordiclazepam*	
Etizolam	α-Hydroxyetizolam*	
Flualprazolam	α-Hydroxyflualprazolam*	
Flubromazepam	*3-Hydroxyflubromazepam**	
Flubromazolam		
Metizolam		

Illicit Substances

Parent Substance	Primary Relevant Metabolites	Secondary Relevant Metabolites
Cocaine	Cocaethylene,*† Benzoylecgonine*	Ecgonine Methyl Ester,* Ecgonine Ethyl Ester,* Norcocaine*
Fentanyl	Norfentanyl*	
Heroin	6-Acetylmorphine (6-AM),* Morphine	
Methamphetamine	Amphetamine	
Phencyclidine (PCP)	—	1-phenyl-4-hydroxycyclohexylpiperidine*

†Cocaethylene is an active metabolite of cocaine that is formed in the liver when cocaine and alcohol are ingested at the same time.

Marijuana/Cannabis/THC

Parent Substance	Primary Relevant Metabolites
Delta-9-Tetrahydrocannabinol	*11-nor-9-carboxy-Delta-9-Tetrahydrocannabinol,** 11-hydroxy-Delta-9-Tetrahydrocannabinol*

Fentanyl-Related Substances and Other Synthetic Opioids

There are numerous fentanyl-related substances (i.e., fentanyl analogs and precursors) and other non-fentanyl synthetic opioids. Below are some examples that are included in the toxicology menu, but the lists are not exhaustive.

Examples: Fentanyl Analogs
Acetylfentanyl
Carfentanil
Cyclopropylfentanyl
3-Methylfentanyl
Examples: Fentanyl Precursors
Despropionylfentanyl (4-anilino-N-phenethylpiperidine, "4-ANPP")
N-phenethyl-4-piperidone ("NPP")
N-methyl norfentanyl
Examples: Non-fentanyl Synthetic Opioids
U-series (e.g., U-47700, U-48800)
Benzimidazoles (e.g., Isotonitazene, Metonitazene)
Brorphine
AH-7921

Counterfeit Pills

Counterfeit pills and tablets closely resemble prescription pills and tablets but contain different drugs than the medications they are mimicking. They often contain illicit drugs such as fentanyl or fentanyl analogs, methamphetamine, and "designer" illicit benzodiazepines. The Drug Enforcement Administration (DEA) provides additional information here.

Below are example slang terms for oxycodone, alprazolam, and amphetamine. The listed names are not necessarily comprehensive; additional names might be used. Please note, these names describe either legitimate or counterfeit pills for each of the drugs; mention of these names in source documents (e.g., CME reports) should not be used on its own as evidence of counterfeit pills, but rather can be combined with other information (e.g., if a decedent reportedly took "M30 pills" and no oxycodone was detected on toxicology, could code as counterfeit). Slang terms for amphetamine are included for reference, but the use of toxicology information to inform the counterfeit pill field is limited to toxicology findings for oxycodone and alprazolam only.

Drug	Example Slang terms
Oxycodone	30s; 40s; 512s; Beans; Blues; Buttons; Cotton; Dirty roxy; Greens; Hillbilly Heroin; Kickers; Killers; M30s; M-boxes; Muchachas; Mujeres; OC; Oxy; Oxy 80s; Percs; Perc-30s; Roxy; Roxy Shorts; Whites
Alprazolam	Bars; Benzos; Bicycle Handle Bars; Bicycle Parts; Bricks; Footballs; Handlebars; Hulk; Ladders; Peaches; Planks; School Bus; Sticks; Totem poles; White boys; White girls; Xanies; Yellow Boys; Zanbars; Zannie-bars; Zannies; Z-Bars
Amphetamine	A-Train; Abby; Addy; Amps; Christmas Trees; Co-Pilots; Lid Poppers; Smart Pills; Smarties; Study Buddies; Study Skittles; Thundersticks; Truck Drivers; Zing
Sources: https://www.dea.gov/onepill and SUDORS data	

APPENDIX D: SUDORS/NVDRS comparison

Overview of the National Violent Death Reporting System (NVDRS) and the State Unintentional Drug Overdose Reporting System (SUDORS)

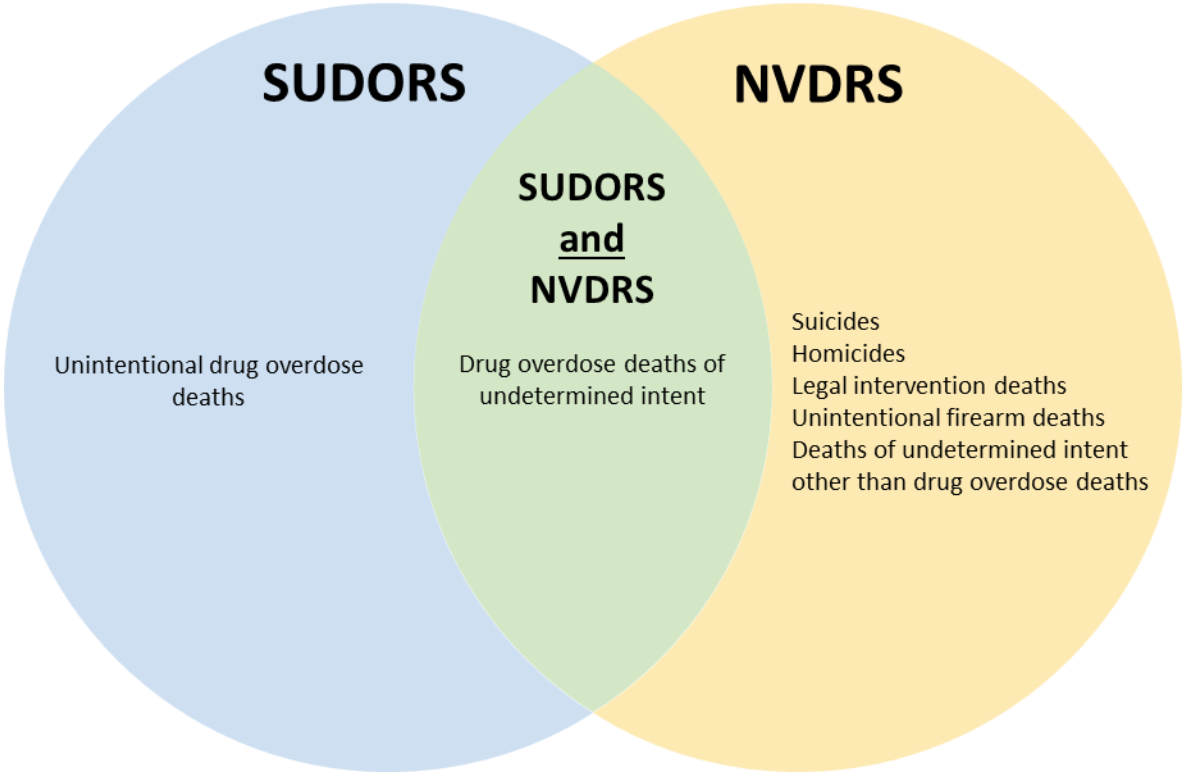
NVDRS uses information from death certificates (DC), coroner/medical examiner (C/ME) reports, and law enforcement (LE) reports to provide a complete picture of violent deaths. The case definition for NVDRS includes homicides, suicides, unintentional firearm deaths, deaths of undetermined intent (including drug overdose deaths of undetermined intent), deaths due to legal intervention (excluding executions), and deaths due to terrorism. Information from NVDRS can be used to characterize violent deaths and inform, develop, and guide violence prevention programs.

SUDORS uses information from DCs and C/ME reports for unintentional drug overdose deaths, and from DCs, C/ME reports, and LE reports for drug overdose deaths of undetermined intent (LE data for drug overdose deaths of undetermined intent are required for NVDRS but not for SUDORS and therefore do not have to be entered by the 8-month SUDORS data entry deadline; see details in table below). The case definition for SUDORS includes drug overdose deaths that are either unintentional or of undetermined intent. Information from SUDORS can be used to characterize drug overdose deaths and inform, develop, and guide overdose prevention programs.

Both NVDRS and SUDORS data collection take place using the SUDORS/NVDRS web-based system. SUDORS and NVDRS collect information for different cases, with one exception: drug overdose deaths of undetermined intent. These cases should only be entered once in the web-based system, but within the scope of both SUDORS and NVDRS, and should be coded using abstractor manner of death '9-undetermined intent' and incident type '1-NVDRS' (incident category values of '5-single death of undetermined intent' or '10-multiple deaths of undetermined intent' will be used to identify deaths of undetermined intent from the broader NVDRS incident type) in the web-based system.

The content in this document (e.g., data closeout dates, etc.) is for informational purposes only and should not be used as a substitute for the Funding Opportunity Announcement for either program – SUDORS and NVDRS.

1. **Deaths collected by SUDORS, by NVDRS, and by both SUDORS and NVDRS**



DEATH MANNER/TYPE	DEATH MANNER/TYPE FOR DEATHS INCLUDED IN SUDORS, NVDRS, OR BOTH		
	SUDORS-only cases **Unintentional drug overdose deaths**	*SUDORS and NVDRS cases** **Drug overdose deaths of undetermined intent**	*NVDRS-only cases* **Suicides** **Homicides** **Legal intervention deaths** **Unintentional firearm deaths** **Deaths of undetermined intent other than drug overdose deaths**
Abstractor Manner of Death	- 11 Unintentional poisoning	- 9 Undetermined intent	- 1 Suicide or intentional self-harm - 2 Homicide - 3 Unintentional firearm - self-inflicted - 4 Unintentional firearm - inflicted by other person - 5 Unintentional firearm - unknown who inflicted - 6 Legal intervention (by police or other authority) - 7 Terrorism homicide - 8 Terrorism suicide - 9 Undetermined intent
Incident type	- 3 SUDORS	- 1-NVDRS (with Incident Category 5-single death of undetermined intent or 10-multiple deaths of undetermined intent)	- 1 NVDRS - 2 NVDRS Non-Targeted Area - 9 Other (State-Defined)

*Only entered once in the web-based system, but within scope of both SUDORS and NVDRS

Of NOTE: For OPTIONAL Data Collection

Grantees can enter data into the web-based system for other types of deaths that are not part of the SUDORS or NVDRS case definitions (e.g., motor vehicle crashes without intent to injure). For these deaths, the following must be used:

Abstractor Manner of Death = '10 Other unintentional death (outside NVDRS case definition)'
Incident Type = '9 Other (State-Defined)'

If grantees want to enter data for drug-related deaths other than drug overdose deaths (e.g., car crash while intoxicated), the following must be used:

Abstractor Manner of Death = '11 Unintentional poisoning'
Incident Type = '9 Other (State-Defined)'

2. Required data fields in web-based system

a. NVDRS cases

i. All data fields are required on all tabs except the Intimate Partner Violence (IPV), Child Fatality Review (CFR), and Overdose (OD) tabs, which are optional.

b. SUDORS cases
   i. For unintentional drug overdose deaths:
      1. Certain data fields are optional on the Demographics, Injury and Death, and Circumstances tabs.
      2. All data fields on the Weapons and Toxicology tabs are required.
      3. All but 3 specific data fields on the OD tab are required.
      4. Data fields on the Suspects, IPV, and CFR tabs are optional.
   ii. For drug overdose deaths of undetermined intent:
      1. All data fields are required on the Demographics, Injury and Death, Circumstances, Toxicology, and OD tabs (except 3 specific fields on the OD tab).
      2. Data fields on the IPV and CFR tabs are optional.

c. Required fields and Narrative guidance for NVDRS and SUDORS cases are detailed below:

TAB	**REQUIRED FIELDS**		
	SUDORS-only cases **Unintentional drug overdose deaths**	*SUDORS and NVDRS cases** **Drug overdose deaths of undetermined intent**	*NVDRS-only cases* **Suicides** **Homicides** **Legal intervention deaths** **Unintentional firearm deaths** **Deaths of undetermined intent other than drug overdose deaths**
Demographics	- All required except (and it is strongly encouraged to include the following if available): ○ Day of birth ○ First initial of last name ○ Last 4 of CME number ○ Last 4 of DC number ○ US Census Tract and Block Group of Residence	- All required except (and it is strongly encouraged to include the following if available): ○ Day of birth ○ First initial of last name ○ Last 4 of CME number ○ Last 4 of DC number	- All required except (and it is strongly encouraged to include the following if available): ○ Day of birth ○ First initial of last name ○ Last 4 of CME number ○ Last 4 of DC number
Injury and death	- All required except (and it is strongly encouraged to include the following if available and relevant): ○ Manner of death per LE ○ US Census Tract and Block Group of Where Injury Occurred ○ Hospital ICD-9-CM and ICD-10-CM codes	- All required	- All required

	○ Number and location of wounds		
Circumstances	- All CME fields required in "Mental Health, Substance Abuse, and other Addictions" section - All CME fields required in the "Suicide/Undetermined Specific Circumstances" portion of the "Manner Specific Circumstances for Homicide and Suicide Deaths", <u>except</u> the "Life Stressors" fields - CME Disaster Exposure field - All other fields optional	- All required as applicable (including C/ME and LE circumstances)	- All required as applicable (including C/ME and LE circumstances)
Weapons	- Required to enter "poisoning" as weapon	- Required to enter "poisoning" as weapon	- All required
Suspects	- None	- All required (if applicable)	- All required (if applicable)
Toxicology	- All required, required to enter all detected drugs, (i.e., positive result), including metabolites	- All required, required to enter all detected drugs (i.e., positive result), including metabolites	- All required, required to enter all detected drugs (i.e., positive result)
OD	- All required <u>except</u>: ○ Number of opioid prescriptions in 30 days preceding injury ○ Number of pharmacies dispensing opioids to decedent in 180 days preceding injury ○ Number of doctors writing opioid prescriptions to decedent in 180 days preceding injury	- All required <u>except</u>: ○ Number of opioid prescriptions in 30 days preceding injury ○ Number of pharmacies dispensing opioids to decedent in 180 days preceding injury ○ Number of doctors writing opioid prescriptions to decedent in 180 days preceding injury	- None
IPV	- None	- None	- None
CFR	- None	- None	- None
NARRATIVES	**GUIDANCE**		
CME narrative	- Per the NVDRS coding manual guidance, with the following exceptions: ○ Alternative wording can be used to describe the decedent (i.e., "decedent", "D") in addition to "Victim", "V"	- Per the NVDRS coding manual guidance	- Per the NVDRS coding manual guidance

	○ Dates related to the injury, death, and last seen alive can be included in narrative to help verify dates of injury/death/last seen alive ○ If LE information is available, it should be included in the CME narrative		
LE narrative	- Not required for unintentional poisonings and should be left blank; if LE report is available, information should be captured in the CME narrative (i.e., only write one narrative)	- Per the NVDRS coding manual guidance	- Per the NVDRS coding manual guidance

3. Timelines for data entry (Please consult your respective Funding Opportunity Announcement for specific dates)

	SUDORS-only cases **Unintentional drug overdose deaths**	*SUDORS and NVDRS cases** **Drug overdose deaths of undetermined intent**	*NVDRS-only cases* **Suicides** **Homicides** **Legal intervention deaths** **Unintentional firearm deaths** **Deaths of undetermined intent other than drug overdose deaths**
Case initiation	- At minimum, within 6 months of the end of the reporting period†	- Within 4 months of the date of death (corresponding to NVDRS' earlier case initiation)	- Within 4 months of the date of death
Data entry completion	- At minimum, within 8 months of the end of the reporting period†	- SUDORS-required fields only: At minimum, within 8 months of the end of the reporting period for fields required by SUDORS† - NVDRS-required fields (including LE fields): Within 16 months of the calendar year	- Within 16 months from the calendar year of death

		of death for fields required only by NVDRS	

*Only entered once in the web-based system, but within scope of both SUDORS and NVDRS

†SUDORS reporting periods are 6 months long, representing the first half (January–June) and second half (July–December) of each funded year. Some recipients committed to faster initiation and completion timelines; but the minimum requirements are listed here.

APPENDIX E: Guidance for Writing Incident Narratives

State Unintentional Overdose Reporting System:

Guidance on Creating Incident Narratives Version 1.0

May 2018

Incident Narrative

The narrative account of the incident serves multiple purposes:

- To briefly summarize the incident (who, what, when, where, and why).
- To provide supporting information on circumstances that the abstractor has endorsed in an incident.
- To provide the context for understanding the incident.
- To record information and additional detail that cannot be captured elsewhere.
- To facilitate data quality control checks on the coding of key variables.

Incident narratives (i.e., CME narrative or LE narrative) are primarily written based on a single type of data source (e.g., Coroner/Medical Examiner (CME) report, law enforcement (LE) reports for deaths of undetermined intent) that may involve single or multiple documents (e.g., death scene investigation report, toxicology findings or supplementary documents like EMS run sheets).

The CME narrative is required for each drug overdose death of unintentional and undetermined intent. Do not enter any potentially identifying information in the narrative. Omit names of decedents, police departments, EMS agencies, medical examiners, witnesses, or other proper names.

Drug overdose deaths of unintentional intent

For unintentional drug overdose deaths, which are solely SUDORS cases, the LE narrative is optional; if information from LE reports is used, a separate LE narrative can be entered, or all information can be summarized in the CME narrative box, with any discrepancies noted and reconciled where possible (with differences discussed in the narrative).

Drug overdose deaths of undetermined intent

For drug overdose deaths of undetermined intent, which qualify as both SUDORS and NVDRS cases, both the LE and the CME narratives are required. Information from LE sources should be summarized in the LE narrative box, and information from CME sources should be summarized in the CME box.

There may be rare instances where the death certificate (DC) indicates a drug overdose, but no CME report is available because the death was never assigned to the CME for investigation. Please abstract DC data on these cases and include an explanation in the narrative of why no CME information is available.

Type of information to include in the narrative

Who:	This should include the demographic characteristics of the decedent: Age/Sex/Race/Ethnicity. *For example:* ***Decedent was a 29-year-old, White, non-Hispanic male.*** Information for this section should come from the demographics tab. This information can be abbreviated – e.g., ***D was a 29/W/M, non-Hispanic.***
Where:	If available, this should include information on the location of where the decedent was found as well as the location of the overdose (defined as the onset of overdose signs/symptoms). The location indicated should not point to a specific place or address but rather a description such as 'at home,' 'at work' or 'on the street.' Location of overdose and death may have been in different places. It is helpful to also include further detail, if available – *for example:* ***D was found on the bed in his bedroom at home.***
When:	If available, this should include information on the day/time the decedent was last known alive, the day/time when the decedent was found, the day/time of overdose, and/or the day/time of drug use. Specific dates are **not** required but can be helpful (note: only dates that are entered elsewhere within one of the tabs should be included in the narrative. The inclusion of specific dates is a departure from NVDRS guidance). Establishing as clear a timeline as possible in the narrative is important, so if dates are not used, additional information to describe a relative timeline should be included. *For example:* ***D was last seen by her father at 1400 hours the prior day.*** Focusing on circumstances surrounding the onset of overdose provides critical information about response. The onset of overdose and substance use will often coincide, especially in the case of rapid overdose onset. Providing context on discovery of the body is useful in establishing a timeline of events. If available, include a description of the condition of decedent when found and by whom. *For example:* ***D was found unresponsive by mother at 2200 hours on bedroom floor.*** Additional detail: Was EMS called to the scene? If so, by whom? Day/time of injury is often unknown. If timing of injury can be estimated, based on time last seen alive and time of death or time found unresponsive, please enter this into injury and death tab, but it is not required to state this explicitly in the narrative. At a minimum, the time frame when the decedent was found and when the decedent was pronounced dead should be included in the narrative. If the decedent was discovered deceased and had been deceased for some time, these two dates would agree with each other. *The following is an example of how the potential timeline of events should be written in the narrative:* ***Decedent was out with friends and came home at 2100 hours and briefly interacted with family, then headed to bed. Mother checked on decedent at 0900 hours the next day, found him unresponsive and called 911. Decedent was pronounced dead at the scene by EMS at 1030 hours.***
What:	This section provides information on substances that could have led to drug overdose. This could include scene evidence such as types of drugs present, drug paraphernalia, evidence of rapid overdose, and witness reports of drug use. Drug paraphernalia could serve as evidence of illicit drugs as well as evidence of route of administration. If there is evidence of prescription drugs at the scene, indicate the name of the drugs, to whom the drugs are prescribed, and as much information as is available about when prescriptions were filled, for what quantity, and how much remains. If there is evidence to link a specific route of administration to a specific substance, it should be included in the narrative, e.g., if the report indicates that the decedent had injected heroin and also ingested

	alprazolam, “Evidence of injection” and “Evidence of Ingestion” should both be checked on the OD tab, and the narrative should include the information about which substance went with which route. It is also helpful to state that no other information is available. *For example:* ***D was found with a syringe and spoon coated with white residue next to him. A prescription bottle for Xanax was also found next to the decedent. It is unclear who the bottle of Xanax was prescribed to, or when it was filled, but 16 pills remained in the bottle. No other scene evidence of substance use was available.***
Why:	This section provides information on the circumstances, history of drug use, substance use disorder treatment in the past, relapse, etc. All circumstances and other information endorsed on any of the tabs should be described, and information given about from whom the evidence came. It is also helpful to state that no other information is available. *For example:* ***Per D’s mother, D had struggled with depression and heroin use for years. D had overdosed on heroin 1 year prior and had gone to inpatient rehab for treatment for heroin use and was discharged 1 month prior to death. No other social or medical history was available.***

Information that should <u>not</u> be included in the narrative:

- Potentially identifying information (e.g., names of decedents, police departments, EMS agencies, medical examiner, witnesses, or other proper nouns)
- Dates that are not entered in specific fields on one or more of the tabs

Helpful hints

- Drafting a narrative before entering the information on each tab could be a useful way to coalesce all the information beforehand and could facilitate error checks as the information is entered into the system. It can also be helpful to draft and save narratives external to the web-based system, because there are sometimes network interruptions or other issues that could interfere with saving and potentially cause the loss of a narrative. If saving external narratives, it would be helpful to use the Incident Year and Incident Number in the file name to facilitate identifying correct narratives.
- Decedent or victim can be used in the narrative.
- The following abbreviations are acceptable: V (victim), D (decedent), S (suspect), and B (bystander). Other commonly used abbreviations are acceptable, e.g., DUI, ADHD.
- Narratives do not need to be written in full sentences. Bullet points may suffice as long as the content is clear and easily followed. [The use of bullet points instead of full sentences is a departure from NVDRS guidance]. Please make sure to provide sufficient relevant details regardless of the format.
- If an individual meets all criteria for a bystander but is younger than 11 years old, this would be coded as “1 No bystander present,” but details about the individual and any response made should be included in the narrative.
- Similarly, if a child younger than 11 years witnessed the drug use, code Drug Use Witnessed as “0 No”, but describe the drug use witnessed by the child in the narrative.
- For check boxes that are designated by “other,” but that do not have their own “other-specify” text boxes, (e.g., Who Administered Naloxone – First Responders: Other, Prescription Information – Use of Prescription Morphine: Other), please provide details in the narrative for those fields.

- In the narrative, please provide information on whether methadone and buprenorphine were prescribed for pain or as part of MOUD/MAT and how long the decedent was in treatment, if available.
- Specifying the cause of death in the narrative is not required but can be helpful. If entering the results of presumptive toxicology tests, make note of this in the narrative. If possible, also include what confirmatory tests were performed and the results of the confirmatory tests.

Exercise

Below you will find an example of a sample of a poorly drafted narrative. The narrative critique identifies problems with the mock narrative. The amended narrative addresses the problems in the mock narrative in a clearer writeup.

Mock narrative

D was a 35-year-old male. Mr. Smith was found unresponsive on bathroom floor. EMS pronounced him dead at the scene. An uncapped syringe and spoon with white residue were found next to D. A plastic bag of medications was also found at the scene. D had a history of obesity, asthma, and HIV.

Cause of death was fentanyl and oxycodone intoxication. Toxicology was positive for alcohol, fentanyl, norfentanyl, oxycodone-free, oxymorphone-free, and diazepam.

Narrative critique

The narrative above has several issues.

- Do not include specific names in the narrative (i.e., Mr. Smith)
- Demographics are sparse and lack information on race and ethnicity.
- Clarify timeline in narrative. Use date of death, and date last seen alive to help establish overdose timeline. If date is unknown for when last seen alive, please note this. Alternatively, a relative timeline can be established, referring to, for example, “the same day,” “the next day,” etc.
- Provide additional details on the medications found at the scene (e.g., names of medications, who they were prescribed for, etc.). If unknown, please note this.
- If there is evidence to link a specific route of administration to a specific substance, it should be included in the narrative.
- If no other information is available on medical history or circumstances of death, please note this.
- If entering the results of presumptive toxicology tests, make note of this in the narrative.

Amended narrative

D was a 35-year-old black non-Hispanic male. D was discovered by his mother at 1830 hours unresponsive, on the bathroom floor of their home. The mother had last seen D at 0930 hours the same day, when he left the home to go to work. The mother called 911, and EMS pronounced death at the scene at 1900 hours.

An uncapped syringe and spoon with a white residue were found on the vanity near D, and a plastic bag of medications was found at the scene. The names of the medications found in the bag were not specified, and no information was available about who the prescriptions were for. The autopsy report noted a needle puncture wound inside one of D’s arms.

D had a history of obesity, asthma, and HIV. According to D's mother, D did not use needles for any current medications. No other medical or social history was available.

Cause of death was fentanyl and oxycodone intoxication. Toxicology was positive for alcohol, fentanyl, norfentanyl, oxycodone-free, oxymorphone-free, and diazepam; presumptive positives were opiates, oxycodone, alcohol, and benzodiazepines.

APPENDIX F: SUDORS Guidance to Capture COVID-19 Circumstances

5.7.25 Disaster exposure: CME/LE_DisasterExposure

Definition
Exposure to a disaster was perceived as a contributing factor in incident

Response options:
Checkbox

Discussion:
The variable is used to identify the proportion of unintentional and undetermined intent drug overdose deaths that are a consequence of exposure to a natural or man-made disaster of any kind.

We are using this field to capture COVID-19 related circumstances. In the narrative, describe the COVID-19 related circumstance(s) that contributed to the unintentional and undetermined intent overdose death. Additionally, please ensure that the following keyword is used in the narrative: COVID.

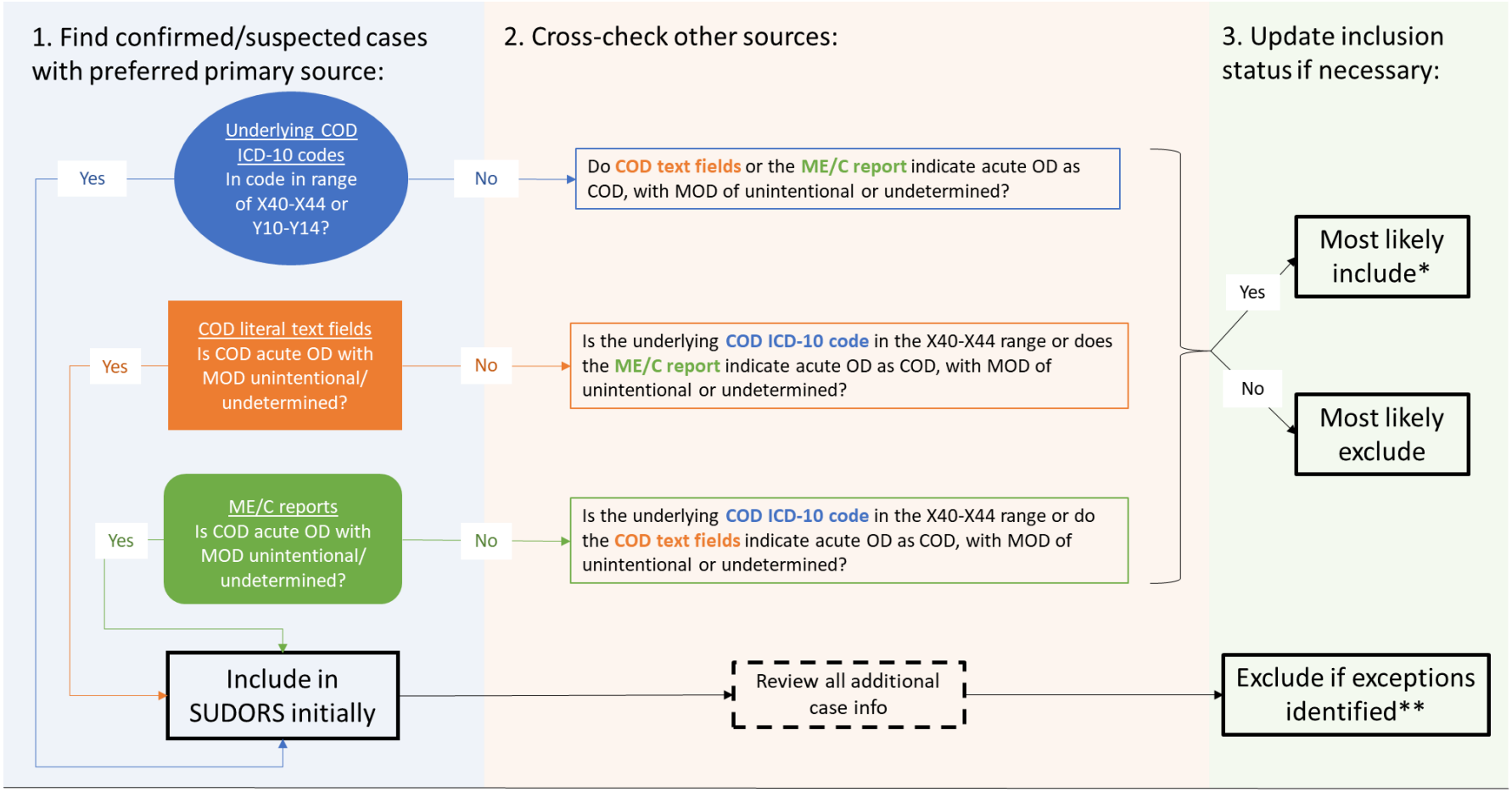
- Examples of a COVID-19 related circumstance (**please note, this list is not exhaustive; if other evidence indicates that a COVID-19 related circumstance contributed to the death, please endorse this field**):
    - A person used a different substance than usual because of lack of access to the substance(s) they normally use during the COVID-19 pandemic, and the person experienced a fatal overdose (e.g., normally use a non-opioid, but overdosed on an opioid).
    - A person died after using substance(s) alone because of COVID-19 stay-at-home recommendations and there were no bystanders available to intervene (e.g., administer naloxone, give CPR). Please note, this requires explicit evidence that the person was using alone because of COVID-19 stay-at-home recommendations rather than just the lack of bystanders present (e.g., evidence that the person typically used substances with others rather than alone).
    - A person experienced a fatal overdose in the presence of bystanders who were afraid to respond (e.g., administer naloxone, give CPR) because of fear of exposure to COVID-19.
    - First responders were present at the scene of an overdose, but the person was not rapidly transported to the emergency department because of fear of exposure to COVID-19 or lack of hospital capacity due to COVID-19.
    - The decedent initiated substance use because of distress from a family member's recent death or illness, job loss, anxiety, or financial or housing instability related to COVID-19.
    - The decedent had COVID-19 at the time of death.
    - For decedents with evidence of signs/symptoms consistent with COVID-19 (e.g., cough, fever) in the source documents and mention of possible COVID-19 without a confirmed diagnostic test, please list the signs/symptoms and write "No COVID test" in the narrative in addition to checking the disaster exposure variable.
    - If the source documents do not include any explicit mention of COVID-19, but note signs/symptoms consistent with COVID-19 (e.g., cough, fever), please list the signs/symptoms and write "No mention of COVID" in the narrative in addition to checking the disaster exposure variable.

Manner of Death: Accident or undetermined intent

Additional Guidance for Undetermined Intent Overdose Deaths: For undetermined intent overdose deaths, NVDRS guidance for the CME/LE_DisasterExposure variable also must be followed. For these deaths, the CME/LE_DisasterExposure variable is required and should be completed if the death is a consequence of exposure to a natural disaster or man-made disaster of any kind (e.g., nuclear accident, earthquake, bombings,

hurricanes, floods, tornadoes, wildfires, or COVID-19). In contrast, for unintentional overdose deaths, we are only asking for this field to be completed when there is a COVID-19 related circumstance; however, it can be used at the discretion of the jurisdiction for non-COVID-19 disaster exposures.

APPENDIX G: Case Inclusion Guidance



OD=overdose; COD=cause of death; MOD=manner of death
ME/C=Medical Examiner/Coroner

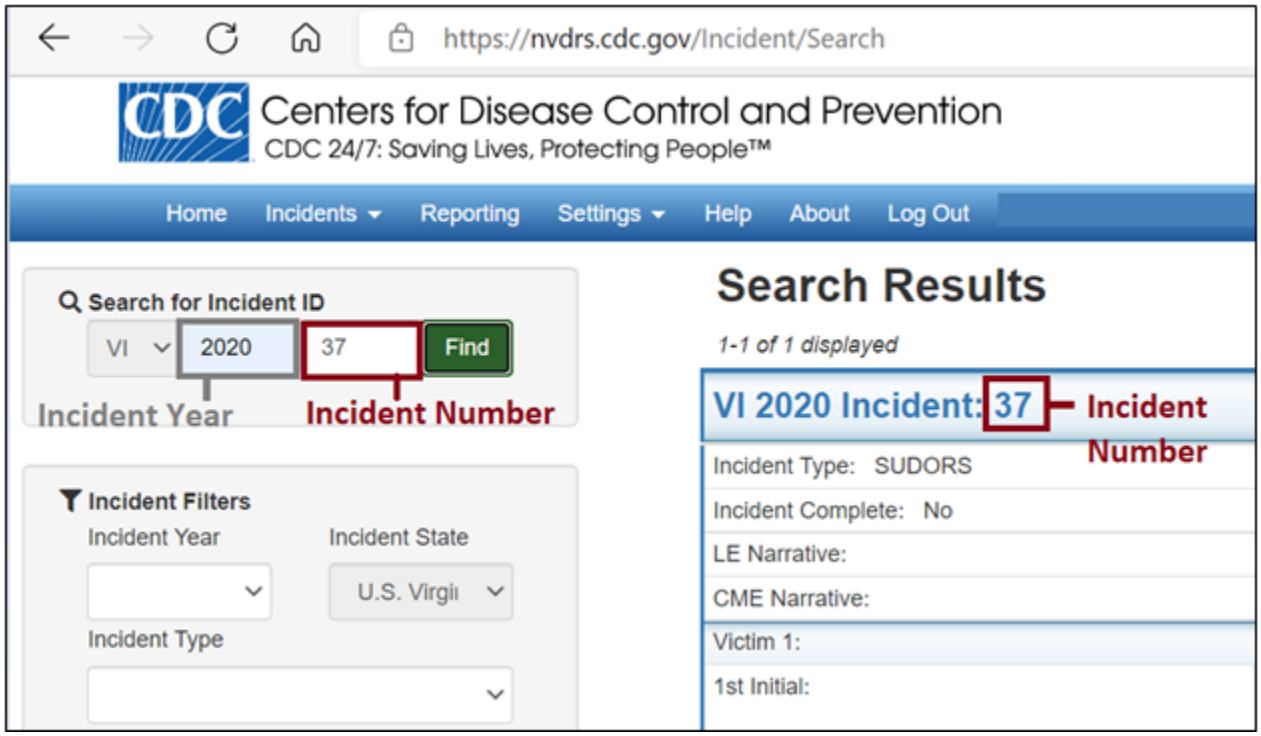
*May need to review with CDC and/or ME/C, as may indicate errors in ICD-10 codes and/or COD text
**See table for list of common exceptions

	Underlying COD ICD-10 codes	COD literal text fields	ME/C reports
SUDORS general case definition:	**X40-X44 or Y10-Y14**	**Indicates acute toxicity/overdose (e.g., "fentanyl overdose," "acute cocaine toxicity") and MOD is unintentional/undetermined intent**	**Describes acute toxicity/overdose (e.g., "fentanyl overdose," "acute cocaine toxicity") and MOD is unintentional/undetermined intent**
Examples of exceptions to <u>include</u>: SUDORS cases that don't fit the definition	- Given an F code for "drug abuse" but acute toxicity caused death - Code indicates COD was natural process, but it is secondary to overdose - Infant death due to maternal drug use, P04.4 code used instead of X40-X44 (e.g., exposure to drugs through breast milk)	- Language indicates "drug abuse" but ME/C report describes acute toxicity - Manner is natural because DC signed by physician in hospital - Manner is homicide solely for purposes of prosecuting drug dealer - Language indicates "drowning" but ME/C report describes intoxication/toxicity along with drowning in setting (e.g., bathtub, hot tub) where you would not expect someone to drown without some other contributing cause (i.e., drug overdose)	- Language indicates "drug abuse" but ME/C report describes acute toxicity - Language indicates "drowning" but ME/C report describes intoxication/toxicity along with drowning in setting (e.g., bathtub, hot tub) where you would not expect someone to drown without some other contributing cause (i.e., drug overdose)
Examples of exceptions to <u>exclude</u>: Non-SUDORS cases that do fit the definition	- Code of X40-X44 but COD text indicates that underlying COD was an external cause even if drug-related (i.e., clear that drowning in a natural body of water caused death vs. overdose, motor vehicle crash while intoxicated, dies in fire while intoxicated) - Code of X40-44 but hospital-related accident (e.g., over-administration of medication by health-care worker) - Code of X40-44, but due to allergic reaction to drug, not acute toxicity	- "Motor vehicle crash in the setting of acute heroin toxicity" - Manner is accident but COD text indicates that a natural disease process caused death (e.g., sepsis related to injection drug use, pneumonia, hypothermia) - Manner is accident and intoxication is mentioned but COD is some other external injury (e.g., drowning, trauma, positional asphyxiation while intoxicated)	- "Motor vehicle crash in the setting of acute heroin toxicity" - Manner is accident but ME/C report indicates that a natural disease process caused death (e.g., sepsis related to injection drug use, pneumonia, hypothermia) - Manner is accident and intoxication is mentioned but COD is some other external injury (e.g., drowning, trauma, positional asphyxiation while intoxicated)

APPENDIX H: Identifying SUDORS Cases using Incident Information

How to Find and Locate Incident Year, Number, ID, and Person ID

1. To navigate to a specific incident, go to the "Search for Incident ID" bar located on the left side in the screenshot below and enter Incident Year and/or **Incident Number** then click find. Please note that the header is misleading and refers to incident ID, but you cannot search by incident ID in this field. See step #4 to locate **Incident ID**.



2. Next, navigate to the Incident Overview page. This should be the default landing page when clicking into any case from the search results.
3. Incident Year and **Incident Number** will always be populated in the light blue menu bar as depicted below.
4. **Incident ID** can be found in the website URL after "https://nvdrs.cdc.gov/Incident/Details/". Please note that "Incident" is listed in the URL and thus corresponds to **Incident ID**.

5. To view Person ID, click into the appropriate victim(s) link to open the victim's details page.

6. **Person ID** can now be found in the new website URL after "https://nvdrs.cdc.gov/Victim/Details/" as depicted below. Once again, please note that "Victim" is listed in the URL and thus corresponds to **Person ID**.
7. Note: Incident ID may also be populated in the URL after the Person ID, but it will be specified as the incident ID.

How to Use and Search with Incident ID and Person ID

1. You can directly navigate to individual cases using only Incident ID or Person ID by adding or pasting the six-digit ID to the following corresponding URLs:
    a. https://nvdrs.cdc.gov/Incident/Details/{**Incident ID**}
    b. https://nvdrs.cdc.gov/Victim/Details/{**Person ID**}
2. Note: Incident ID is associated with the overall Incident and Person ID is linked to the specific Victim within an Incident (i.e., if there is more than one Victim included in an Incident, both will have the same Incident ID but each will have a separate Person ID.