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MDI Data Standardization and FHIR Standards Development

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1 Introduction

The Centers for Disease Control and Prevention (CDC) is supporting interoperability and data-exchange modernization in vital-statistics reporting. Part of that modernization effort has been the expansion of Health Level Seven International® (HL7) Fast Healthcare Interoperability Resources® (FHIR) standards for data exchange within the entire vital-statistics and death-reporting information "ecosystem." Information from medical examiners, coroners, and others in the medicolegal death investigation (MDI) community are a crucial part of death reporting.

The Medicolegal Death Investigation FHIR Implementation Guide (MDI FHIR IG)[1] specifies structured data-element resources exchanged between parties involved in death investigation dataflows; it does not yet specify the interaction or service requirements that would be needed for APIs, triggers, etc. The goal of this document is to inform future updates to the MDI FHIR IG, identifying where stakeholders agree and where the MDI community has shared data-exchange needs. Figure 1 illustrates the current and possible future dataflows defined by the MDI FHIR IG. Stakeholders surfaced the topic addressed here as a priority during stakeholder discussions and the HL7 FHIR Connectathon in September 2022. This document synthesizes information from a review of the data-exchange standards landscape relevant to the MDI community and from discussions held December 2022 through March 2023 with subject-matter experts and stakeholders. The authors greatly appreciate their input and look forward to further discussions. (See Discussion Participants for more information.) This document can be updated as more information is uncovered or new topics are developed.

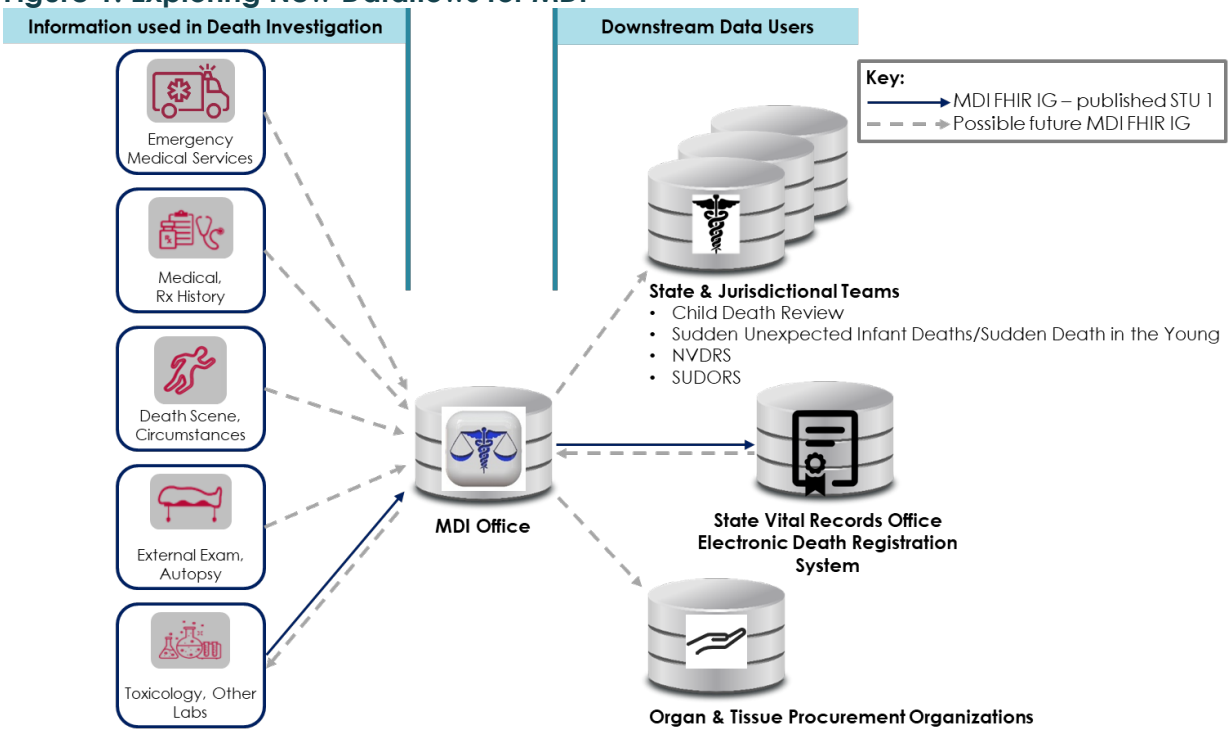
We will continue to update the MDI FHIR IG in coordination with changes made to related FHIR IGs:

- HL7 FHIR® Implementation Guide: Vital Records Death Reporting (VRDR):[2] This implementation guide (IG) defines data elements used by jurisdictional electronic death reporting systems (EDRS). Data originating in the MDI community is a crucial subset of these VRDR data elements.
- HL7 FHIR® Implementation Guide: Vital Records Common Profile Library (VRCPL):[3] This IG will be updated to define profiles that are shared by the MDI FHIR IG and VRDR.
- HL7 FHIR® US Core Implementation Guide:[4] The MDI FHIR IG uses profiles defined in this IG.

It is important that medical examiners, coroners, forensic pathologists, and others in the MDI community engage with and provide feedback to HL7 and other standards-development organizations (SDOs) as FHIR standards evolve.

[1] HL7, MDI FHIR IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=604 & http://hl7.org/fhir/us/mdi/
[2] HL7, VRDR IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=532 & http://hl7.org/fhir/us/vrdr/
[3] HL7, VRCPL IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=577 & http://hl7.org/fhir/us/vr-common-library/
[4] HL7, US Core IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=500 & http://hl7.org/fhir/us/core/

Figure 1: Exploring New Dataflows for MDI



2 Context and Background

One goal of standardizing data definitions and structures is to ensure that data collected during death investigations and/or exchanged with MDI case management systems (CMS) are not lost in transmission and meaning is not altered.

The death-investigation data landscape now includes data standards defined by FHIR, an architecture for exchanging information via resources that define data elements and APIs (application programming interfaces) for interoperating between applications or computer systems. The data can be exchanged between computer systems regardless of how the data are stored in those systems. FHIR is easy to implement by software developers because it uses widely adopted standards and protocols such as XML, JSON, HTTP, and OAuth. FHIR is now in use by many healthcare organizations, jurisdictional vital-records offices, public-health agencies, and state and federal statistical agencies, among others. For these reasons, it is the data standard of choice for modernizing case management systems used in the MDI community.

A FHIR IG documents how FHIR resources are defined (profiled) and used in specific dataflows. These use-case-specific profiles build upon and further define base resources by adding constraints and/or extensions to the base resources. As base resources are developed and tested, they are each assigned a FHIR Maturity Model (FMM) level.[5] FHIR IGs to be published by HL7 must profile resources that are maturity level 2 or higher. Each data element of the profile has a "cardinality" assigned, which indicates the lower and upper bounds on how many times the data element is allowed to appear in the resource. For example:

- 0..* = Zero to many allowed, so fully optional and may include many
- 0..1 = Only zero or 1 allowed, so optional but no more than 1
- 1..1 = Exactly 1 allowed, so 1 is required
- 1..n = 1 to n allowed, so at least 1 is required

In addition, a FHIR IG defines terminologies (value sets of codes from defined code systems) appropriate to each use case and dataflow. The IG creators assign these terminologies a "binding strength,"[6] as explained below:

- Required: To be conformant, the concept in this element SHALL be from the specified value set.
- Extensible: To be conformant, the concept in this element SHALL be from the specified value set if any of the codes within the value set can apply to the concept being communicated. If the value set does not cover the concept (based on human review), alternate coding (or, data type allowing, text) may be included instead.
- Preferred: Instances are encouraged to draw from the specified codes for interoperability purposes but are not required to do so to be considered conformant.
- Example: Instances are not expected or even encouraged to draw from the specified value set. The value set merely provides examples of the types of concepts intended to be included.

Using common (shared) terminologies is a cornerstone of data exchange interoperability. At the same time, overly restrictive terminology definitions can stifle adoption of data-exchange standards

[5] HL7, FHIR, Versions (maturity), http://hl7.org/fhir/versions.html#maturity
[6] HL7, FHIR Code System, Binding Strength, https://www.hl7.org/FHIR/codesystem-binding-strength.html

in a diverse information landscape, such as death investigations. Striking the right balance is key to developing data-exchange standards that are useful and can be widely adopted.

The death-investigation data-exchange landscape includes several FHIR IGs, including the three briefly mentioned in the Introduction:

- FHIR R4 & R5: FHIR defines the base resources of many other published IGs. Release 4.0.1[7] (published 10/30/2019) is Normative and is used by the following IGs. FHIR Release 5.0.0[8] was published 3/26/2023. Once published, IGs may be updated to conform to FHIR R5.0.0 or may continue to be published conforming to the Normative R4.0.1.
- US Core: Based on FHIR R4.0.1, the current version is US Core 5.0.1[9] (published 6/22/2022). The next version (6.0.0) has undergone ballot (12/5/2022) and is expected to be published in the first half of 2023. The US Core FHIR IG defines the FHIR resources used to represent the United States Core Data for Interoperability (USCDI), a standardized set of health data classes and data elements for nationwide, interoperable health-information exchange that is published by the Office of the National Coordinator for Health Information Technology (ONC). The US Core FHIR IG is the foundation for other US-realm FHIR IGs.
- MDI: Based on FHIR R4.0.1 and US Core 5.0.1, the Medicolegal Death Investigation (MDI) FHIR IG[10] is a US-realm FHIR IG for the exchange of information between the MDI case-management systems, forensic toxicology and other laboratory information management systems (LIMS), and electronic death-reporting systems (EDRS) of jurisdictional vital-records offices. It shares many profiles with the vital-records FHIR IGs listed below. It will expand in future versions to support additional dataflows involved in death investigations or using death-investigation data. MDI 1.0.0, published 9/30/2022, is Standard for Trail Use (STU) 1, meaning the first published version of the standard.
- VRDR: Based on FHIR R4.0.1 and US Core 5.0.1, the Vital Records Death Reporting FHIR IG[11] is a US-realm guide for data required in the bidirectional exchange of mortality data between EDRS and the National Center for Health Statistics (NCHS). MDI case-management systems are a source for these mortality data. VRDR 2.1.0, published 3/24/2023, is STU R2.1.
- VRCPL: Based on FHIR R4.0.1 and US Core 4.0.0, the Vital Records Common Profile Library FHIR IG[12] is a US-realm guide to support the needs of multiple vital-records FHIR IGs. It serves as a source for a standard set of profiles for reuse in multiple use-case-specific IGs focusing on the exchange of vital-records information. VRCPL 1.0.0, published 10/12/2021, is STU Release 1. Plans for future versions are to provide FHIR resources for VRDR and MDI and to use a more recent version of US Core.

[7] HL7, FHIR R4.0.1, http://hl7.org/fhir/R4/
[8] HL7, FHIR R5.0.0, http://hl7.org/fhir/
[9] HL7, US Core IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=500 & http://hl7.org/fhir/us/core/
[10] HL7, MDI FHIR IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=604 & http://hl7.org/fhir/us/mdi/
[11] HL7, VRDR IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=532 & http://hl7.org/fhir/us/vrdr/
[12] HL7, VRCPL IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=577 & http://hl7.org/fhir/us/vr-common-library/

3 Demographic Data Concepts Relevant to MDI

This chapter provides information on data concepts relevant to the MDI community's electronic data standardization efforts. The following sections summarize what is defined by published standards in two areas—sex and gender, and race and ethnicity—to inform options for standardization across MDI case-management systems.

Personal characteristics (such as concepts related to sex, gender, race, and ethnicity) can be recorded in several FHIR structures:

- Base resource properties: The FHIR Patient resource defines the Patient.gender property, which represents an administrative gender for recordkeeping purposes.
- Extensions: US Core Birth Sex, Gender Identity, Race, and Ethnicity extensions may be used on the US Core Patient profile (and other profiles). The profile in which an extension is used (i.e., US Core Patient, Practitioner, etc.) determines if one or more than one extension may be used. The extension definition specifies whether the extension has any content beyond the value being reported (such as documentation on source of information).
- Observation profiles: US Core defines an Observation profile[13] for sexual orientation. Similarly, the Social Determinants of Health (SDOH) Clinical Care FHIR IG[14] defines seven personal characteristic Observation profiles: Personal Characteristic (Abstract), Race, Ethnicity, Gender Identity, Recorded Sex and Gender, Sexual Orientation, and Personal Pronouns. While pronouns may not be needed for death certification (i.e., not reported by the CMS to the EDRS), the MDI community may be interested to capture and document sources of pronoun preferences for case investigations.

Each of these FHIR structures has advantages and disadvantages that are important to understand for future MDI FHIR IG updates. The following sections discuss the current landscape of FHIR standards for sex and gender and for race and ethnicity.

3.1 Demographics: Sex and Gender

Standardizing sex and gender terms among death-investigation CMSs will help retain meaning when data are exchanged between systems, offices, and organizations. It will also reduce the need to manually enter data multiple times.

During death investigations, staff enter demographic information, including sex and/or gender, into CMS or imported from existing records. Terminology (value sets of codes options) for sex and gender may vary widely across investigating organizations and dataflows where the meaning of both "sex" and "gender" may vary, often without clear definition. Sex and gender are "difficult data elements to collect," including sex assigned at birth versus gender identity at death, death certificates which list choices of only male or female, gender designations such as non-binary, and the possibility of unknown gender in unidentified skeletal remains.[15] The context of a death investigation is unique in health-data standards because the ultimate source of information, the subject, is a decedent rather than a live person who can provide input and clarification. Secondary sources, such as family members, may not be known at the time a report is created, or may not agree among themselves or with the decedent.

[13] HL7, US Core Observation Sexual Orientation, http://hl7.org/fhir/us/core/StructureDefinition-us-core-observation-sexual-orientation.html
[14] HL7, SDOH Clinical Care IG, http://hl7.org/fhir/us/sdoh-clinicalcare/index.html
[15] FTCOE, https://forensiccoe.org/private/63da9032991eb, (p 14, 27)

3.1.1 Sex and Gender Concepts

Many systems and organizations only allow for a single attribute that aspires to represent all aspects of a patient's gender and sex with a single value. However, multiple social and biological attributes may be relevant in the death investigation setting. Some of those attributes include:[16]

- Administrative Gender: The gender (a single generic property) that the person is considered to have for administration and recordkeeping purposes, often used as an input to patient-matching algorithms.
- Clinical Sex: A testable observation about a biological property of the person (including karyotypic/genetic/chromosomal, gonadal, ductal, phenotypic, etc.).
- Clinical Gender: An observation about the person, often collected as part of social history documentation.
- Gender Identity: An indication from the person about what gender they consider themselves to be; only the person can characterize gender identity. This concept can be problematic in the case of a deceased person unless documented elsewhere, in which case the source document should be recorded.
- Sex Assigned at Birth: The sex assigned at birth, as documented on the birth registration.
- Legal Sex: Varies from region to region and country to country. A person may have multiple legal sex values at the same time in different jurisdictions.

3.1.2 Current State of Sex and Gender Data Exchange

MDI CMS, electronic health record (EHR) systems, funeral homes, and forensic services such as anthropology experts (to establish sex of remains) collect information on sex and gender data of a decedent.[17]

A variety of agencies/programs receive information that originates in a death investigation:

- EDRS: The electronic death reporting systems of jurisdictional vital-records offices.
    - EDRS can receive certified death information from the CMS via the MDI FHIR IG, which uses the US Core Patient profile for the decedent.
    - EDRS may also receive sex and gender data from other sources, such as funeral homes, that may or may not document the source of the sex/gender information.
- State teams for NVDRS & SUDORS: The National Violent Death Reporting System (NVDRS)[18] and the State Unintentional Drug Overdose Reporting System (SUDORS)[19] share a web-based CDC platform that requires the "sex of the victim as recorded on the death certificate."[20]
- State teams for SUID & SIDS: The Sudden Unexpected Infant Death (SUID) and Sudden Infant Death Syndrome (SIDS) share a reporting form[21] for documenting investigations of infant (under one year of age) deaths that are sudden, unexpected, and unexplained prior to investigation.

[16] HL7, FHIR Resource Patient, http://hl7.org/fhir/patient.html#gender
[17] FTCOE, https://forensiccoe.org/private/63da9032991eb, (p 126)
[18] CDC, NVDRS, https://www.cdc.gov/violenceprevention/datasources/nvdrs/index.html
[19] CDC, SUDORS, https://www.cdc.gov/drugoverdose/fatal/sudors.html
[20] CDC, Using WISQARS NVDRS, https://www.cdc.gov/injury/wisqars/nvdrs/report-type.html#sex
[21] CDC, SUIDI Reporting Form, https://www.cdc.gov/sids/SUIDRF.htm

The following table summarizes sex and gender definitions and terminologies used by current FHIR standards and systems that rely on data from medical examiners and coroners.

Table 1: Sex and Gender Terminologies Related to Death Investigation Dataflows, Current IGs

Concept	Used in [Cardinality]	Definition	Value Set Code Options (Binding)
Administrative gender	FHIR R4.0.1: #.gender data element, [0..1] for: • Patient • Person • Practitioner • RelatedPerson US Core 5.0.1: #.gender data element, [1..1] for: • US Core Patient Profile	The gender of a person used for administrative purposes.	Male Female Other Unknown (Required)
Gender identity	FHIR R4.0.1: Extension: patient-genderIdentity, [0..1] for: • Patient	The gender the patient identifies with. The Patient's gender identity is used as guidance (e.g. for staff) about how to interact with the patient.	Male Female Non-binary Transgender-male Transgender-female Other Non-disclose (Example)
Gender identity	US Core 5.0.1: Extension: US Core Gender Identity Extension, [0..1] for: • US Core Patient Profile	This extension provides concepts to describe the gender a person identifies as.	Male-to-female transsexual Female-to-male transsexual Identifies as non-conforming gender Identifies as female gender Identifies as male gender Asked but unknown Other (Extensible)
Birth sex	US Core 5.0.1: Extension: US Core Birth Sex Extension, [0..1] for: • US Core Patient Profile	A code classifying the person's sex assigned at birth as specified by the Office of the National Coordinator for Health IT (ONC). This extension aligns with the C-CDA Birth Sex Observation (LOINC 76689-9).	Female Male Asked but unknown Other Unknown (Required)

Concept	Used in [Cardinality]	Definition	Value Set Code Options (Binding)
Sexual Orientation	US Core 5.0.1: Observation Sexual Orientation Profile	This profile sets minimum expectations for the Observation resource to record, search, and fetch sexual orientation observations associated with a patient to promote interoperability and adoption through common implementation.	Homosexuality Heterosexual state Bisexual state Other Unknown Asked but no answer (Extensible)
Sex	VRDR 2.1.0: Extension: NVSS SexAtDeath, [0..*] for: • Decedent	Sex on visual inspection at the time of death by the funeral home	Male Female Unknown (Required)
Personal Pronouns	SDOH Clinical Care 2.0.0: SDOHCC Observation Personal Pronouns • .method [1..1]	Profile for observations about the pronouns and possessive adjectives a person wishes to be addressed by.	He/him/his/his/himself She/her/her/hers/herself They/them/their/theirs/themselves Other Unknown (Preferred)
Recorded Sex Gender	SDOH Clinical Care 2.0.0: SDOHCC Observation Recorded Sex Gender • .method [1..1] • .derivedFrom [1..1]	Profile for observations about "recorded sex and gender" which, in the past, were often used interchangeably. In this context, sex is a biological construct and pertains to a person's genetics, hormones, and anatomy.	F (female) M (male) X (non-binary, intersex, etc.) < (value not recorded) (Preferred)

Concept	Used in [Cardinality]	Definition	Value Set Code Options (Binding)
Sexual Orientation	SDOH Clinical Care 2.0.0: SDOHCC Observation Sexual Orientation • .method [1..1]	Profile for observations about the sexual orientation of an individual.	Bisexual Heterosexual Homosexual Other Asked but unknown Unknown (Preferred)
Gender Identity	SDOH Clinical Care 2.0.0: SDOHCC Observation Gender Identity • .method [1..1]	Profile for gender identity observations which are based on a person's inner sense of being a girl/woman/female /feminine, boy/man/male/masculine, nonbinary, something else, or having no gender.	Male-to-female transsexual Female-to-male transsexual Identifies as non-conforming gender Identifies as female gender Identifies as male gender Asked but unknown Other (Preferred)
Sex	NVDRS & SUDORS	Sex of the victim as recorded on the death certificate	Both sexes Males Females
Sex	SUID & SIDS		Male Female

The SDOH Clinical Care IG[22] Observation profiles listed above are published as "draft" with the intent to request that they be included in the next version of the US Core specification.[23] Several standards listed in the table above are being updated. Possible changes are summarized in the next table. Note that some of the "new" profiles and extensions listed as "new" for the FHIR base specification and for US Core are similar to those published in SDOH Clinical Care 2.0.0 (listed above).

Table 2: FHIR R5 and US Core Balloted Changes to Sex and Gender Terminologies Related to Death Investigation Dataflows

Concept	Used in [Cardinality]	Resource Change	Change in Value Set Code Options (Binding)
Gender identity	FHIR R5.0.0: Extension: individual-genderIdentity, [0..*] for: • Patient • RelatedPerson • Person	An individual's personal sense of being a man, woman, boy, girl, nonbinary, or something else. This represents an individual's identity,	Female gender identity Male gender identity Non-binary gender identity Asked But Declined Unknown

[22] HL7, SDOH Clinical Care IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=572 & http://hl7.org/fhir/us/sdoh-clinicalcare/STU2/

[23] HL7, SDOH, Personal Characteristics, http://hl7.org/fhir/us/sdoh-clinicalcare/draft_specifications_for_personal_characteristics.html#us-core-intent

Concept	Used in [Cardinality]	Resource Change	Change in Value Set Code Options (Binding)
	• Practitioner	ascertained by asking them what that identity is. In the case where the gender identity is communicated by a third party, for example, if a spouse indicates the gender identity of their partner on an intake form, a Provenance resource can be used ... Adds: • .period • .comment	(Preferred)
Gender identity	US Core 6.0.0-ballot: Extension: US Core Gender Identity Extension, [0..*] for: • US Core Patient Profile	• US Core Patient Profile change from allowing [0..1] to [0..*] Gender Identity extensions • Adds .period	No change from US Core 5.0.1
Sex for clinical use	FHIR R5.0.0: Extension: patient-sexParameterForClinicalUse, [0..*] for: • Patient • RelatedPerson • Person • Practitioner	**Draft Extension**: A Sex Parameter for Clinical Use is a parameter that provides guidance on how a recipient should apply settings or reference ranges that are derived from observable information such as an organ inventory, recent hormone lab tests, genetic testing, menstrual status, obstetric history, etc. Includes: • .period • .comment • .supportingInfo	Female-typical Male-typical Specified Unknown (Required)
Sex for clinical use	US Core 6.0.0-ballot: Extension: US Core Sex For Clinical Use, [0..*] for: US Core Patient Profile	**New Profile**: Codes that represent the sex characterization appropriate for the associated clinical context.	Female Male Specified Unknown (Required)
Recorded sex or gender	FHIR R5.0.0: Extension: individual-recordedSexOrGender, [0..*] for: • Patient	**New Extension**: Recorded sex or gender (RSG) information includes the various sex and gender concepts	Male Female Other Unknown

Concept	Used in [Cardinality]	Resource Change	Change in Value Set Code Options (Binding)
	• RelatedPerson • Person • Practitioner	that are often used in existing systems but are known NOT to represent a gender identity, sex parameter for clinical use, or attributes related to sexuality, such as sexual orientation, sexual activity, or sexual attraction. Includes: • .type • .effectivePeriod • .acquisitionDate • .sourceDocument • .sourceField • .jurisdiction • .comment	(Example)
Pronouns	FHIR R5.0.0: Extension: individual-pronouns, [0..*] for: • Patient • RelatedPerson • Person • Practitioner	**New Extension**: The pronouns to use when referring to an individual in verbal or written communication. Includes: • .period • .comment	He, Him, His, Himself She, Her, Hers, Herself They, Them, Their, Theirs, Themselves (Example)

3.1.3 Recommendations and Next Steps

Recommendations to the MDI community: Standardizing sex and gender terms for CMS is a strategic priority to improve semantics (i.e., retain meaning) during data exchange and to ease the burden on death investigators by reducing the need for repetitive data entry. CMS implementers may wish to:

- Provide fields in CMS (drop-down or picklist rather than free-text) for recording multiple sex and gender concepts (e.g., gender identity)
- Include fields to document the information source(s) or method of determination when using sex- and gender-concepts fields
- Summarize guidance currently provided by MDI agencies, CMS, and federal rules on documenting sex and gender concepts; develop additional best-practices guidance based on the work of HL7 projects such as SDOH

Next steps for the MDI FHIR IG project:

- Collaborate with the VRDR and VRCPL projects on when to update to new versions of the US Core specification
- Assess the usefulness of adopting Observation profiles defined by US Core and the SDOH Clinical Care FHIR IGs for recording Gender Identity, Recorded Sex and Gender, Sexual Orientation, and Personal Pronouns

3.2 Demographics: Race and Ethnicity

Race- and ethnicity-specific death rates are essential indicators of health and mortality disparities across racial and ethnic populations in the United States.[24] Data consistency is essential to ensure accurate and reliable information. Data elements for race and ethnicity are some of the most problematic data elements,[25] in part because they lack standard definitions, which makes measurement difficult. Sometimes race and ethnicity are combined into a single field with selections for both provided together. Local communities often request the local authorities include a specific race or ethnicity in data collection and reporting for public health and policy. Despite the difficulties in doing so, standardizing race and ethnicity terms among death investigation CMSs will help retain meaning when data are exchanged and improve the consistency, accuracy, and reliability of the information. The US Office of Management and Budget (OMB) provides the federal guidelines for collecting and classifying minimum categories on race and ethnicity.[26] Standards-developing organizations, such as HL7 use these minimum categories within their standards for use of implementation in health IT systems.

3.2.1 Race and Ethnicity Data Considerations

- Data source: Race and ethnicity are not measurable observations; these are subjective data. The ultimate source of truth for assigning race and ethnicity is the person who is the subject. If the person is deceased, it is important to know who assigned race and ethnicity and the method for assignment, such as referencing a legal document authored by the decedent. When a funeral director documents race and ethnicity for the death certificate, the source of the assignment is considered and the rules on sources can vary by jurisdiction; race and ethnicity may be defined by an informant such as a family member, in legal document that the decedent signed prior to death, or provided by the medical examiner or corner.[27]
- How "no information" is handled: If a form or template has a race and/or ethnicity field and nothing is entered, it may be important to know if the field is blank because the information was unknown by the form's author or because it was left blank for another reason. US Core offers ways to handle situations in which there is no information.
- Genetic forensics: The use of forensic DNA phenotyping technology in defining race and ethnicity by attempting to predict race through physical features and ethnicity through inference of biogeographic ancestry from biological samples is an evolving, complex, and controversial field.[28] Data elements needed for recording information gathered through this technology are diverse and out of scope for near future improvements to the MDI FHIR IG.

3.2.2 Current State of Race and Ethnicity Data Exchange

- EDRS: The electronic death reporting systems of jurisdictional vital-records offices.
    - EDRS can receive certified death information from the CMS via the MDI FHIR IG, which uses the US Core Patient profile for the decedent.
    - EDRS may also receive race and ethnicity data from others, such as funeral homes, that may or may not document the source of the race/ethnicity information.

[24] CDC, *Vital Health Stat*, https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf
[25] FTCOE, https://forensiccoe.org/private/63da9032991eb, (p 22)
[26] US Federal Register, https://www.govinfo.gov/content/pkg/FR-1997-10-30/pdf/97-28653.pdf
[27] CDC, Funeral Director's Handbook, https://www.cdc.gov/nchs/data/nvss/handbook/2019-Funeral-Directors-Handbook-508.pdf
[28] Queiros https://www.sciencedirect.com/science/article/pii/S1752928X19300873

- NVDRS & SUDORS: The National Violent Death Reporting System (NVDRS)[29] and the State Unintentional Drug Overdose Reporting System (SUDORS)[30] share a web-based CDC platform where users may "select one or more victim race categories" (All Races, White, Black, American Indian/Alaskan Native, Asian/Pacific Islander) with All Races being the default option and "one or more ethnicity categories" (All Ethnicity, Hispanic, non-Hispanic, Unknown) with All Ethnicity being the default category.[31]
- SUID & SIDS: The Sudden Unexpected Infant Death (SUID) and Sudden Infant Death Syndrome (SIDS) share a reporting form[32] for documenting investigations of infant (under one year of age) deaths that are sudden, unexpected, and unexplained prior to investigation. This form contains a race field which includes categories of White, Black/African American, Asian/Pacific Islander, American Indian/Alaskan Native, Hispanic/Latino, and Other Race.

Neither FHIR R4.0.1 nor R5.0.0 base specifications include resources, extensions, or terminologies (code systems, value sets, or concept maps) for either race or ethnicity.

US Core defines an extension for race[33] and an extension for ethnicity.[34] The concept definition is the same for both extensions. The US Core Race Extension explains that the "race codes used to represent these concepts are based upon the CDC Race and Ethnicity Code Set Version 1.0[35] which includes over 900 concepts for representing race and ethnicity. The race concepts are grouped by and pre-mapped to the five OMB race categories." The CDC Race and Ethnicity Code (CDCREC) System[36] was developed as a code system whose concepts roll up to the OMB categories and align with the US Bureau of the Census (BC) race and ethnicity concepts. These concepts originate from US household responses to the race and ethnicity questions on the BC's decennial census.[37] The code system will likely be updated to a 2022 version based on the 2020 decennial census.[38] The draft of the 2022 version is open for public comment through April 14th, 2023, with an anticipated publication by late spring 2023. It should be noted that OMB has also submitted a Federal Registrar Notice (FRN) proposing changes to the OMB minimum categories. Two major changes being proposed include asking race and ethnicity as a combined question and the inclusion of Middle Eastern or North African (MENA) as one of the OMB top-level categories.[39] These updates would take substantial time to roll out across systems.

The user has several options for selecting race under US Core. Users may select from one to five options from the OMB Race Categories value set,[40] and/or as many options as desired from the Detailed Race value set,[41] and must include one text string.

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[29] CDC, NVDRS Violent Deaths Report https://wisqars.cdc.gov/nvdrs/
[30] CDC, SUDORS https://www.cdc.gov/drugoverdose/fatal/sudors.html
[31] CDC, Using WISQARS NVDRS https://www.cdc.gov/injury/wisqars/nvdrs/report-type.html#sex
[32] CDC, SUIDI Reporting Form https://www.cdc.gov/sids/SUIDRF.htm
[33] HL7, US Core Race Ext., http://hl7.org/fhir/us/core/StructureDefinition-us-core-race.html
[34] HL7, US Core Ethnicity Ext., http://hl7.org/fhir/us/core/StructureDefinition-us-core-ethnicity.html.
[35] CDC, PHIN Vocabulary https://www.cdc.gov/phin/resources/vocabulary/index.html
[36] CDCREC, https://www.nlm.nih.gov/research/umls/sourcereleasedocs/current/CDCREC/index.html
[37] CDC, NCHS, Race & Ethnicity Code System, https://www.cdc.gov/phin/resources/vocabulary/documents/CDC-Race-Ethnicity-Background-and-Purpose.pdf
[38] See CDC, PHIN Vocabulary, https://www.cdc.gov/phin/resources/vocabulary/, for context and updates.
[39] US Federal Register, https://www.federalregister.gov/documents/2023/01/27/2023-01635/initial-proposals-for-updating-ombs-race-and-ethnicity-statistical-standards
[40] HL7, US Core ValueSet OMB Race Categories http://hl7.org/fhir/us/core/ValueSet-omb-race-category.html
[41] HL7, US Core ValueSet Detailed Race http://hl7.org/fhir/us/core/ValueSet-detailed-race.html

The user has similar options for selecting ethnicity under US Core, which explains that the "ethnicity codes used to represent these concepts are based upon the CDC Race and Ethnicity Code Set Version 1.0 which includes over 900 concepts for representing race and ethnicity of which 43 reference ethnicity. The ethnicity concepts are grouped by and pre-mapped to the two OMB ethnicity categories: - Hispanic or Latino - Not Hispanic or Latino."

As with race, the user has several options for selecting ethnicity under US Core. Users may select from up to one of the OMB Ethnicity Categories value set,[42] and/or as many options as desired from the Detailed Ethnicity value set,[43] and must include one text string.

Table 3: Race and Ethnicity Terminologies Related to Death Investigation Dataflows

Concept	Used in [Cardinality]	Definition	Value Set Code Options (Binding)
Race	US Core 5.0.1: Extension: USCoreRaceExtension [0..1] for: • Patient • RelatedPerson • Person • Practitioner • FamilyMemberHistory	Concepts classifying the person into a named category of humans sharing common history, traits, geographical origin or nationality.	OMB Race Categories value set (Required): **May** use 1-5 selections: • American Indian or Alaska Native • Asian • Black or African American • Native Hawaiian or Other Pacific Islander • White • Other Race • Asked but unknown • Unknown Detailed Race value set (Required): **May** use an unlimited number. Text: **Must** add one free-text string.
Ethnicity	US Core 5.0.1: Extension: USCoreEthnicityExtension [0..1] for: • Patient • RelatedPerson • Person • Practitioner • FamilyMemberHistory	Concepts classifying the person into a named category of humans sharing common history, traits, geographical origin or nationality.	OMB Ethnicity Categories (Required): **May** use one selection: • Hispanic or Latino • Not Hispanic or Latino • Asked but unknown • Unknown Detailed Ethnicity value set (Required): **May** use an unlimited amount Text: **Must** add one free-text string.

[42] HL7, US Core ValueSet OMB Ethnicity Categories http://hl7.org/fhir/us/core/ValueSet-omb-ethnicity-category.html

[43] HL7, US Core ValueSet Detailed Ethnicity http://hl7.org/fhir/us/core/ValueSet-detailed-ethnicity.html

Concept	Used in [Cardinality]	Definition	Value Set Code Options (Binding)
Ethnicity	SDOH Clinical Care 2.0.0: Observation Ethnicity OMB • .method [1..1] • Ethnicity Description (text) [0..1]	Profile for ethnicity observations that use Office of Management and Budget (OMB) ethnicity category codes and CDC ethnicity codes.	Similar to US Core, but prevents inclusion of null flavors.
Race	SDOH Clinical Care 2.0.0: SDOHCC Observation Race OMB • .method [1..1] • Race Description (text) [0..1]	Profile for race observations that use Office of Management and Budget (OMB) race category codes and CDC race codes.	Similar to US Core, but prevents inclusion of null flavors.

The SDOH Clinical Care STU 2.0.0 (2022-11-21) uses an approach similar to US Core in that it uses subsets of OMB race[44] and ethnicity[45] categories and the CDC detailed lists, however, it defines these in observation profiles, rather than in extensions. An observation profile may have a performer ("who is responsible for the observation").

3.2.3 Recommendations and Next Steps

Recommendations to the MDI community: Documenting the source of race and ethnicity information in CMS is a strategic priority to improve semantics (i.e., retain meaning) during data exchange and to ease the burden on death investigators by reducing the need for repetitive data entry. CMS implementers may wish to:

- Follow federal guidelines and provide fields in CMS (drop-down or picklists rather than free-text) using CDCREC codes to create subsets relevant to local needs
- Include fields to document the information source(s) of race and ethnicity information
- Summarize guidance currently provided by MDI agencies, CMS, and federal rules on documenting race/ethnicity concepts; develop additional best-practices guidance based on the work of HL7 projects such as SDOH

The opportunity to support public-health reporting by standardizing demographics within the MDI community may inform future standards. For example, identifying trends in mortality by demographics affects public-health reporting. Reporting race and ethnicities at a more granular level than the OMB minimum categories may show trends within mortality rates of a specific race

[44] HL7, SDOH, SDOHCC Observation Race OMB http://hl7.org/fhir/us/sdoh-clinicalcare/StructureDefinition-SDOHCC-ObservationRaceOMB.html

[45] HL7, SDOH, SDOHCC Observation Ethnicity OMB http://hl7.org/fhir/us/sdoh-clinicalcare/StructureDefinition-SDOHCC-ObservationEthnicityOMB.html

category more defined than the top-level categories. These types of results may not only respond to local government and public-health reporting but inform national-level reporting on mortality trends. Additionally, these granular race and ethnicity categories can be defined within the established CDCREC.

Next steps for the MDI FHIR IG project:

- Collaborate with the VRDR and VRCPL projects on when to update to new versions of the US Core specification
- Assess the usefulness of adopting Observation profiles defined by the SDOH Clinical Care FHIR IG for recording Race and Ethnicity

4 Dataflows Between MDI CMSs and Other Systems

The following sections summarize dataflows from information sources (upstream from MDI CMS) and information recipients (downstream from MDI CMS). The data exchanges examined here are:

- Upstream:
  - Forensic toxicology laboratories
  - Emergency Medical Services (EMS)
- Downstream:
  - Organ procurement organizations (OPOs)
  - State child-death review teams
  - State teams submitting data to NVDRS
  - State teams submitting data to SUDORS

4.1 Upstream Data Sources Important to MDI

4.1.1 Forensic Toxicology Laboratory Information Management System (LIMS)

Exchange of electronic data on toxicological analysis is often cited by the MDI community as a high priority for improving MDI dataflows, in part because of the extensive quantitative information involved and the costs and risks associated with manually entering toxicology data into MDI CMS. The following information is based largely on discussions with NMS Labs.

4.1.1.1 Current State: Dataflows with Forensic Toxicology

The general dataflow for information on samples involved with an MDI case includes:

- MDI system or autopsy facility sends to the toxicology lab:
  - Electronic requisition form (e.g., ORM V2 order message), entered into LIMS
  - Paper/PDF requisition form(s) accompanying sample(s)
  - Physical sample(s)
- Toxicology LIMS returns results to the MDI office
  - Human-readable paper/PDF
  - Electronic result message (e.g., HL7 V2 ORU result message) into MDI system

NMS Labs uses HL7 V2.3 as the gold standard for data exchange with MDI systems, however, exchange with some MDI systems requires translation to the MDI custom data format. NMS Labs has not formally evaluated FHIR. NMS Labs has a client portal for receiving service-order requests. Recently, they have developed a RESTful API for inbound service-order requests from an MDI system into the client portal.

4.1.1.2 Desired Near-Future State

Extending the capabilities of MDI CMS to use an API for both sending requisitions and receiving results from forensic toxicology labs should improve dataflow efficiency and reduce manual data entry. For MDI CMS that are FHIR-capable, defining the requisition will be a high priority.

At the data-element level, forensic toxicology labs would like to receive case notes relevant to the condition/circumstances of the body/specimen. This should come with the specimen and requisition and could include, or be in addition to, a "decomposition" note. The HL7 V2 specification can accommodate case notes through custom note (NTE) segment functionality. However, it does not define the specimen well for the forensic toxicology lab needs.

4.1.1.3 Technical Details, Barriers, Opportunities

Standardizing forensic toxicology terminology is a significant challenge. For example, Logical Observation Identifiers Names and Codes (LOINC) codes do not exist for many forensic analyte matrix combinations. Developing a strategy for pooling and standardizing terminologies among forensic toxicology labs and with key stakeholders, such as NVDRS and SUDORS, which maintain a substance list, is an opportunity for collaboration.

Forensic toxicology labs are accredited by American Board of Forensic Toxicology (ABFT).[46] Much of the HL7 FHIR profiling work for lab results and specimens adheres to Clinical Laboratory Improvement Amendments (CLIA) rules, which may differ from ABFT in some areas, such as specimens received but not analyzed. Workgroups have discussed reporting rules about data on forensic specimens received but not analyzed in HL7 review of the MDI FHIR IG during initial (STU 1) balloting.

Translation tools for FHIR-V2 may be an important stepping-stone for interoperability. For example, the NMS Labs portal API may be an opportunity for collaboration on FHIR API specifications. The current version of the portal defines the inbound V2 data elements that can be accepted, however NMS Labs may be able to accept more data elements by integrating a FHIR API in the future.

4.1.1.4 Recommendations and Next Steps

Recommendations to the MDI community: Bi-directional exchange of electronic data on forensic toxicology is a strategic priority for improving MDI dataflows and CMS efficiency. Downstream users of MDI data will benefit from the improved upstream flows as well. CMS implementers may wish to collaborate with forensic laboratory software vendors that either have systems that can receive FHIR message bundles or have translation tools for those systems.

Next steps for the MDI FHIR IG project:

- Define a FHIR message bundle for a requisition form to be sent to a forensic toxicology lab
- Develop API guidance for sending requisitions to and receiving results from forensic toxicology LIMS

4.1.2 Emergency Medical Services (EMS)

First responders and emergency medical staff are important sources of data for death investigations. The National Emergency Medical Services Information System (NEMSIS) is the US system that collects, stores, and shares data from emergency medical services (EMS).[47] NEMSIS is a program of the National Highway Traffic Safety Administration (NHTSA) Office of EMS.[48]

4.1.2.1 Current State: Dataflows with EMS

4.1.2.1.1 IHE Projects

Integrating the Healthcare Enterprise (IHE) publishes "content profiles" that are similar to HL7 IGs in that they define specifications for products and systems that enable standards-based interoperability.[49] NEMSIS is working with IHE to identify and define electronic data elements for

[46] ABFT, https://www.abft.org/
[47] NEMSIS, https://nemsis.org/
[48] NHTSA, https://one.nhtsa.gov/
[49] IHE projects may use https://wiki.ihe.net/ for project-specific notes, whereas HL7 projects use https://confluence.hl7.org/.

improving interoperability of EMS dataflows.[50] Two IHE FHIR profiles involve data important to death investigations:

- IHE PCC - Paramedicine Care Summary (PCS)
- IHE EMS Interoperability Solutions

The draft IHE PCC - Paramedicine Care Summary (PCS)[51] FHIR profile provides the structures and transactions for providing the patient's paramedicine encounter information to the receiving facility.[52] This is being developed under the IHE Patient Care Coordination (PCC) domain. It defines profiles summarized in the following table.

Table 4: Structure Definitions in IHE Paramedicine Care Summary (PCS) (as of 1/2023)

Name (id)	Description	Base and Additions
Paramedicine Care Summary Composition Complete Report	Document for the Paramedicine Care Summary	Composition, derived from Paramedicine Care Summary Composition Clinical Subset. Adds: • Care Team • Paramedicine Note • Physician Certification Statement • Protocols • Transportation Event Observation
Paramedicine Care Summary Composition Clinical Subset	Document for the Paramedicine Care Summary Clinical Subset	Composition, derived from HL7 International Patient Summary Implementation Guide (IPS) Composition (IPS). Adds references and sections for: • Patient (IPS) • Barriers to Care • Chief Complaint • Medication Administered • Procedures Performed • Coverage (insurance) • Physical Exams • Last Known Well Observation • Patient Acuity (initial and final) • Last Oral Intake Observation • Review Of Systems • Mass Casualty Incident section, with entries for Mass Casualty Incident Indicator, Number of Patients, Triage Classification, Disaster Type • Cardiac Arrest Event (Observation/ Procedure/ Condition) • Injury Event Observation • IHE PCS Encounter Clinical Subset
IHE PCS Encounter Complete Report	Defines the full emergency medical transport	Encounter, derived from IHE PCS Encounter Clinical Subset. Adds:

[50] IHE, Path to Production https://www.iheusa.org/node/114

[51] IHE, PCC – Paramedicine Care Summary https://build.fhir.org/ig/IHE/PCC.PCS/ & https://github.com/IHE/PCC.PCS/

[52] IHE, Paramedicine Care Summary, https://wiki.ihe.net/index.php/Paramedicine_Care_Summary_(PCS)

Name (id)	Description	Base and Additions
	encounter of a patient.	Transport: Priority, Priority Descriptors, Number of Patients, Transport reason
IHE PCS Encounter Clinical Subset	Defines the emergency medical transport encounter of a patient, with only clinically relevant information.	Encounter. Adds • Locations: Dispatch, Scene, Ambulance, Destination • Service Provider

The draft IHE EMS Interoperability Solutions[53] FHIR profile does not yet define any FHIR artifacts (as of 1/27/2023). It has narrative pages on document sharing (consuming and publishing) and descriptions of two EMS use cases (paramedic care dataflows and routine interfacility patient transport dataflows).

4.1.2.1.2 HL7 Projects and Published Standards

HL7 published standards related to NEMSIS and EMS emergency services (as opposed to emergency departments) include:

- **FHIR**: HL7 FHIR® Implementation Guide: International Patient Summary (IPS), STU 1.1 (2022-11-02)[54]
  - The International Patient Summary (IPS) IG specifies an international electronic health record document containing essential healthcare information about a subject of care. It supports the use case scenario for "unplanned, cross border care."
  - While this IG does not mention EMS or emergency services data, the IHE PCC - Paramedicine Care Summary (PCS) references it. The IHE PCS Paramedicine Care Summary Composition Clinical Subset is a set of constraints on the HL7 IPS Composition.
- **CDA**: HL7 CDA® R2 Implementation Guide: Emergency Medical Services; Patient Care Report, Release 3 - US Realm (May 2022)[55]
  - This implementation guide supports the provision of emergency medical service data from provider agencies to hospital emergency departments using the CDA standard. The clinical specifications were developed by the National EMS Information System Technical Assistance Center in collaboration with thirteen professional societies and eight federal partners. This release brings the Patient Care Report into alignment with the NEMSIS 3.5 specification.
- **V3**: HL7 Version 3 Domain Analysis and Domain Information Models
  - Domain Analysis Model: Emergency Medical Services, Release 1 (May 2013) and Domain Information Model; Emergency Medical Services, Release 1 (May 2013)
    - Both the Domain Analysis Model (DAM) and Domain Information Model (DIM) are specific to EMS in the pre-hospital setting. Both were published

[53] IHE, EMS-Overview Home https://build.fhir.org/ig/IHE/EMS-Overall/
[54] HL7, IPS IG, http://www.hl7.org/implement/standards/product_brief.cfm?product_id=483 & http://hl7.org/fhir/uv/ips/
[55] http://www.hl7.org/implement/standards/product_brief.cfm?product_id=438

as informative documents to develop or evaluate American National Standards Institute (ANSI)-approved specifications and standards within the pre-hospital emergency medical services domain.

- Domain Analysis Model: Trauma Registry Data Submission, Release 1 (July 2014)
  - This DAM represents data elements used in trauma registries. It is based on the registry elements defined by the American College of Surgeons—in collaboration with 20 other professional organizations—in the 2012 National Trauma Data Standard. It defines trauma registry data submission (TRDS) classes that include the class "Pre-Hospital Encounters," which portrays the information pertaining to care provided and observations made by EMS personnel prior to arrival at the submitting hospital facility.

4.1.2.2 Recommendations and Next Steps

Recommendations to the MDI community: The 2022 report *Data Exchange Practices of Medicolegal Death Investigation* suggests short-term (defined as less than two years) improvements to data exchange from first-responder systems to MDI CMS, including accessing pre-hospital care records/reports in real time from EMS and obtaining appropriate investigative information (e.g., scene investigative reports, medical reports) from first responders.[56] Electronic exchange of EMS/ambulance "run sheets" with such details as administration of naloxone and other medications may be crucial to death investigations. Medical examiner/coroner (ME/C) offices may wish to collaborate with local EMS organizations to explore requirements and permissions needed to receive EMS/ambulance run sheets.

Next steps for the MDI FHIR IG project: The FHIR development work of NEMSIS under IHE provides an important opportunity for collaboration.

- Reach out to PCC - Paramedicine Care Summary (PCS) FHIR authors to ask if MDI could be a use case and if the MDI community and CMS vendors may join testing efforts
- Develop a draft use case for a person declared dead on the scene by EMS, at which point a CMS receives a PCS, just as an EHR would if the person were alive and transferred to an emergency department
- Discuss with CMS vendors and NEMSIS the information flows, required permissions, and possible technical barriers to the transmission of PCS FHIR artifacts, particularly the Paramedicine Care Summary Composition Complete Report, from EMS to CMS

4.2 Downstream Users of MDI Data

4.2.1 Organ/Tissue Procurement

The Organization of Scientific Area Committees for Forensic Science (OSAC) report, "Medicolegal Death Investigation Data Commonly Collected and Exchanged" lists organ procurement as a high-value process.[57] Organ Procurement Organizations (OPOs) and the MDI community share a need for timely information on a deceased person for two dataflows:

1. Tissue referrals for transplant or use from a person who dies outside of a hospital setting. (Typically, organ harvesting for transplant is only possible from donors who die in a hospital and on a ventilator.)

[56] FTCOE, https://forensiccoe.org/private/63da9032991eb, (App. G)
[57] OSAC, https://www.nist.gov/system/files/documents/2021/07/14/MDI%20data%20commonly%20collected%20and%20exchanged_REFERENCE_07092021_0.pdf

2. Permission (signoff) for organ and tissue harvesting from decedent under medicolegal jurisdiction, when the medical examiner bears responsibility to authorize or deny the procurement of organs or tissues on a case-by-case basis.[58] Some states, such as Iowa, legislate the cooperation between ME/Cs and OPOs to facilitate anatomical gifts from a decedent whose body is under jurisdiction of the medical examiner.[59] The National Association of Medical Examiners (NAME) states that ME/Cs should permit the procurement of organs and tissues in cases falling under their jurisdiction, provided that there are cooperative agreements in place to ensure that ME/Cs are able to fulfill their legal mandates regarding determination of cause and manner of death and appropriate collection and preservation of evidence.[60]

The following discussion focuses on data for dataflow 1, tissue referrals for transplant or use from a person who dies outside of a hospital setting. Later versions of the MDI FHIR IG may address dataflows for requesting and receiving permissions and signoffs by ME/Cs for organ and tissue harvesting. Likewise, later versions of the MDI FHIR IG may provide guidance on triggers for automated initiation of messages, which is important to time-critical information for organ and tissue transplants.

Data needs for organ referrals are better documented than for tissue referrals. In this report, the starting assumption is that many of the data elements for tissue referrals are similar to those for organ donation.

4.2.1.1 Current State: Dataflows with OPOs for Tissue Data Exchange

4.2.1.1.1 Organ Procurement and Transplantation Network (OPTN) and UNet

The Organ Procurement and Transplantation Network (OPTN)[61] collects data related to organ logistics and allocation through collection forms containing more than 3,500 data fields and found in an online application (web portal) called UNet.[62] These forms include the Deceased Donor Registration Worksheet which contains many discrete data elements relevant to the transfer of data from ME/Cs.[63] The following table summarizes the data elements used, whether an MDI case management system might be a source of the data, and whether the data element is represented in the MDI FHIR IG STU 1. (See also Appendix A – Data Elements Details.)

Table 5: OPTN Data Elements Summary, ME/C as Source, and Relevant MDI FHIR IG STU 1 Resource

Data Element	Is ME/C a Possible Source?	MDI FHIR IG Resource
Donor Name	Yes	US Core Patient
Donor Date of Birth (DOB)	Yes	US Core Patient
Donor Age	Calculated from DOB	
Donor Gender	Yes	US Core Patient
Donor Residence	Yes	US Core Patient
Donor Ethnicity/Race	Yes	US Core Patient
Donor Citizenship	Unlikely	

[58] Pinckard (2007), https://www.life-source.org/wp-content/uploads/2020/01/Medical-Examiner-Release-of-Organs-and-Tissues-for-Transplantation.pdf
[59] Revised Uniform Anatomical Gift Act, https://www.legis.iowa.gov/docs/code/142C.4A.pdf
[60] Pinckard (2014), https://name.memberclicks.net/assets/docs/d2701a9a-008f-4502-9fc2-52b0d4f67fc4.pdf
[61] OPTN, Data Collection https://optn.transplant.hrsa.gov/data/about-data/data-collection/
[62] UNOS UNet https://unos.org/technology/unet/
[63] UNOS, Data Collection and DDR Worksheet https://unos.org/data/data-collection/ & https://unos.org/wp-content/uploads/DDR.pdf

Donor Home Country	Unlikely	
Cause of Death	Yes	Observation - Cause of Death Part 1 Observation - Contributing Cause of Death Part 2
Mechanism of Death	Yes	Observation - How Death Injury Occurred
Circumstance of Death	Yes	Observation - Manner of Death
Medical Examiner/Coroner	Yes	Permission information not in IG
Clinical Information	Yes	Autopsy findings

United Network for Organ Sharing (UNOS) runs UNet as a proprietary web portal for authorized use, providing access to their software and data to approved transplant professionals. It has developed APIs for OPOs and for lab and transplant programs. The use of APIs suggests that data from a CMS using FHIR may be exchangeable with UNet. The UNOS APIs for OPOs include creating and updating death notification registrations (DNRs) and submitting deceased donor registrations (DDRs). The UNOS APIs for transplant programs and histocompatibility labs include submission options for lab data on livers and lungs, as well as unacceptable antigens. Although largely superseded by UNOS, the website for the Health Resources and Services Administration (HRSA) Scientific Registry of Transplant Recipients (SRTR) suggests that organ-specific data are also needed on hearts, intestines, kidneys, and pancreases.[64]

4.2.1.1.2 New England Donor Services (NEDS)

New England Donor Services (NEDS) coordinates organ and tissue referrals among hospitals and ME offices in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, eastern counties of Vermont, and the British Commonwealth territory of Bermuda.[65] In addition to the federally designated OPO, New England Organ Bank (NEOB), NEDS has centralized tissue-donation services operation.

NEDS receives direct (electronic) referrals from a few client organizations using MDILog. In addition, NEDS and Yale New Haven Health ran a pilot EHR/OPO data exchange using HL7 V2 Messaging. NEDS is developing a FHIR-based application for Epic. It started with V2 connecting to Epic Bridges (Epic's module for configuring, installing, and maintaining interfaces between the Epic system and other external systems). The following table summarizes HL7 V2 data elements used by NEDS. The table shows the data elements used, whether an MDI case management system might be a source of the data, and whether the data element is represented in the MDI FHIR IG STU 1. (See also Appendix A – Data Elements Details.)

Table 6: NEDS V2 Message Segment Information Summary, ME/C as Source, and Relevant MDI FHIR IG STU 1 Resource

Item	Name	NEDS Requirement	Is ME/C a Possible Source?	MDI FHIR IG Resource
PID - Patient Identification segment				
PID-3	Patient Identifier List	MRN	No	

[64] HRSA, https://srtr.transplant.hrsa.gov/annual_reports/worksheets/
[65] NEDS, https://neds.org/

Item	Name	NEDS Requirement	Is ME/C a Possible Source?	MDI FHIR IG Resource
PID-5	Patient Name	Last Name First Name	Yes	US Core Patient
PID-7	Date Time of Birth	DOB	Yes	US Core Patient
PID-8	Gender	Gender	Yes	US Core Patient
PID-10	Race	Race/Ethnicity	Yes	US Core Patient
PID-11	Patient Address	Patient Home Zip Code	Yes	US Core Patient
PID-29	Patient Death Date And Time	Date/Time of Death	Yes	Observation - Death Date
PIV - Patient Visit segment				
PV1-3	Assigned Patient Location	Hospital Unit	Yes, if used to record autopsy facility	
PV1-44	Admit Date Time	Admission Date	Yes, if used for arrival at autopsy facility	
ZDR - Additional Donor Data segment				
ZDR-1	Donor Hospital Name	Donor Hospital Name	Yes, if used to record autopsy facility	
ZDR-2	Donor Hospital Address	Donor Hospital Address	Yes, if used to record autopsy facility	
ZDR-3	CMS Provider Number	CMS Provider Number	No	
ZDR-4	Donor Hospital Contact Phone	Donor Hospital Contact Phone Number	Yes, if used to record autopsy facility	
ZDR-5	Hospital Referral Contact Name	Hospital Referral Contact First, Last, Title	Yes, if used to record autopsy facility	
ZDR-6	Admitting Diagnosis	Admitting Diagnosis codes	No	
ZDR-7	Weight	Most recent Weight & weight unit	Yes	Autopsy findings
ZDR-8	Death Indicator		Yes	
ZDR-9	Blood Pressure	Blood Pressure	N/A	
ZDR-10	Heart Rate	Heart Rate	N/A	
ZDR-11	Date Time Of Extubation	Date/Time of Extubation	N/A	
ZDR-12	Cause Of Death	Cause of Death	Yes	Observation - Cause of Death Part 1 Observation - Contributing Cause of Death Part 2

Item	Name	NEDS Requirement	Is ME/C a Possible Source?	MDI FHIR IG Resource
ZDR-13	Problem List	Problem List (~ delimited list of ICD10 code)	No	
ZDR-14	Ventilator Status	Patient on a ventilator? Y/n	N/A	

4.2.1.1.3 Other Applications Related to Organ/Tissue Referrals

Epic-on-FHIR's Connection Hub lists applications or services that interoperate with the Epic medical record.[66] Several are related to organ and tissue referral and donation dataflows, but their specifications are not publicly available:

- iReferral - Automated Donor Referrals to iTransplant
  - Automates a hospital's referrals of potential organ/tissue donors from Epic directly to OPO's iTransplant EMR System.
  - Listed 1/8/2023 by Transplant Connect (http://www.transplantconnect.com).
- Copernicus Donor Referral
  - Sends referrals electronically for potential organ and tissue donors to the associated OPO.
  - Listed 3/6/2023 by LifeLogics, Inc. (http://www.lifelogics.org)
- Copernicus Donor Chart
  - Sends referrals electronically for potential organ and tissue donors to the associated OPO.
  - Listed 2/15/2023 by LifeLogics, Inc.

4.2.1.2 Organ and Tissue Specifications Under Development

1. FHIR resources: Several FHIR resources are or will be available for use in future MDI FHIR IG profiles.
   a. Observation.bodySite: The Observation resource uses the body site data element for indicating the site on the subject's body where the observation was made (i.e., the target site). This has been used, for example, by the CT Irradiation Event Summary profile of the Radiation Dose Summary for Diagnostic Procedures on FHIR draft IG.[67] The base Observation resources uses terminology from SNOMED CT as an example binding.[68] Observation.bodySite might be appropriate for new MDI profiles for findings related to tissue referrals.
   b. BiologicallyDerivedProduct:
      i. R4.0.1 & R4.3.0 (R4B): A material substance originating from a biological entity intended to be transplanted or infused into another (possibly the same) biological entity. (maturity = 0)
      ii. R5.0.0: This resource reflects an instance of a biologically derived product. A material substance originating from a biological entity intended to be

[66] Epic-on-FHIR, https://fhir.epic.com/
[67] HL7 Radiation Dose Summary, https://build.fhir.org/ig/HL7/fhir-radiation-dose-summary-ig/StructureDefinition-ct-irradiation-event-summary.html
[68] HL7 FHIR Value Set Body Site, http://hl7.org/fhir/valueset-body-site.html

transplanted or infused into another (possibly the same) biological entity. (maturity = 2)

c. Organ Inventory: The Organ Inventory is a candidate (draft) profile on the base Observation intended to provide organ presence and status information (as of November 2022). This candidate profile supports creating a list of organs an individual has or doesn't have and can include "soft" organs, such as hormones, hormone therapy/treatments, etc. The draft includes required binding to Systemized Nomenclature of Medicine (SNOMED) codes for observed body part. Discussions continue in HL7 (under the Orders and Observations Work Group and the Terminology Infrastructure Work Group) regarding this candidate profile and other options, including using the bodyStructure resource rather than Observation.[69] The bodyStructure resource records "details about the anatomical location of a specimen or body part, including patient information, identifiers, as well as text descriptions and images. It provides for the addition of qualifiers such as laterality and directionality to the anatomic location for those use cases where precoordination of codes is not possible."[70]

d. Transplant, Transfusion, and Grafts on FHIR:[71] This HL7 project is sponsored by the Orders and Observations Work Group and co-sponsored by the Patient Care Work Group and the Pharmacy Work Group. This project does not appear to have produced any draft or published FHIR resources or document. Notes from May 2022 indicate that the project was subsumed into biological product discussions.[72] The project currently has an end date of May 2023.

2. Other Resources: The Organization of Scientific Area Committees (OSAC) lists "Standard for Interactions Between Medical Examiner, Coroner and all Other MDI Agencies and Organ and Tissue Procurement Organizations and Eye Banks" as under development.[73] Once published, this document may provide new information.

4.2.1.3 Recommendations and Next Steps

Recommendations to the MDI community: CMS implementers and ME/C offices may wish to collaborate with local OPOs to explore requirements, permissions, and technical details for bi-directional exchange of organ and tissue forensic-toxicology data and of electronic permission and sign-off, as well as requirements for triggers.

Next steps for the MDI FHIR IG project:

- Develop optional MDI value sets (terminology) related to tissue referrals, such as for the checkboxes on the OPTN DDR form[74]
- Determine the need for (and options for) bi-directional dataflows. Analytical data on removed organs may be important to send back to the ME/C.

[69] HL7, Orders & Observations, https://confluence.hl7.org/display/OO/2022-12-08+Main
[70] HL7, FHIR Resource BodyStructure, http://hl7.org/fhir/bodystructure.html
[71] HL7, Project Summary for Transplant, Transfusion, and Grafts on FHIR, https://www.hl7.org/special/Committees/projman/searchableProjectIndex.cfm?action=edit&ProjectNumber=1370
[72] HL7, Orders & Observations, https://confluence.hl7.org/display/OO/2022-05-09-13+WGM
[73] NIST, https://www.nist.gov/organization-scientific-area-committees-forensic-science/medicolegal-death-investigation
[74] UNOS, DDR Worksheet, https://unos.org/wp-content/uploads/DDR.pdf

4.2.2 Child-Death Review (CDR) Teams Reporting to NFR-CRS

The National Fatality Review Case Reporting System (NFR-CRS)[75] is a web-based system used in 47 states by 1300 child-death review teams to better understand how and why children die. These teams include ME/Cs and rely on data from ME/C investigations and findings. The NFR-CRS is also used to gather data for the Sudden Unexpected Infant Death (SUID) and Sudden Death in the Young (SDY) Case Registry,[76] so improvements in dataflows from ME/Cs into the NFR-CRS will support multiple public-health efforts.

The Michigan Public Health Institute (MPHI) Center for National Prevention Initiatives (CNPI) houses the National Center for Fatality Review and Prevention (NCFRP) and the Center for Technology Solutions (CTS), which, together, support state child-death review teams' technical needs. MPHI houses the NFR-CRS and CDC provides funding support for these endeavors.

While ME/Cs provide information for the NFR-CRS, data entry is often manual, even for data elements that do not require interpretation or deidentification, which increases the workload of state death-review teams.

4.2.2.1 Current State: Dataflows for NFR-CRS

Information gathered from the MPHI and its CTS on current dataflows for the NFR-CRS indicates that data from ME/Cs to the NFR-CRS vary widely among jurisdictions in terms of both data elements and flows. There are approximately 1600 fatality-review teams, including child-death review (CDR) teams, throughout the United States, and they all capture and transmit data differently.

Many cases start with child protective services (CPS) bringing a case to the local or state CDR team, which then submits information to NFR-CRS. CDR teams and EDRS staff also review death certificates to identify cases.

CDR teams use a broad spectrum of case record abstraction practices, both on-site and through a web-based portal. Some abstractors (state death-review staff) access the CMS of ME/C offices; others obtain information verbally from ME/Cs. The data often require manual review and manual transfer by the abstractors (state death-review staff).

Most users enter data into NFR-CRS manually on the web portal. MPHI has developed a flat-file entry system with a CSV file template, as well as directions and acceptable data format for the import process, that states can complete and submit. Ten to twelve states currently use the flat-file upload process. The template contains a limited set of data fields (primarily vital-record information) and requires an exact format match. Typically, one or two death -eview team members in each state have authorization to submit files. Those individuals get information from the ME/C (and other sources), put together the flat file, and submit it. States are responsible for obtaining the information required by the flat file. The following table summarizes the data elements ME/Cs can upload to the MPHI system. The table shows the data elements used, whether an MDI case management system might be a source of the data, and whether the data element is represented in the MDI FHIR IG STU 1. (See also Appendix A – Data Elements Details.)

[75] NCFRP, NFR-CRS, https://data.ncfrp.org/
[76] CDC, SUID and SDY Case Registry https://www.cdc.gov/sids/case-registry.htm

Table 7: Summary of MPHI Flat File Import Template Data Fields for CDR Report Form[77]

Field Topic	Is ME/C a Possible Source?	MDI FHIR IG Resource
Case Definition - Death Cert #	No	
Case Definition - Birth Cert #	Unlikely	
Case Definition - ME/Coroner #	Yes	Procedure - Death Certification
Section A – Child Information		
A1 - Child's Name	Yes	US Core Patient
A2 - Child's Date of Birth	Yes	US Core Patient
A3 - Child's Date of Death	Yes	Observation - Death Date
A4 - Child's Age	Yes	US Core Patient
A5 - Child's Race	Yes	US Core Patient
A6 - Was Child Hispanic or Latino/a	Yes	US Core Patient
A7 - Child's Sex	Yes	US Core Patient
A8 - Child's Address	Yes	US Core Patient
A11 - State of Death	Yes	Location - Death
A12 - County of Death	Yes	Location - Death
A27 - Education of Child only CDR non-infants	Unlikely	
A44 - Gestational Age in weeks	No	
A45 - Birth weight in grams	No	
A46 - Was this a multiple gestation pregnancy?	No	
A49 - Not including the deceased infant, the number of children the childbearing parent still has living.	No	
A50 - Prenatal care provided to childbearing parent?	No	
A52/94 - Childbearing parent had medical complications	No	
A61/62 - Smoke during pregnancy	No	
A66 - Infant ever breastfed?	No	
Section E – Incident Information		
E1 - Date of incident	Yes	Observation - How Death Injury Occurred
E2 - Time of incident	Yes	Observation - How Death Injury Occurred
E5 - Incident state	Yes	Location - Injury
E6 - Incident county	Yes	Location - Injury
Section F – Investigation Information		
F5 - Was an Autopsy performed	Yes	Observation - Autopsy Performed Indicator
F8 - Was a Tox screen positive for Alcohol	Yes	
F8 - Was a Tox screen positive for Cocaine	Yes	

[77]NCFRP, CDR Report Form https://ncfrp.org/wp-content/uploads/CDR_CRS_v6-0.pdf

F8 - Was a Tox screen positive for Marijuana	Yes	
F8 - Was a Tox screen positive for Opioids	Yes	
Section G – Official Manner and Cause of Death		
G1 - Cause of Death Code	No, because requires ICD-10 code	
G2 - Immediate cause	Yes	Observation - Cause of Death Part 1
G2 - Cond	Yes	Observation - Contributing Cause of Death Part 2
G3 - Other Cond	Yes	Observation - Contributing Cause of Death Part 2
G4 - If injury, how injury occurred	Yes	Observation - How Death Injury Occurred
G5 - Manner of Death	Yes	Observation - Manner of Death

MPHI has developed an API for use in their Indiana integration project. It uses Salesforce for case creation, data entry, and updating with a goal of reducing double data entry. The API creates a case and updates individual sections of that case within the NFR-CRS, using all the logic and rules of NFR-CRS. The API has built-in data validation and skip patterns just as NFR-CRS does. Overall, the flow of data from the Indiana Salesforce application via API to the NFR-CRS has been successful with very few problems noted regarding data transmission. Indiana is currently working to make the Salesforce application congruent with Version 6.0 of the NFR-CRS. This process is resource-intense work, which may be a concern for other states who may want to replicate this model. Users of the API are mostly Indiana state staff and CPS workers. The data entry into Salesforce is manual.

MPHI does not have access to the Indiana data sources in the Salesforce database but sees only the data that are exchanged with NFR-CRS. Indiana CPS workers input information to Salesforce after initial notification of death and age criteria flag a case for their management. It is likely that ME/C information is the source for the CPS workers. The API does not accept imports from the EDRS. The API import form mimics individual pages of the PDF forms and is based on the code book or spreadsheet versions of:

- Child Death Review (CDR) NFR-CRS Form v6.0[78]
- Fetal and Infant Mortality Review (FIMR) NFR-CRS Form v6.0[79]
- NFR-CRS: Data Dictionary v6.0[80]

4.2.2.2 Desired Near-Future State

The goals of modernization and electronic transfer of information are to retain data integrity and consistency, provide improved access to information, and to reduce burden for both ME/Cs and death-review teams.

[78] NCFRP, CDR Report Form https://ncfrp.org/wp-content/uploads/CDR_CRS_v6-0.pdf
[79] NCFRP, FIMR Report Form https://ncfrp.org/wp-content/uploads/FIMR_CRS_v6-0.pdf
[80] NCFRP, Data Dictionary https://ncfrp.org/wp-content/uploads/DataDictionary_CRS_v6-0.pdf

The flat file provides a starting point to further automating data entry. For example, the flat-file fields could be partially pre-populated directly from an ME/C CMS export, streamlining further data entry. Transformation tools ("transforms") could change the FHIR resources coming from ME/C CMS.

As mentioned above, the flat file template contains a limited set of data fields. Additional fields noted by MPHI staff as candidates for electronic import from MDI CMS are:

- F3 - Was a death investigation conducted
- F3 - Death referred to
- F4 - Person declaring cause and manner
- F6 - Autopsy assessment
- F7 - Other testing
- F8 - Other substances found on toxicology testing
- F10 - Abnormalities noted in autopsy

The question of what would make data acquisition from ME/C electronic records flow more easily and accurately for death-review teams is complex and multi-tiered. Some ME/C data can be easily automated because they do not need interpretation (that is, the ME/C data can be used "as is"). These data should be identified for high-priority addition to the MDI FHIR IG. Other ME/C data require interpretation by data abstractors. Initially, these may be best handled as narrative blocks that could be searched via data queries or other types of machine learning.

Although the focus of this section is on child-death reviews, MPHI maintains a wider scope of reporting systems. Information needed by their other systems may help to define a core set of data requested from ME/Cs.

A messaging system within the ME/C CMS that would flag a case for possible child-death review when certain criteria are met might improve the dataflow.

One goal of the overall modernization effort is for the data coming from ME/Cs to have the structure and format that supports easy transmission along the whole dataflow, from ME/C to the state team to the NFR-CRS database.

4.2.2.3 Technical Details, Barriers, Opportunities

One technical challenge to receiving electronic data from CMS is the number of data-use agreements (DUA) that need to be maintained with over 70 jurisdictions at the state and county levels. The DUAs use broad language and indicate that the data is owned by the state. These agreements may need to be changed individually for new technology such as FHIR data exchange. Changing DUAs may be difficult and is a time-intensive process. However, not all situations require DUAs. For example, the flat-file submissions do not require a format-specific DUA. They are submitted to the national system by the state team and users need to have administrative permissions to upload the flat file.

MPHI has relationships with state entities that may be excited about the opportunity to work with them towards modernizing data acquisition for NFR-CRS.

4.2.2.4 Recommendations and Next Steps

Recommendations to the MDI community: CMS implementers may wish to:

- Explore requirements for adding triggers/decisions to notify downstream recipients

- Explore an export format that conforms to the flat file for CDR

Next steps for the MDI FHIR IG project:

- Explore the Indiana API as a model for future MDI FHIR IG development
- Assess the Codebook_Version6_102622.xlsx file for new MDI data elements or changes to current data elements. The Codebook has 2821 data elements in 27 categories including:
    - Overlap with current MDI IG STU-1 [initial count = 222]
    - Potential for ME/C's to be source (data elements that would be new to the MDI IG) [initial count = 629]
    - ME/Cs not a source [initial count = 1938]
    - Blanks that need clarification [initial count = 32]

4.2.3 Violent Death Reporting to NVDRS

The National Violent Death Reporting System (NVDRS) is a national database of state-submitted data, pooled from multiple sources.[81] The database tracks over 600 data elements per anonymized case.

4.2.3.1 Current State: Dataflows for NVDRS

Medical examiners and coroners provide data on violent deaths to a state's grantee organization, designated by NVDRS. (Each state has one grantee, except New York, which has two.) States house their violent-death reporting programs in have a wide variety of grantee organizations, ranging from a state's medical examiner's office to a hosting university. (Note that the SUDORS' grantee may or may not be the same organization as the state's grantee.)

Within the grantee organization, the state's violent-death reporting program assembles the data for each violent-death case from multiple sources. In addition to medical examiner/coroner offices, data are collected from death certificates, law-enforcement reports, child-death review teams, crime labs, and hospitals. As with child-death review teams, abstractors are often key to gathering data from disparate source systems and in a variety of forms, such as PDF reports.

The state's violent-death reporting program staff review and research conflicting information from the various sources, and then anonymize the case before submitting it to the NVDRS. Thus, the NVDRS staff do not see the dataflow mechanisms from medical examiners and other sources to the state program.

NVDRS has a bulk-upload system for the state programs. A portion of that targets the types of information coming from medical examiners and coroners. Grantee organizations use the bulk-upload file to put together data from their sources, but ME/Cs and other sources rarely use it.

The following table summarizes categories of NVDRS data, whether an MDI case management system might be a source of the data, and whether an MDI FHIR IG STU 1 profile may represent some of the data elements in the category. Data topics for which ME/Cs may be a source that do not have a corresponding MDI FHIR IG Resource may be priorities for new MDI FHIR profiles. (See also Appendix A – Data Elements Details.)

[81] CDC, NVDRS, https://www.cdc.gov/violenceprevention/datasources/nvdrs/index.html

Table 8: NVDRS Data Categories, ME/C as Source, and Relevant MDI FHIR IG STU 1 Resource[82]

NVDRS Data Topic	Is ME/C a Possible Source?	MDI FHIR IG Resource
Case Status	---	
Incident narrative	Yes	
Document tracking	---	
Person type	Yes	
Name, zip code, county	Yes	US Core Patient
Age/sex/race/ethnicity	Yes	US Core Patient
When and where (injury/death)	Yes	Composition - MDI to EDRS
Type of medical treatment	---	
Cause of death ICD-10- code(s)	---	
External injury ICD-9-CM	---	
Manner of death	Yes	Observation - Manner of Death
Additional person descriptors	Yes	
Alcohol and drug tests	Yes	Diagnostic Report - Toxicology Lab Result to MDI
Wounds	Yes	
Circumstances	Yes	
Victim-suspect relationship	Yes	
History of victim abuse	Yes	
Suspect was victim caretaker	Yes	
Weapon type	Yes	
Firearm descriptors	Yes	
Poison details	Yes	Diagnostic Report - Toxicology Lab Result to MDI

4.2.3.2 Desired Near-Future State

Some data specified in the NVDRS Coding Manual Table (2021), such as the wound fields, are good candidates for transmitting as structured data (number and location of penetrating wounds, number of bullets that struck the victim, etc.) if they exist in distinct fields within the ME/C CMS.

Toxicology data are a high priority. Toxicology information largely goes into NVDRS by abstractors reviewing electronic information and rekeying the data. Drug names of the drugs may vary between systems and abstractors may have to manually map between synonyms. Automating the mapping may improve data quality and flows. The Department of Transportation (DOT) is also interested in toxicology,[83] as is the Drug Enforcement Agency (DEA) for the National Forensic Laboratory Information System (NFLIS),[84,85] so there may be collaborative opportunities among agencies.

How electronic data systems manage rapidly changing substance lists (and novel or unknown substances) is another important topic for collaboration.

[82] CDC, NVDRS Web Coding Manual Version 6.0, https://www.cdc.gov/violenceprevention/pdf/nvdrs/nvdrsCodingManual.pdf (18-19)
[83] NHTSA, FARS, https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars
[84] NFLIS-MEC, https://www.nflis.deadiversion.usdoj.gov/mec.xhtml
[85] NFLIS-TOX, https://www.nflis.deadiversion.usdoj.gov/tox.xhtml

4.2.3.3 Technical Details, Barriers, Opportunities

Two opportunities for future discussions may be with states that currently use the bulk-data upload system and states where the violent-death reporting system (VDRS) program is embedded in the state's medical examiner's office.

4.2.3.4 Recommendations and Next Steps

Recommendations to the MDI community: The MDI community may wish to:

- Prioritize data topics in Table 8 for which ME/Cs may be a source and which have no corresponding MDI FHIR IG resource
- Identify states that use the bulk-data upload system
- Identify states where the review program is embedded in the ME/C office

Next steps for the MDI FHIR IG project:

- Clarify terminology used by NVDRS to collect information on sex and gender, whether it includes terminology for transgendered persons and whether reporting sex and/or gender beyond "male" or "female" is an option or requirement for reporting groups
- Clarify the information that is being received from toxicology, including substance list and details on substance levels for possible terminology reference in the MDI FHIR IG
- Develop new FHIR profiles for high-priority data topics in Table 8 for which ME/Cs may be a source and which have no corresponding MDI FHIR IG resource and map NVDRS data elements to FHIR resources, based on List of Variables Collected in NVDRS/SUDORS system as of 5/2021[86]

4.2.4 Unintentional Drug Overdose Reporting to SUDORS

The State Unintentional Drug Overdose Reporting System (SUDORS) is a national database of jurisdiction-submitted data on drug-overdose deaths, collected and abstracted from death certificates and medical examiner/coroner reports.[87] Each of the 48 funded jurisdictions enter data into a web-based CDC platform that is shared with the National Violent Death Reporting System (NVDRS).

4.2.4.1 Current State: Dataflows for SUDORS

The workflow of ME/C-related data for the SUDORS system is:

1. Primary data source:
    a. ME/C, including scene investigators and autopsy staff
    b. Hospital EHRs (for medical history)
    c. Law enforcement reports
    d. Forensic toxicology laboratory reports (postmortem toxicology)
    e. EMS data from EMS provider
2. MDI CMS
3. State/jurisdictional SUDORS team
4. NVDRS/SUDORS web portal

The data included in the step 2-3 exchange are as detailed as possible. These data are personally identifiable and allow the state/jurisdictional SUDORS team to compare information from several sources and track down additional information. These detailed data provide the basis for the de-

[86] NVDRS, List of Variables Collected, https://omb.report/icr/202112-0920-012/doc/117884100
[87] CDC, SUDORS https://www.cdc.gov/drugoverdose/fatal/sudors.html

identified data that are entered into the web-based system, including the ME/C narrative that the state/jurisdictional SUDORS team creates and submits to SUDORS via the step 3-4 exchange.

The death certificate data from EDRS to SUDORS follow a similar workflow:

1. Primary sources (ME/C, funeral home, etc.)
2. State EDRS/Vital Records Office
3. State/jurisdictional SUDORS team
4. NVDRS/SUDORS web portal

In both workflows, the detailed data arriving at the state/jurisdictional SUDORS team provide the basis for the de-identified data that are entered into the national NVDRS/SUDORS web portal, including the ME/C narrative that the state/jurisdictional SUDORS team creates and submits to SUDORS.

State/jurisdictional SUDORS teams, generally housed in a state's department of health, are key to the dataflow. Staff abstractors review death certificates, assess which cases meet the case definition for unintentional and undetermined-intent drug overdose,[88, 89] gather additional relevant information from ME/Cs (and other sources), write case summaries, and ensure that each complete case data set is anonymized (i.e., does not contain individually identifiable information) before uploading to the national SUDORS system. A SUDORS team identifies cases based on information provided on the death certificates and medical examiner/coroner reports, using ICD-10 cause-of-death codes and cause-of-death information in the ME/C report.

Terminology: The Overdose Mortality Team maintains a frequently updated list of substances, rather than relying on SNOMED or other code systems.

Importing files: State/jurisdictional SUDORS teams have the option to import the death certificate data to SUDORS via a flat file. A few states/jurisdictions have an import feature for ME/Cs to submit data to the state/jurisdictional SUDORS team. The SUDORS Data Dictionary includes 1224 data fields tagged with sections and tabs (with some fields having none, [blank]). Of these, 138 fields are named "CME_ …" (i.e., coroner/medical examiner), all in the Victim section on the Circumstances tab. Many more fields than that may rely on ME/Cs as the primary data source. The following table summarizes the data elements count in each section-and-tab combination. (See also Appendix A – Data Elements Details.)

Table 9: SUDORS Data Dictionary Field Counts

	SUDORS sections						
SUDORS tab	**Incident**	**OD**	**Toxicology**	**Victim**	**Weapon**	**[blank]**	***Total count***
Circumstances	---	---	---	276	---	---	***276***
Demographics	---	---	---	58	---	---	***58***
Incident Overview	15	4	---	---	---	---	***19***
Injury and Death	---	---	---	69	---	10	***79***

[88] CDC, SUDORS Dashboard, "Important Data Considerations" (https://www.cdc.gov/drugoverdose/fatal/dashboard/index.html) notes that "the Injury Surveillance Workgroup 7 consensus definition of a drug is used to determine SUDORS case."
[89] Injury Surveillance Workgroup 7, https://cdn.ymaws.com/www.safestates.org/resource/resmgr/imported/ISW7%20Full%20Report_3.pdf

OD	---	200	---	---	---	---	***200***
Toxicology	---	---	13	52	---	---	***65***
Weapon(s)	---	---	---	---	5	---	***5***
[blank]	69	7	7	412	27	---	***522***
Total count	***84***	***211***	***20***	***867***	***32***	***10***	***1224***

4.2.4.2 Desired Near-Future State

SUDORS uses the same import template and guidance as NVDRS when uploading to the CDC web portal. However, work is being done to add additional fields that are specific to a tab within the system that captures specific information on SUDORS cases.

ME/C data for SUDORS can include scene findings, autopsy reports, and full postmortem toxicology findings. Important data include:[90]

- History of prior overdoses
- Treatment for substance use disorder
- Prescription drug misuse or illicit drug use history
- Routes of drug administration (e.g., injection, smoking)
- Presence of bystanders
- Naloxone administration
- All drugs detected
- Drugs contributing to death
- Date specimens were collected

These data concepts are good candidates for transmitting as structured data if they exist in distinct fields within the ME/C CMS.

Additional data that the state/jurisdictional SUDORS teams likely want are:

- Death-investigation narrative notes
- Autopsy structured data and narrative(s)
- EMS "run sheets," especially fields indicating naloxone administered and/or other lifesaving procedures attempted; and witness interviews
- Hospital emergency department (ED) toxicology test results

As with ME/C data for NVDRS, including toxicology data for SUDORS is a very high priority. Reviewing details of SUDORS data elements (Data Dictionary) will inform future development of the MDI FHIR IG. The current import feature from ME/Cs may include only the toxicology summary and conclusions, whereas electronic exchange of data on presence and levels of individual substances will be valuable and reduce data re-entry workload.

Reviewing both a sample ME/C report and a state-to-SUDORS submission form will be useful in help determining priorities for additional FHIR resources.

The MDI FHIR IG should include guidance to implementers about creating an output format that aligns with the submission form/flat-file structures and expected fields.

[90] CDC, SUDORS Fact Sheet https://www.cdc.gov/drugoverdose/od2a/pdf/SUDORS-Fact-Sheet.pdf

4.2.4.3 Technical Details, Barriers, Opportunities

Collaborating with those state/jurisdiction SUDORS teams that use an import feature for ME/Cs to submit data may provide an opportunity both for pinpointing high-priority structured data elements coming from ME/Cs and for providing guidance to CMS vendors on transform tools needed.

Most state/jurisdictional SUDORS teams are housed in a state's department of health, but there are a few exceptions where some academic organizations are partnering with the state health department. These might provide additional opportunities for collaboration on system-wide technology improvements.

4.2.4.4 Recommendations and Next Steps

Recommendations to the MDI community: ME/C offices may wish to identify the subset of SUDORS Data Dictionary fields that typically come from ME/Cs to state SUDORS teams

Next steps for the MDI FHIR IG project:

- Map the SUDORS subset identified by the MDI community to current MDI FHIR IG resources and identify new FHIR resources to develop

5 Summary of MDI FHIR IG Update Recommendation

This document contains recommendations that NCHS may wish to bring to the MDI community, which includes death investigators (such as medical examiners and coroners), CMS developers and implementers, and government agencies with an interest in dataflow modernization, such as the CDC Collaborating Office of Medical Examiners and Coroners (COMEC). This document also contains next steps for the MDI FHIR IG project. All are collected and summarized here.

Recommendations for NCHS to Bring to the MDI Community

1. **Demographics: Sex and Gender & Race and Ethnicity**
    a. Provide fields in CMS (drop-down or picklists rather than free-text) for recording multiple sex and gender concepts (e.g., gender identity)
    b. Include fields to document the information source(s) or method of determination when using sex- and gender-concepts fields
    c. Summarize guidance currently provided by MDI agencies, CMS, and federal rules on documenting sex and gender concepts; develop additional best-practices guidance based on the work of HL7 projects such as SDOH
    d. Follow federal guidelines and provide fields in CMS (drop-down or picklists rather than free-text) using CDCREC codes to create subsets relevant to local needs
    e. Include fields to document the information source(s) of race and ethnicity information
    f. Summarize guidance currently provided by MDI agencies, CMS, and federal rules on documenting race/ethnicity concepts; develop additional best-practices guidance based on the work of HL7 projects such as SDOH
2. **Forensic Toxicology Laboratory Information Management System (LIMS)**
    a. Collaborate with forensic laboratory software vendors that either have systems that can receive FHIR message bundles or have translation tools for those systems
3. **Emergency Medical Services (EMS)**
    a. Collaborate with local EMS organizations; explore requirements and permissions needed to receive EMS/ambulance run sheets
4. **Organ/Tissue Procurement**
    a. Collaborate with OPOs to explore requirements, permissions, and technical details for bi-directional exchange of organ and tissue forensic-toxicology data and of electronic permission and sign-off, as well as requirements for triggers
5. **Child-Death Review Teams**
    a. Explore requirements for adding triggers/decision to notification of downstream recipients
    b. Explore export format that conforms to the flat file for CDR
6. **NVDRS**
    a. Prioritize data topics in Table 8 for which ME/Cs may be a source and have no corresponding MDI FHIR IG resource
    b. Identify states that use the bulk-data upload system
    c. Identify states where the review program is embedded in the ME/C office
7. **SUDORS**
    a. Map the SUDORS subset identified by the MDI community to current MDI FHIR IG resources and identify new FHIR resources to develop

Next Steps for the MDI FHIR IG Project

1. **Demographics: Sex and Gender & Race and Ethnicity**
    a. Collaborate with the VRDR and VRCPL projects on when to update to new versions of the US Core specification
    b. Assess the usefulness of adopting Observation profiles defined by US Core and the SDOH Clinical Care FHIR IGs for recording Gender Identity, Recorded Sex and Gender, Sexual Orientation, and Personal Pronouns
    c. Assess the usefulness of adopting Observation profiles defined by the SDOH Clinical Care FHIR IG for recording Race and Ethnicity
2. **Forensic Toxicology Laboratory Information Management System (LIMS)**
    a. Define a FHIR message bundle for a requisition form to be sent to a forensic toxicology lab
    b. Develop API guidance for sending requisitions to and receiving results from forensic toxicology LIMS
3. **Emergency Medical Services (EMS)**
    a. Reach out to PCC - Paramedicine Care Summary (PCS) FHIR authors to ask if MDI could be a use case and if the MDI community and CMS vendors may join testing efforts
    b. Develop a draft use case for a person declared dead on the scene by EMS, at which point a CMS receives a PCS, just as an EHR would if the person were alive and transferred to an emergency department
    c. Discuss with CMS vendors and NEMSIS the information flows, required permissions, and possible technical barriers to the transmission of PCS FHIR artifacts, particularly the Paramedicine Care Summary Composition Complete Report, from EMS to CMS
4. **Organ/Tissue Procurement**
    a. Develop optional MDI value sets (terminology) related to tissue referrals, such as for the checkboxes on the OPTN DDR form
    b. Determine the need for (and options for) bi-directional dataflows. Analytical data on removed organs may be important to send back to the ME/C
5. **Child-Death Review Teams**
    a. Explore the Indiana API as a model for future MDI FHIR IG development
    b. Assess the Codebook_Version6_102622.xlsx file for new MDI data elements or changes to current data elements
6. **NVDRS**
    a. Clarify terminology used by NVDRS to collect information on sex and gender, whether it includes terminology for transgendered persons, and whether reporting sex and/or gender beyond "male" or "female" is an option or requirement for reporting groups
    b. Clarify the information that is being received from toxicology, including substance list and details on substance levels for possible terminology reference in the MDI FHIR IG
    c. Develop new FHIR profiles for high-priority data topics in Table 8 for which ME/Cs may be a source and which have no corresponding MDI FHIR IG resource and map NVDRS data elements to FHIR resources
7. **SUDORS**

a. Map the SUDORS subset identified by the MDI community to current MDI FHIR IG resources and identify new FHIR resources to develop

6 Future MDI Topics and Development Strategy

The following topics and questions have been brought up in stakeholder calls and in the HL7 January 2022 Connectathon. They may be considered in future MDI FHIR IG work.

6.1 Autopsy-to-CMS Workflow

Like forensic toxicology, autopsy facilities are an important upstream source of information for MDI. Electronic data exchange from autopsy information systems to MDI CMS could allow those data to be shared further downstream to other users, such as NVDRS. The MDI FHIR IG project could define FHIR resources much like those already defined for the forensic-toxicology dataflow. Starting questions for this topic include:

- What data are expected in the exam-autopsy section of the Composition - MDI to EDRS being sent to the EDRS?
- Does the ME/C need additional data from the autopsy facility (i.e., data used but not included in the Composition - MDI to EDRS)?
- What are the dataflow steps between an autopsy facility and a CMS? (Does a service request from the CMS start the dataflow? What information does the autopsy facility receive from the CMS?)

Stakeholders are particularly interested in being able to share organ-weight information for infant deaths and drug overdoses. Autopsy facilities need common terminologies.

For the MDI FHIR IG project to move forward on this topic, it would need to find autopsy partners for discussions and identify an autopsy facility or autopsy information management system ready for FHIR. Georgia may be interested because the state has a central board of autopsies (the Georgia Board of Investigations) with some centralized reporting. Kansas could be another early partner because that state has both internal and external autopsy services.

6.2 Clinical Information from EHR or HIE to CMS

Stakeholders have noted that ME/Cs would benefit from receiving electronic data from electronic health record (EHR) systems and health information exchanges (HIEs) into the CMS. Once a CMS is FHIR-ready, there may be data-sharing permission issues to address. Starting questions for this topic include:

- What is the current dataflow?
- Can clinical documents (such as Continuity of Care Documents [CCDs]) be transformed into FHIR structures conformant to the MDI FHIR IG?
- Could ME/Cs query an EHR or HIE for specific fields so the CMS does not receive irrelevant information? Stakeholders mentioned that ME/Cs would like to view the full medical record and don't want to receive a version of the decedent's history assembled or summarized by someone else. The pertinent medical history for how to treat someone is different than identifying how they died.

ONC is focusing on Trusted Exchange Framework and Common Agreement (TEFCA), which has a roadmap that includes using FHIR and a goal of including public-health use cases. The MDI community can educate itself on opportunities coming from the ONC work.

6.3 MDI Narrative Search and Exchange

ME/Cs produce important data in narrative form. CMS users may be able to tag electronic narratives by topic on creation for querying by key words and phrases. It is common to use a FHIR

RESTful API to query and retrieve data elements or tagged narratives between systems, but this requires the appropriate agreements and permissions between the systems. The first step is the appropriate tagging of narrative blocks.

6.4 Location/Scene

Stakeholders have noted that ME/Cs would benefit from standardizing location and scene information, such as:

- Having the option to use any or all of the following fields for location:
  - Address
  - Latitude/longitude or other geolocation measures
  - Place description
  - Date/time
- Having common location-type codes for MDI, such as:
  - Last-seen-alive location
  - Injury location
  - Apparent death location
  - Body-found location

6.5 API and Server Interactions

Stakeholders have noted that CMS implementers would benefit from real-world functionality, such as:

- Location-based searching
- Soundex and similar algorithms for names

7 Acronyms and Abbreviations

ABFT	American Board of Forensic Toxicology
CDC	Centers for Disease Control and Prevention
CDCREC	CDC Race and Ethnicity Code
CDR	child death review
CLIA	Clinical Laboratory Improvement Amendments
CME	coroner/medical examiner
CMS	case management system
CPS	child protective services
CTS	Center for Technology Solutions
DDR	deceased donor registration
DNR	death notification registration
DOP	Division of Overdose Prevention, NCIPC
DUA	data-use agreement
DVP	Division of Violence Prevention, NCIPC
EDRS	electronic death reporting systems
EHR	electronic health record
EMS	Emergency Medical Services
FHIR	Fast Healthcare Interoperability Resources
FIMR	Fetal and Infant Mortality Review
HIE	health information exchange
IHE	Integrating the Healthcare Enterprise
LIMS	laboratory information management system
MDI	Medicolegal Death Investigation
ME/C	medical examiner/coroner
MPHI	Michigan Public Health Institute
NAME	National Association of Medical Examiners
NCFRP	National Center for Fatality Review and Prevention
NCHS	National Center for Health Statistics
NCIPC	National Center for Injury Prevention and Control
NEDS	New England Donor Services
NEMSIS	National Emergency Medical Services Information System

NEOB	New England Organ Bank
NFLIS	National Forensic Laboratory Information System
NFR-CRS	National Fatality Review Case Reporting System
NVDRS	National Violent Death Reporting System
OD	overdose
ONC	Office of the National Coordinator for Health Information Technology
OPO	organ procurement organization
OPTN	Organ Procurement and Transplantation Network
SDO	standards development organization
SDOH	Social Determinants of Health
SDY	Sudden Death in the Young
SIDS	Sudden Infant Death Syndrome
SRTR	Scientific Registry of Transplant Recipients
SUDORS	State Unintentional Drug Overdose Reporting System
SUID	Sudden Unexpected Infant Death
VRCPL	Vital Records Common Profile Library
VRDR	Vital Records Death Reporting

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9 Discussion Participants

Forensic Toxicology Laboratory Information System: Lantana hosted a call on 3/6/2023 with CDC and NMS laboratory-data experts to discuss forensic-toxicology data needs from MDI or autopsy facility to toxicology lab, and toxicology LIMS returning results to the MDI office.

- NCHS, CDC
  - Kate Brett, Collaborating Office for Medical Examiners and Coroners
  - Cynthia Bush, Classifications and Public Health Data Standards
- NMS Labs
  - Eric Mullen, EDI Administrator
  - Deirdre O'Neill, Director of Laboratory Informatics
  - Michael Losacco, IT System Support Manager
  - David Delia, Chief Financial Officer
- Lantana Consulting Group
  - Diana Wright, Data Standards Technical Editor
  - Kris Done, Clinical Analyst
  - Joanna Chan, Project Manager

Organ/Tissue Procurement: CDC hosted a call on 3/8/2023 with Lantana and NEDS data experts on organ- and tissue-donation data needs from medical examiner and coroners.

- NCHS, CDC
  - Kate Brett, Collaborating Office for Medical Examiners and Coroners
  - Margaret Warner, Collaborating Office for Medical Examiners and Coroners
  - Cindy Bush, Classifications and Public Health Data Standards
- NEDS organ (and tissue) procurement organization subject-matter experts
  - Alexandra Glazier, President & CEO
  - Mathew Moss, Sr. Vice President & CIO
  - Mark DeFilippis, Vice President, Tissue Operations
  - Sean M. Fitzpatrick, Chief Public Affairs Officer
  - Anthony Cannata, Medical Examiner & Funeral Home Liaison
- Lantana Consulting Group
  - Diana Wright, Data Standards Technical Editor
  - Kris Done, Clinical Analyst

Child-Death Review Teams: Lantana hosted a call on 12/8/2022 with CDC and MPHI data experts supporting child-death review teams and resources. The CDC funds the National Center for Surveillance project and uses the National Center's platform for their surveillance system, Sudden Death in the Young Case Registry.

- CDC, NCHS
  - Kate Brett, Collaborating Office for Medical Examiners and Coroners
  - Margaret Warner, Collaborating Office for Medical Examiners and Coroners
  - Erica Lancaster, Collaborating Office for Medical Examiners and Coroners
  - Cindy Bush, Classifications and Public Health Data Standards
- CDC, NCCDPHP
  - Carri Cottengim, Division of Reproductive Health
- MPHI, NCFRP
  - Abby Collier, Director of the National Center, NCFRP

    - Meghan Faulkner, Director of the SUID and Sudden Death in the Young Case Registry Data Coordinating Center
    - Heather Dykstra, Senior Data Analyst managing the National Fatality Review Case Reporting System
    - Esther Shaw, Senior Data Analyst, providing data support to Child Death Review teams and Fetal and Infant Mortality Review teams across the US
    - Gabrielle Fraley, CHES, Senior Data Analyst, working with the National Fatality Case Review System
    - Sasha Mintz, Senior Epidemiologist supporting users of the National Fatality Review-Case Reporting System and disseminating data using an equity lens.
- MPHI, CTS
    - Kerie Hughes, Director of Technical Services
    - Peter Jantos, Senior Software Developer for the Technology Solutions team
- Lantana Consulting Group
    - Diana Wright, Data Standards Technical Editor
    - Kris Done, Clinical Analyst
    - Christinna Robinson, Project Manager

NVDRS: Lantana hosted a call on 1/11/2023 with CDC staff from NCHS and from the National Center for Injury Prevention and Control, Division of Violence Prevention (NCIPC/DVP), which supports the NVDRS.

- NCHS
    - Kate Brett, Collaborating Office for Medical Examiners and Coroners
    - Margaret Warner, Collaborating Office for Medical Examiners and Coroners
    - Cynthia Bush, Classifications and Public Health Data Standards
- NCIPC/DVP — NVDRS data experts
    - Janet Blair, Mortality Surveillance Team
    - Katherine Fowler, Senior Scientist
    - Bridget Lyons, Epidemiologist
    - Kristin Holland, Branch Chief
    - Scott Van Heest, IT Specialist
    - Craig Bryant, IT Specialist
- Lantana Consulting Group
    - Diana Wright, Data Standards Technical Editor
    - Kris Done, Clinical Analyst

SUDORS: Lantana hosted a call on 1/30/2023 with CDC staff from NCHS and from the National Center for Injury Prevention and Control, Division of Overdose Prevention (NCIPC/DOP), which hosts SUDORS.

- NCHS
    - Kate Brett, Collaborating Office for Medical Examiners and Coroners
    - Margaret Warner, Collaborating Office for Medical Examiners and Coroners
    - Erica Lancaster, Collaborating Office for Medical Examiners and Coroners
    - Cynthia Bush, Classifications and Public Health Data Standards
- NCIPC/DOP—SUDORS data experts
    - Londell McGlone, Team Lead for the Overdose Data Management Team - SUDORS

    - Nicole Davis, Acting Branch Chief for the Epidemiology and Surveillance Branch
    - Christine Mattson, Acting Team Lead for the Overdose Mortality Team, SUDORS
- Lantana Consulting Group
    - Diana Wright, Data Standards Technical Editor
    - Kris Done, Clinical Analyst
    - Christinna Robinson, Project Manager

Appendix A - Data Elements Details

A.1 CDR

MPHI Flat-File Import Template Data Fields for CDR Report Form[91]

Field	Acceptable Values
Your State ID	**Required**: Enter your state, not the child's state of residence if different
Case Definition - Death Cert #	text to 255 chars or blank
Case Definition - Birth Cert #	text to 255 chars or blank
Case Definition - ME/Coroner #	text to 255 chars or blank
Section A – Child Information	
A1 - Child's First Name	**Required**: text to 255 chars
A1 - Child's Middle Name	text to 255 chars or blank
A1 - Child's Last Name	**Required**: text to 255 chars
A2 - Child's Date of Birth - month	integer 1 - 12 or blank
A2 - Child's Date of Birth - day	integer 1 - 31 or blank
A2 - Child's Date of Birth - year	integer values 1900-2050 or blank
A3 - Child's Date of Death - month	integer 1 - 12
A3 - Child's Date of Death - day	integer 1 - 31
A3 - Child's Date of Death - year	integer values 1900-2050
A4 - Child's Age	**Required**: values 0 - 365
A4 - Child's Age Category	**Required**: values 1=Yrs, 2= Mnths, 3=Days, 4=Hrs, 5=Min
A5 - Child's Race - Alaska Native	values 1=Y, 0=N, blank
A5 - Child's Race - Alaska Native - specify tribe	text up to 255 chars
A5 - Child's Race - American Indian	values 1=Y, 0=N, blank
A5 - Child's Race - American Indian - specify tribe	text up to 255 chars or blank
A5 - Child's Race - Asian	values 1=Y, 0=N, blank
A5 - Child's Race - Asian - specify	text up to 255 chars or blank

[91]NCFRP, CDR Report Form https://ncfrp.org/wp-content/uploads/CDR_CRS_v6-0.pdf

A5 - Child's Race - Black	values 1=Y, 0=N, blank
A5 - Child's Race - Native Hawaiian	values 1=Y, 0=N, blank
A5 - Child's Race - Pacific Islander	values 1=Y, 0=N, blank
A5 - Child's Race - Pacific Islander - specify	text up to 255 chars or blank
A5 - Child's Race - White	values 1=Y, 0=N, blank
A5 - Child's Race - Unknown	values 1=Y, 0=N, blank
A5 - Child's Race - Multi-racial	values 1=Y, 0=N, blank
A6 - Was Child Hispanic or Latino/a	values 1=Y, 2=N, 9=Unk, 0 or blank
A7 - Child's Sex	values 1=M, 2=F, 9=Unk, 0 or blank if unknown
A8 - Child's Address Street	text up to 255 chars or blank
A8 - Child's Address Apt	text up to 255 chars or blank
A8 - Child's Address City	text up to 255 chars or blank
A8 - Child's County of Residence	values see codebook for integer values or blank
A8 - Child's State of Residence	text, 2 char postal abbreviation, OC = Out of Country, or blank
A8 - Child's Zip code	text up to 15 chars or blank
A11 - State of Death	text, 2 char postal abbreviation, OC = Out of Country, or blank
A12 - County of Death	values see codebook for integer values or blank
A27 - Education of Child only CDR non-infants	values in codebook: 1=N/A, 2=None, etc or blank
A44 - Gestational Age in weeks	values 0 - 50 or blank: this field is only for infants
A45 - Birth weight in grams	integer: can be blank; this field is only for infants
A46 - Was this a multiple gestation pregnancy?	values 1=Y, 2=N, 9=Unk, 0 or blank; infant only field
A46 - If multiple gestation pregnancy, total number fetuses in pregnancy including the deceased infant?	Integer: can be blank; this field is only for infants
A49 - Not including the deceased infant, the number of children the childbearing parent still has living.	Integer: can be blank; infant only field
A50 - Prenatal care provided to childbearing parent?	values 1=Y, 2=N, 9=Unk, 0 or blank; infant only field
A50 - If yes, number of prenatal care visits kept	values 1-50 or blank: infant only field
A50 - If yes, month first visit kept	values from codebook 1st-9th month, 99=Unk or blank: infant only field
A52/94 - Childbearing parent had medical complications - chorioamnionitis?	values 1=Y,0=N or blank, infant only field
A52/94 - Childbearing parent had medical complications - Gestational Diabetes?	values 1=Y,0=N or blank, infant only field
A52/94 - Childbearing parent had medical complications - Eclampsia?	values 1=Y,0=N or blank, infant only field

A52/94 - Childbearing parent had medical complications - Herpes?	values 1=Y,0=N or blank, infant only field
A52/94 - Childbearing parent had medical complications - Gestational Hypertension?	values 1=Y,0=N or blank, infant only field
A52/94 - Childbearing parent had medical complications - PROM?	values 1=Y,0=N or blank, infant only field
A61 - In 3 months before pregnancy - # cigarettes/day	values integer or blank; infant only field
A62 - Smoke during pregnancy - # cigarettes/day - trimester 1	values integer or blank; infant only field
A62 - Smoke during pregnancy - # cigarettes/day - trimester 2	values integer or blank; infant only field
A62 - Smoke during pregnancy - # cigarettes/day - trimester 3	values integer or blank; infant only field
A66 - Infant ever breastfed?	values 1=Y, 2=N, 9=Unk or blank; infant only field
Section E – Incident Information	
E1 - Date of incident - month	integer 1 - 12 or blank
E1 - Date of incident - day	integer 1 - 31 or blank
E1 - Date of incident - year	integer values 1900-2050 or blank
E2 - Approximate Time of day that the incident occurred	values 1 - 12, round to nearest hour, use with AM/PM field (12 PM is noon, 12 AM is midnight); can leave blank
E2 - Time of incident: AM or PM	values 1=AM, 2=PM, use with Time of Day field; can leave blank
E2 - Time of incident: AM or PM	values 1=AM, 2=PM, use with Time of Day field; can leave blank
E5 - Incident state	text, 2 char postal abbrev, OC = Out of Country, or blank
E6 - Incident county	values from codebook, integer or blank
Section F – Investigation Information	
F5 - Was an Autopsy performed	Values 1=Y, 2=N, 9=U or blank
F8 - Was a Tox screen positive for Alcohol	Values 1=Y, 0=N or blank
F8 - Was a Tox screen positive for Cocaine	Values 1=Y, 0=N or blank
F8 - Was a Tox screen positive for Marijuana	Values 1=Y, 0=N or blank
F8 - Was a Tox screen positive for Opioids	Values 1=Y, 0=N or blank
Section G – Official Manner and Cause of Death	
G1 - Cause of Death Code	ICD-10 code
G2 - Immediate cause	text less than 255 chars or blank
G2 - Cond 1	text less than 255 chars or blank
G2- Cond 2	text less than 255 chars or blank
G2 - Cond 3	text less than 255 chars or blank
G3 - Other Cond	text less than 255 chars or blank
G4 - If injury, how injury occurred	text less than 255 chars or blank

G5 - Manner of Death	from codebook: 1=Nat, 2=Acc, 3=Suic, 4=Hom, 5=Undet, 6=Pending, 9=Unk or blank

A.2 OPO: OPTN Data Elements in DDR Worksheet

Source: UNOS Data Collection and DDR Worksheet https://unos.org/data/data-collection/ and https://unos.org/wp-content/uploads/DDR.pdf

Relevant Data Elements from OPTN Deceased Donor Registration Worksheet

Patient Demographics	Name	Last First MI
	DOB	(date)
	Age	Months or Years
	Gender	Male Female
	Residence	Home city State Zip code
	Ethnicity/Race	**American Indian or Alaska Native** American Indian Eskimo Aleutian Alaska Indian American Indian or Alaska Native: Other American Indian or Alaska Native: Not Specified **Asian** Asian Indian/Indian Sub-Continent Chinese Filipino Japanese Korean Vietnamese Asia: Other Asia: Not Specified/Unknown **Black or African American**

		African American African (Continental) West Indian Haitian Black or African American: Other Black or African American: Not Specified/Unknown **Hispanic/Latino** Mexican Puerto Rican (Mainland) Puerto Rican (Island) Cuban Hispanic/Latino: Other Hispanic/Latino: Not Specified/Unknown **Native Hawaiian or Other Pacific Islander** Native Hawaiian Guamanian or Chamorro Native Hawaiian or Other Pacific Islander: Other Native Hawaiian or Other Pacific Islander: Not Specified/Unknown **White** European Descent Arab or Middle Eastern North African (non-Black) White: Other White: Not Specified/Unknown
	Citizenship	US Citizen Non-US Citizen/ US Resident Non-US Citizen/Non-US Resident Unknown
	Home Country	(text)
Cause of Death		Anoxia Cerebrovascular/Stroke Head Trauma CNS Tumor Other Specify (text)
Mechanism of Death		Drowning Seizure Drug Intoxication

		Asphyxiation Cardiovascular Electrical Gunshot Wound Stab Blunt Injury SIDS Intracranial Hemorrhage/Stroke Death From Natural Causes None of the Above
Circumstance of Death		MVA Suicide Homicide Child-Abuse Accident, Non-MVA Death From Natural Causes None of the Above
Medical Examiner/Coroner		No Yes, Medical Examiner Consented Yes, Medical Examiner Refused Consent Unknown
Clinical Information	Height Weight	(feet/inches or centimeters) (pounds or kilograms)

A.3 OPO: NEDS V2 Message

The following table contains information drawn from the New England Donor Services (NEDS) document, Automated Donor Referrals: Trigger Event Specification (Version: 1.7)

Detailed Field/Segment Information for NEDS Donor Referrals V2 Message

Item	Name	Data Type	Required	Required by NEDS	Notes
	MSH - Message Header segment				
MSH-1	FieldSeparator	ST	Yes		

MSH-2	EncodingCharacters	ST	Yes		
MSH-3	SendingApplication	HD	No		
MSH-4	SendingFacility	HD	No		Donor Hospital Name – Same as ZDR-1
MSH-5	ReceivingApplication	HD	No		If sending, populate with "UNOS"
MSH-6	ReceivingFacility	HD	No		
MSH-7	DateTimeOfMessage	TS	Yes		Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]
MSH-8	Security	ST	No		
MSH-9	MessageType	MSG	Yes		ADT^TriggerEvent. Trigger Event determined by facility.
MSH-10	MessageControlID	ST	Yes		Unique identifier for each transaction.
MSH-11	ProcessingID	PT	Yes		
MSH-12	VersionID	VID	Yes		
MSH-13	SequenceNumber	NM	No		
MSH-14	ContinuationPointer	ST	No		
MSH-15	AcceptAcknowledgmentType	ID	No		
MSH-16	ApplicationAcknowledgmentType	ID	No		
MSH-17	CountryCode	ID	No		
MSH-18	CharacterSet	ID	No		
MSH-19	PrincipalLanguageOfMessage	CE	No		
MSH-20	AlternateCharacterSetHandlingScheme	ID	No		
MSH-21	MessageProfileIdentifier	EI	No		
	EVN - Event Type segment				
EVN-1	EventTypeCode	ID	No		Trigger Event will be unique for each organization
EVN-2	RecordedDateTime	TS	Yes		
EVN-3	DateTimePlannedEvent	TS	No		
EVN-4	EventReasonCode	IS	No		
EVN-5	OperatorID	XCN	No		

EVN-6	EventOccurred	TS	No		
EVN-7	EventFacility	HD	No		
	PID - Patient Identification segment				
PID-1	SetID	SI	No		
PID-2	PatientID	CX	No		
PID-3	PatientIdentifierList	CX	Yes	MRN	CX Composite Structure - <ID number (ST)> ^ <check digit (ST)> ^ <check digit scheme (ID)> ^ <assigning authority (HD)> ^ <identifier type code (ID)> ^ < assigning facility (HD)> ^<Effective Date (DT)> ^<Expiration Date (DT)> ^<Assigning Jurisdiction (CWE)> ^<Assigning Agency or Department (CWE)>
PID-4	AlternatePatientID	CX	No		
PID-5	PatientName	XPN	Yes	"Last Name	
First Name"	XPN Composite Structure: <family name > ^ <given name (ST)> ^ <second and further given names or initials thereof (ST)> ^ <suffix (ST)> ^ <prefix (ST)> ^ <professional suffix>				
PID-6	MothersMaidenName	XPN	No		
PID-7	DateTimeOfBirth	TS	Yes	DOB	
PID-8	Gender	IS	Yes	Gender	
PID-9	PatientAlias	XPN	No		
PID-10	Race	CE	Yes	Race/Ethnicity	
PID-11	PatientAddress	XAD	Yes	Patient home Zip code	XAD Composite Structure: <street address (SAD)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)> ^ <county/parish code (IS)> ^ <census tract (IS)> ^ <address representation code (ID)> ^ <address

					validity range (DR)> ^ <effective date (TS)> ^ <expiration date (TS)>
PID-12	CountyCode	IS	No		
PID-13	HomePhoneNumber	XTN	No		
PID-14	BusinessPhoneNumber	XTN	No		
PID-15	PrimaryLanguage	CE	No		
PID-16	MaritalStatus	CE	No		
PID-17	Religion	CE	No		
PID-18	PatientAccountNumber	CX	No		
PID-19	SSNNumberPatient	ST	No		
PID-20	DriversLicenseNumberPatient	DLN	No		
PID-21	MothersIdentifier	CX	No		
PID-22	EthnicGroup	CE	Yes		
PID-23	BirthPlace	ST	No		
PID-24	MultipleBirthIndicator	ID	No		
PID-25	BirthOrder	NM	No		
PID-26	Citizenship	CE	No		
PID-27	VeteransMilitaryStatus	CE	No		
PID-28	Nationality	CE	No		
PID-29	PatientDeathDateAndTime	TS	Yes	Date/Time of Death	If this cannot be sent in the PID segment, it can be sent in ZDR 13.
PID-30	PatientDeathIndicator	ID	No		
PID-31	IdentityUnknownIndicator	ID	No		
PID-32	IdentityReliabilityCode	IS	No		
PID-33	LastUpdateDateTime	TS	No		
PID-34	LastUpdateFacility	HD	No		
PID-35	SpeciesCode	CE	No		
PID-36	BreedCode	CE	No		
PID-37	Strain	ST	No		
PID-38	ProductionClassCode	CE	No		

PID-39	TribalCitizenship	CWE	No		
	PIV - Patient Visit segment				
PV1-1	SetID	SI	No		
PV1-2	PatientClass	IS	No		
PV1-3	AssignedPatientLocation	PL	Yes	Hospital Unit	PL Composite: <Point of Care (hospital Unite)>^<Patient Room>
PV1-4	AdmissionType	IS	No		
PV1-5	PreadmitNumber	CX	No		
PV1-6	PriorPatientLocation	PL	No		
PV1-7	AttendingDoctor	XCN	No		
PV1-8	ReferringDoctor	XCN	No		
PV1-9	ConsultingDoctor	XCN	Optional		UPIN^LastName^FirstName^MI If multiple, repeat with a "~".
PV1-10	HospitalService	IS	No		
PV1-11	TemporaryLocation	PL	No		
PV1-12	PreadmitTestIndicator	IS	No		
PV1-13	ReAdmissionIndicator	IS	No		
PV1-14	AdmitSource	IS	No		
PV1-15	AmbulatoryStatus	IS	No		
PV1-16	VIPIndicator	IS	No		
PV1-17	AdmittingDoctor	XCN	No		
PV1-18	PatientType	IS	No		
PV1-19	VisitNumber	CX	No		
PV1-20	FinancialClass	FC	No		
PV1-21	ChargePriceIndicator	IS	No		
PV1-22	CourtesyCode	IS	No		
PV1-23	CreditRating	IS	No		
PV1-24	ContractCode	IS	No		
PV1-25	ContractEffectiveDate	DT	No		
PV1-26	ContractAmount	NM	No		

PV1-27	ContractPeriod	NM	No		
PV1-28	InterestCode	IS	No		
PV1-29	TransferToBadDebtCode	IS	No		
PV1-30	TransferToBadDebtDate	DT	No		
PV1-31	BadDebtAgencyCode	IS	No		
PV1-32	BadDebtTransferAmount	NM	No		
PV1-33	BadDebtRecoveryAmount	NM	No		
PV1-34	DeleteAccountIndicator	IS	No		
PV1-35	DeleteAccountDate	DT	No		
PV1-36	DischargeDisposition	IS	No		
PV1-37	DischargedToLocation	DLD	No		
PV1-38	DietType	CE	No		
PV1-39	ServicingFacility	IS	No		
PV1-40	BedStatus	IS	No		
PV1-41	AccountStatus	IS	No		
PV1-42	PendingLocation	PL	No		
PV1-43	PriorTemporaryLocation	PL	No		
PV1-44	AdmitDateTime	TS	Yes	Admission Date	
PV1-45	DischargeDateTime	TS	No		
PV1-46	CurrentPatientBalance	NM	No		
PV1-47	TotalCharges	NM	No		
PV1-48	TotalAdjustments	NM	No		
PV1-49	TotalPayments	NM	No		
PV1-50	AlternateVisitID	CX	No		
PV1-51	VisitIndicator	IS	No		
PV1-52	OtherHealthcareProvider	XCN	No		
	ZDR - Additional Donor Data segment				

ZDR-1	DonorHospitalName	String	Yes	Donor Hospital Name	
ZDR-2	DonorHospitalAddress	XAD	Yes	Donor Hospital Address	XAD Composite Structure: <street address (SAD)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)> ^ <county/parish code (IS)> ^ <census tract (IS)> ^ <address representation code (ID)> ^ <address validity range (DR)> ^ <effective date (TS)> ^ <expiration date (TS)>
ZDR-3	CMS ProviderNumber	String	Yes	CMS Provider Number	
ZDR-4	DonorHospitalContactPhone	String	Yes	Donor Hospital Contact Phone Number	Pull user name entering the OPO Referral
ZDR-5	HospitalReferralContactName	XPN	Yes	Hospital Referral Contact First, Last, Title	XPN Composite Structure: <family name > ^ <given name (ST)> ^ <second and further given names or initials thereof (ST)> ^ <suffix (ST)> ^ <prefix (ST)> ^ <professional suffix>
ZDR-6	AdmittingDiagnosis	CE	No	Admitting Diagnosis codes	"CE Composite Structure: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> If no structured data is available, free text can be sent in ZDR 6.1."
ZDR-7	Weight	CQ	No	Most recent Weight & weight unit	CQ Composite: <Value (NM)>^<Units>

ZDR-8	DeathIndicator	String	No		This could be a Boolean "Y/N"
ZDR-9	BloodPressure	String	No	Blood Pressure	This could stream based on pre-determined intervals
ZDR-10	HeartRate	String	No	Heart Rate	This could stream based on pre-determined intervals
ZDR-11	DateTimeOfExtubation	DTM	No	Date/Time of Extubation	Format: YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]
ZDR-12	CauseOfDeath	String	No	Cause of Death	CE Composite Structure: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> Note: Repeating. The entire problem list can be sent as repeating elements.
ZDR-13	Problem List	String	No	Problem List (~ delimited list of ICD10 code)	Tilda delimited list of the patients' problem list (ICD10 codes).
ZDR-14	VentilatorStatus	String	No	Patient on a ventilator? Y/n	This could be a Boolean "Y/N"
ZDR-15	Cancer (at admission)	String	No		Coded response^text description^comment. If multiple, then make them a set and then repeat the set with a "~" delimiter.
	OBX - Observation segment				
OBX-1	Set ID	SI	Yes		
OBX-2	Value Type	ID	Yes		ST, DT, or TM – representing the value being sent in OBX5
OBX-3	Observation Identifier	String	Yes		Identifies the type of data being shared in OBX3 (See below)
OBX-4	Observation Sub-ID	ST	No		
OBX-5	Observation Value	Varies	Yes		If datatype is date (DT), format should be YYYYMMDD

					If datatype is time (TM), format should be HHMMSS

A.4 NVDRS

Sources for Data Topics in NVDRS[92]

Data Topic	DC	C/ME	LE	CFR	LAB	USER	HOSP
Case status						x	
Incident narrative		x	x	x			
Document tracking						x	
Person type	x	x	x				
Zip code, county	x	x	x				
Age/sex/race/ethnicity	x	x	x				
When and where (injury/death)	x	x	x				
Type of medical treatment (inpatient or emergency department)							x
Cause of death ICD-10 code(s)	x						
External injury ICD-9-CM code(s)							x
Manner of death	x	x		x		x	x
Additional person descriptors	x	x	x	x			
Alcohol and drug tests		x					
Wounds		x	x				
Circumstances		x	x				
Victim-suspect relationship		x	x				
History of victim abuse		x	x				
Suspect was victim caretaker		x	x				
Weapon type	x	x	x			x	
Firearm descriptors		x	x		x		
Poison details		x	x				

[92] CDC, NVDRS Web Coding Manual Version 6.0, https://www.cdc.gov/violenceprevention/pdf/nvdrs/nvdrsCodingManual.pdf (18-19)

DC=death certificate; C/ME=coroner/medical examiner; LE=law enforcement report; CFR=child fatality review; LAB=crime lab; USER=user of NVDRS software/abstractor(s); HOSP=hospital

A.5 SUDORS

Source: SUDORS_Data_Dictionary_System variables.xlsx, provided by CDC/DDNID/NCIPC/DOP, 2/27/2023.

Notes: IPV (intimate partner violence); SAV (school-associated violent death)

SUDORS Data Dictionary Details

Field_Name	Section	SUDORS_Tab	Label	Type
AbstractorName	Incident	Incident Overview	Abstractor Name	Char
Age	Victim	Demographics	Age	Num
AgeUnit	Victim	Demographics	Age unit	Num
AgeUnitLabel	Victim	Demographics	Type of unit (e.g., years, hours) used to report age	Char
AlcoholLevel	Victim	Toxicology	Blood alcohol level	Num
AlcoholResult	Victim	Toxicology	Alcohol test result	Num
AlcoholResultLabel	Victim	Toxicology	Alcohol results summary	Char
AlcoholTested	Victim	Toxicology	Tested for alcohol	Num
AlcoholTestedLabel	Victim	Toxicology	Tested for alcohol	Char
AlcoholUseSuspected	Victim	Injury and Death	Alcohol use suspected when injured	Num
AlcoholUseSuspectedLabel	Victim	Injury and Death	Victim suspected of alcohol use in the hours preceding the incident	Char
AmphetamineResult	Victim	Toxicology	Amphetamines test result	Num
AmphetamineResultLabel	Victim	Toxicology	Amphetamines results summary	Char
AmphetamineTested	Victim	Toxicology	Tested for amphetamines	Num
AmphetamineTestedLabel	Victim	Toxicology	Tested for amphetamines	Char
AnticonvulsantsResult	Victim	Toxicology	Anticonvulsants test result	Num
AnticonvulsantsResultLabel	Victim	Toxicology	Anticonvulsants results summary	Char
AnticonvulsantsTested	Victim	Toxicology	Tested for Anticonvulsants	Num
AnticonvulsantsTestedLabel	Victim	Toxicology	Tested for anticonvulsants	Char
AntiDepressantResult	Victim	Toxicology	Antidepressants test result	Num
AntiDepressantResultLabel	Victim	Toxicology	Antidepressants result summary	Char
AntiDepressantTested	Victim	Toxicology	Tested for antidepressants	Num

AntiDepressantTestedLabel	Victim	Toxicology	Tested for antidepressants	Char
AntipsychoticResult	Victim	Toxicology	Antipsychotics test result	Num
AntipsychoticResultLabel	Victim	Toxicology	Antipsychotics results summary	Char
AntipsychoticTested	Victim	Toxicology	Tested for antipsychotics	Num
AntipsychoticTestedLabel	Victim	Toxicology	Tested for antipsychotics	Char
AutopsyPerformed	Victim	Injury and Death	Autopsy performed on the person	Num
AutopsyPerformedLabel	Victim	Injury and Death	Autopsy performed on the person	Char
BarbituratesResult	Victim	Toxicology	Barbiturates test result	Num
BarbituratesResultLabel	Victim	Toxicology	Barbiturates results summary	Char
BarbituratesTested	Victim	Toxicology	Tested for barbiturates	Num
BarbituratesTestedLabel	Victim	Toxicology	Tested for barbiturates	Char
BenzodiazepinesResult	Victim	Toxicology	Benzodiazepines test result	Num
BenzodiazepinesResultLabel	Victim	Toxicology	Benzodiazepines results summary	Char
BenzodiazepinesTested	Victim	Toxicology	Tested for Benzodiazepines	Num
BenzodiazepinesTestedLabel	Victim	Toxicology	Tested for benzodiazepines	Char
BirthCountryOther	Victim	Demographics	Birth country, if other - free text box	Char
BirthDayOfMonth	Victim	Demographics	Day of birth	Num
BirthPlace	Victim	Demographics	Birth state, territory or country	Num
BirthPlaceLabel	Victim	Demographics	Birth state, territory, or country	Char
BodyPosition	OD	OD	Body position consistent with rapid overdose	Char
Bystander911	OD		Call 911	Char
BystanderBreathing	OD	OD	Bystander response: Rescue breathing	Char
BystanderCPR	OD	OD	Bystander response: CPR	Char
BystanderFamily	OD	OD	Type of bystander present: Other family	Char
BystanderFriend	OD	OD	Type of bystander present: Friend	Char
BystanderIntOther	OD	OD	Bystander response: Other- Specify:	Char
BystanderIntOther_specify	OD	OD	Bystander response: Other- Specify Description	Char
BystanderMedical	OD	OD	Type of bystander present: Medical professional	Char
BystanderNoInt	OD		No response	Char
BystanderNoOD	OD	OD	Reason for delayed or no bystander response: Reported abnormalities but did not recognize as overdose	Char
BystanderNotRecognize	OD	OD	Reason for delayed or no bystander response: Did not recognize any abnormalities	Char

BystanderOther	OD	OD	Type of bystander present: Other- Specify:	Char
BystanderOther_specify	OD	OD	Type of bystander present: Other- Specify Description	Char
BystanderPartner	OD	OD	Type of bystander present: Intimate partner	Char
BystanderPublic	OD	OD	Reason for delayed or no bystander response: Public space and strangers didn't intervene	Char
BystanderReasonOther	OD	OD	Other reason for delayed or no bystander response	Char
BystanderReasonOther_specify	OD	OD	Other reason for delayed or no bystander response - specify description	Char
BystanderRoommate	OD	OD	Type of bystander present: Roommate	Char
BystanderSeparated	OD	OD	Reason for delayed or no bystander response: Spatially separated (i.e., different room)	Char
BystandersPresent	OD	OD	Bystanders present at time of overdose	Num
BystandersPresentDescription	OD	OD	Bystanders present at time of overdose, description	Char
BystanderSternal	OD	OD	Bystander response: Sternal rub	Char
BystanderStim	OD	OD	Bystander response: Stimulation	Char
BystanderStranger	OD	OD	Type of bystander present: Stranger	Char
BystanderUnaware	OD	OD	Reason for delayed or no bystander response: Unaware that decedent was using	Char
BystanderUser	OD	OD	Type of bystander present: Person using drugs	Char
BystanderUsing	OD	OD	Reason for delayed or no bystander response: Bystander using and impaired	Char
CarbonMonoxideResult	Victim	Toxicology	Carbon monoxide test result	Num
CarbonMonoxideResultLabel	Victim	Toxicology	Carbon monoxide results summary	Char
CarbonMonoxideSource	Victim	Toxicology	Carbon monoxide Source	Num
CarbonMonoxideSourceLabel	Victim	Toxicology	Source of carbon monoxide	Char
CarbonMonoxideTested	Victim	Toxicology	Tested for carbon monoxide	Num
CarbonMonoxideTestedLabel	Victim	Toxicology	Tested for carbon monoxide	Char
CaseClassification	OD	OD	System generated SUDORS case classification based on several abstracted fields	Char
CensusBlock	Victim	Injury and Death	US Census block group where injury occurred	Num
CensusTract	Victim	Injury and Death	US Census tract where injury occurred	Char

CFR_ActionTakenChange OfficialManner	Victim		CFR: Action Taken Change Official Manner	Num
CFR_ActionTakenChange OfficialMannerLabel	Victim		CFR: Action Taken Change Official Manner Label	Char
CFR_AdditonalInformation	Victim		CFR: Additonal Information	Char
CFR_AgeAtIncident1	Victim		Age of (1st) caregiver at the time of the incident	Num
CFR_AgeAtIncident2	Victim		Age of (2nd) caregiver at the time of the incident	Num
CFR_AlcoholProblem	Victim		CFR: Victim had alcohol dependence or alcohol problem	Char
CFR_Argument	Victim		CFR: Argument over Money or Property	Char
CFR_ArgumentOther	Victim		CFR: Other Argument	Char
CFR_BarriersAccessMental HealthCare1	Victim		CFR: Barriers Access Mental Health Care	Char
CFR_Brawl	Victim		CFR: Brawl (mutual physical fight)	Char
CFR_BulletRicochet	Victim		CFR: Bullet Ricochet	Char
CFR_Bystander	Victim		CFR: Innocent Bystander	Char
CFR_CaregiverFinancialAssistance2	Victim		CFR: Caregiver Financial Assistance	Char
CFR_CaregiverId1	Victim		First (1st) Caregivers Person ID in the incident	Num
CFR_CaregiverId2	Victim		Second (2nd) Caregivers Person ID in the incident	Num
CFR_CaregiverVictimOrSuspect1	Victim		CFR: Caregiver Victim or Suspect 1	Num
CFR_CaregiverVictimOrSuspect1Label	Victim		CFR: Caregiver Victim or Suspect 1	Char
CFR_CaregiverVictimOrSuspect2	Victim		CFR: Caregiver Victim or Suspect 2	Num
CFR_CaregiverVictimOrSuspect2Label	Victim		CFR: Caregiver Victim or Suspect 2	Char
CFR_CelebratoryFiring	Victim		CFR: Celebratory Firing	Char
CFR_CFRConclusionMatchedDC	Victim		Did the CFR designation of the childs manner of death match the death certificate manner?	Num
CFR_CFRConclusionMatchedDCLabel	Victim		Did the CFR designation of the childs manner of death match the death certificate manner?	Char
CFR_CFRDesignated	Victim		Manner of death designated by the CFR	Num
CFR_CFRDesignatedLabel	Victim		Manner of death designated by the CFR	Char

CFR_CFRRecordsAvailable	Victim		Describes whether Child Fatality Review (CFR) records are available for this victim	Num
CFR_CFRRecordsAvailableLabel	Victim		Describes whether Child Fatality Review (CFR) records are available for this victim	Char
CFR_ChildWitness	Victim		Were there any child witnesses to the incident?	Num
CFR_ChildWitnessLabel	Victim		Were there any child witnesses to the incident?	Char
CFR_CircumstancesKnown	Victim		CFR: Circumstances Known	Char
CFR_CircumstancesOther	Victim		CFR: Other Homicide Circumstances	Char
CFR_CircumstancesOtherText	Victim		CFR: Other circumstances text	Char
CFR_CPSCaseOpened	Victim		A CPS case was opened on other children in the victims household as a result of this death	Num
CFR_CPSCaseOpenedLabel	Victim		A CPS case was opened on other children in the victims household as a result of this death	Char
CFR_CPSReportReferralFiled	Victim		Child Protective Service report had previously been filed on this suspect	Num
CFR_CPSReportReferralFiledLabel	Victim		Child Protective Service report had previously been filed on this suspect	Char
CFR_CrisisRecent	Victim		CFR: Crisis in past two weeks	Char
CFR_CustodyOfVictim1	Victim		(1st) Caregiver had legal custody of victim at time of death	Num
CFR_CustodyOfVictim1Label	Victim		(1st) Caregiver had legal custody of victim at time of death	Char
CFR_CustodyOfVictim2	Victim		(2nd) Caregiver had legal custody of victim at time of death	Num
CFR_CustodyOfVictim2Label	Victim		(2nd) Caregiver had legal custody of victim at time of death	Char
CFR_DeathFriendOrFamilyOther	Victim		CFR: Other Death of Friend/Family	Char
CFR_DeathPreventability	Victim		CFR conclusions regarding the preventability of the death	Num
CFR_DeathPreventabilityLabel	Victim		CFR conclusions regarding the preventability of the death	Char
CFR_DepressedMood	Victim		CFR: Current Depressed Mood	Char
CFR_Diagnosis	Victim		CFR: Text field to indicate diagnosis if victim was ill at the time of the incident	Char

CFR_DrugInvolvement	Victim		CFR: Drug related	Char
CFR_FinancialProblem	Victim		CFR: Financial Problem	Char
CFR_GangRelated	Victim		CFR: Gang related	Char
CFR_GunCleaning	Victim		CFR: Cleaning Gun	Char
CFR_GunDefectMalfunction	Victim		CFR: Gun Defect or Malfunction	Char
CFR_GunDropped	Victim		CFR: Dropped Gun	Char
CFR_GunFiredHolstering	Victim		CFR: Gun Fired Holstering/Unholstering	Char
CFR_GunFiredLoadingUnloading	Victim		CFR: Gun Fired Loading/Unloading	Char
CFR_GunFiredOperatingSafetyLock	Victim		CFR: Gun Fired Operating Safety/Lock	Char
CFR_GunPlaying	Victim		CFR: Playing with Gun	Char
CFR_GunShowing	Victim		CFR: Showing Gun to Others	Char
CFR_GunThoughtSafetyEngaged	Victim		CFR: Thought Safety Was Engaged	Char
CFR_GunThoughtToy	Victim		CFR: Gun Mistaken for Toy	Char
CFR_GunThoughtUnloadedMagazineDisengaged	Victim		CFR: Gun Thought Unloaded Magazine Disengaged	Char
CFR_GunThoughtUnloadedOther	Victim		CFR: Thought Gun Was Unloaded Other	Char
CFR_GunUnintentionallyPulledTrigger	Victim		CFR: Gun Unintentionally Pulled Trigger	Char
CFR_HateCrime	Victim		CFR: Hate Crime	Char
CFR_HistoryMentalIllnessTreatment	Victim		CFR: History Mental Illness Treatment	Char
CFR_HistoryOfMaltreating1	Victim		(1st) Caregiver had documented history of maltreating a child	Num
CFR_HistoryOfMaltreating1Label	Victim		(1st) Caregiver had documented history of maltreating a child	Char
CFR_HistoryOfMaltreating2	Victim		(2nd) Caregiver had documented history of maltreating a child	Num
CFR_HistoryOfMaltreating2Label	Victim		(2nd) Caregiver had documented history of maltreating a child	Char
CFR_HouseholdAdultUnrelated	Victim		Unrelated adult living in victims household	Num

CFR_HouseholdAdultUnrelatedLabel	Victim		Unrelated adult living in victims household	Char
CFR_HouseholdContactPolice2	Victim		CFR: Household Contact Police	Char
CFR_Hunting	Victim		CFR: Hunting	Char
CFR_InfantsBornPrematurely	Victim		Victim was born prematurely	Num
CFR_InfantsBornPrematurelyLabel	Victim		Victim was born prematurely	Char
CFR_InfantsMaternalAlcoholUse	Victim		CFR_InfantsMaternalAlcoholUse	Num
CFR_InfantsMaternalAlcoholUseLabel	Victim		CFR_InfantsMaternalAlcoholUse	Char
CFR_InfantsMaternalRecreationalDrugUse	Victim		CFR: Infants Maternal Recreational Drug Use	Num
CFR_InfantsMaternalRecreationalDrugUseLabel	Victim		CFR: Infants Maternal Recreational Drug Use Label	Char
CFR_InfantsMaternalTobaccoUse	Victim		CFR: Infants Maternal Tobacco Use	Num
CFR_InfantsMaternalTobaccoUseLabel	Victim		CFR: Infants Maternal Tobacco Use	Char
CFR_InfantsPrenatalCarePrior3rdTrimester	Victim		CFR: Infants Prenatal Care Prior 3rd Trimester	Num
CFR_InfantsPrenatalCarePrior3rdTrimesterLabel	Victim		CFR: Infants Prenatal Care Prior 3rd Trimester Label	Char
CFR_InterpersonalViolencePerpetrator	Victim		CFR: Interpersonal Violence Perpetrator	Char
CFR_InterpersonalViolenceVictim	Victim		CFR: Victim of interpersonal violence in the past month	Char
CFR_IntervenerAssistingVictim	Victim		CFR: Intervener Assisting Crime Victim	Char
CFR_IntimatePartnerProblem	Victim		CFR: Intimate Partner Problem	Char
CFR_IntimatePartnerViolence	Victim		CFR: Intimate Partner Violence related	Char

CFR_IntimatePartnerViolenceVictimFosterHome	Victim		CFR: Intimate Partner Violence Victim Foster Home	Num
CFR_IntimatePartnerViolenceVictimFosterHomeLabel	Victim		CFR: Intimate Partner Violence Victim Foster Home Label	Char
CFR_IntimatePartnerViolenceVictimHousehold	Victim		CFR: Intimate Partner Violence Victim Household	Num
CFR_IntimatePartnerViolenceVictimHouseholdLabel	Victim		CFR: Intimate Partner Violence Victim Household Label	Char
CFR_Jealously	Victim		CFR: Jealously	Char
CFR_JobProblem	Victim		CFR: Job Problem	Char
CFR_JustifiableSelfDefense	Victim		CFR: Justifiable Self Defense/Law Enforcement	Char
CFR_LegalProblemOther	Victim		CFR: Other Legal Problems	Char
CFR_LivedWithVictim1	Victim		(1st) Caregiver lived with victim at the time of the incident	Num
CFR_LivedWithVictim1Label	Victim		(1st) Caregiver lived with victim at the time of the incident	Char
CFR_LivedWithVictim2	Victim		(2nd) Caregiver lived with victim at the time of the incident	Num
CFR_LivedWithVictim2Label	Victim		(2nd) Caregiver lived with victim at the time of the incident	Char
CFR_MannerOther	Victim		Text field for CFR manner of death if other	Char
CFR_MentalHealthDiagnosis1	Victim		CFR: Type of 1st Mental Illness Treated	Num
CFR_MentalHealthDiagnosis1Label	Victim		CFR: Type of 1st Mental Illness Treated	Char
CFR_MentalHealthDiagnosis2	Victim		CFR: Type of 2nd Mental Illness Treated	Num
CFR_MentalHealthDiagnosis2Label	Victim		CFR: Type of 2nd Mental Illness Treated	Char
CFR_MentalHealthDiagnosisOther	Victim		CFR: Other Mental Health Diagnosis	Char
CFR_MentalHealthProblem	Victim		CFR: Mental Health Problem	Char
CFR_MentalIllnessTreatmentCurrent	Victim		CFR: Mental Illness Treatment Current	Char
CFR_MercyKilling	Victim		CFR: Mercy Killing	Char
CFR_NatureOtherCrime1	Victim		CFR: Nature of 1st Other Crime	Num

CFR_NatureOtherCrime1Label	Victim		CFR: Nature of 1st Other Crime	Char
CFR_NatureOtherCrime2	Victim		CFR: Nature of 2nd Other Crime	Num
CFR_NatureOtherCrime2Label	Victim		CFR: Nature of 2nd Other Crime	Char
CFR_NeglectSubstantiated	Victim		At least one substantiated CPS report filed on the victims household was for neglect	Num
CFR_NeglectSubstantiatedLabel	Victim		At least one substantiated CPS report filed on the victims household was for neglect	Char
CFR_OtherChildrenUnder18Household	Victim		CFR: Other Children Under 18 Household	Num
CFR_OtherContextInjury	Victim		CFR: Other Context of Injury	Char
CFR_OtherCrimeInProgress	Victim		CFR: Other Crime in Progress	Char
CFR_OtherMechanismInjury	Victim		CFR: Other Mechanism of Injury	Char
CFR_PhysicalAbuseSubstantiated	Victim		CFR: Physical Abuse Substantiated	Num
CFR_PhysicalAbuseSubstantiatedLabel	Victim		CFR: Physical Abuse Substantiated	Char
CFR_PhysicalHealthProblem	Victim		CFR: Physical Health Problem	Char
CFR_PrecipitatedbyOtherCrime	Victim		CFR: Associated with Another Crime	Char
CFR_PreviousChildDie1	Victim		(1st) Caregiver had a previous child die in his/her care	Num
CFR_PreviousChildDie1Label	Victim		(1st) Caregiver had a previous child die in his/her care	Char
CFR_PreviousChildDie2	Victim		(2nd) Caregiver had a previous child die in his/her care	Num
CFR_PreviousChildDie2Label	Victim		(2nd) Caregiver had a previous child die in his/her care	Char
CFR_PriorCPSReportVictimHousehold	Victim		CFR: Prior CPS Report Victim Household	Num
CFR_PriorCPSReportVictimHouseholdLabel	Victim		CFR: Prior CPS Report Victim Household Label	Char
CFR_RecentCriminalLegalProblem	Victim		CFR: Recent criminal legal problem	Char

CFR_RecentSuicideFriendFamily	Victim		CFR: Recent Suicide of Friend/Family	Char
CFR_RecordCME	Victim		CME records were consulted in the CFRT review of victims death	Char
CFR_RecordDeathCertificate	Victim		Death Certificate was consulted in the CFRT review of victims death	Char
CFR_RecordEMS	Victim		EMS records were consulted in the CFRT review of victims death	Char
CFR_RecordHealthProviderHospital	Victim		Health Provider/Hospital records were consulted in the CFRT review of victims death	Char
CFR_RecordJuvenileJustice	Victim		Juvenile Justice records were consulted in the CFRT review of victims death	Char
CFR_RecordMentalHealth	Victim		Mental Health records were consulted in the CFRT review of victims death	Char
CFR_RecordOther	Victim		Other records were consulted in the CFRT review of victims death	Char
CFR_RecordOtherText	Victim		Specify what other records were consulted in the CFRT review of victims death	Char
CFR_RecordPoliceLE	Victim		Law enforcement/Law enforcement records were consulted in the CFRT review of victims death	Char
CFR_RecordPublicHealthDepartment	Victim		Public Health Department records were consulted in the CFRT review of victims death	Char
CFR_RecordSchool	Victim		School records were consulted in the CFRT review of victims death	Char
CFR_RecordSSCPS	Victim		SS/CPS records were consulted in the CFRT review of victims death	Char
CFR_RelationshipProblemOther	Victim		CFR: Other Relationship Problem	Char
CFR_RelationshipToVictim1	Victim		(1st) Caregivers relationship to the victim	Num
CFR_RelationshipToVictim1Label	Victim		(1st) Caregivers relationship to the victim	Char
CFR_RelationshipToVictim2	Victim		(2nd) Caregivers relationship to the victim	Num
CFR_RelationshipToVictim2Label	Victim		(2nd) Caregivers relationship to the victim	Char
CFR_ResidenceTimeIn	Victim		Length of time in residence	Num
CFR_ResidenceTimeInLabel	Victim		Length of time in residence	Char

CFR_ResidenceType	Victim		Victims type of primary residence	Num
CFR_ResidenceTypeLabel	Victim		Victims type of primary residence	Char
CFR_ResultOfAction	Victim		Result of action taken by the CFR to change the manner of death	Num
CFR_ResultOfActionLabel	Victim		Result of action taken by the CFR to change the manner of death	Char
CFR_SceneInvestigationCME	Victim		Describes whether or not there was a scene investigation conducted by the Coroner/Medical Examiner	Num
CFR_SceneInvestigationCMELabel	Victim		Describes whether or not there was a scene investigation conducted by the Coroner/Medical Examiner	Char
CFR_SceneInvestigationLE	Victim		Describes whether or not there was a scene investigation conducted by Law Enforcement	Num
CFR_SceneInvestigationLELabel	Victim		Describes whether or not there was a scene investigation conducted by Law Enforcement	Char
CFR_SchoolProblem	Victim		CFR: School Problem	Char
CFR_SelfDefense	Victim		CFR: Self Defensive Shooting	Char
CFR_Sex1	Victim		Sex of (1st) caregiver	Num
CFR_Sex1Label	Victim		Sex of (1st) caregiver	Char
CFR_Sex2	Victim		Sex of (2nd) caregiver	Num
CFR_Sex2Label	Victim		Sex of (2nd) caregiver	Char
CFR_SexualAbuseSubstantiated	Victim		CFR: Sexual Abuse Substantiated	Num
CFR_SexualAbuseSubstantiatedLabel	Victim		CFR: Sexual Abuse Substantiated	Char
CFR_SubstanceAbuseOther	Victim		CFR: Other Substance Dependence/Abuse	Char
CFR_SubstanceAbuseVictimFosterHome	Victim		CFR: Substance Abuse Victim Foster Home	Num
CFR_SubstanceAbuseVictimFosterHomeLabel	Victim		CFR: Substance Abuse Victim Foster Home Label	Char
CFR_SubstanceAbuseVictimHousehold	Victim		CFR: Substance Abuse Victim Household	Num
CFR_SubstanceAbuseVictimHouseholdLabel	Victim		CFR: Substance Abuse Victim Household Label	Char
CFR_SuicideAttemptHistory	Victim		CFR: History of Suicide Attempts	Char
CFR_SuicideIntentDisclosed	Victim		CFR: Disclosed suicide intent	Char

CFR_SuicideNote	Victim		CFR: Left a Suicide Note	Char
CFR_SupervisorAge	Victim		Age of supervisor	Num
CFR_SupervisorAlcoholImpared	Victim		CFR: Supervisor Alcohol Impared	Char
CFR_SupervisorAsleep	Victim		Supervisor was asleep	Num
CFR_SupervisorDistracted	Victim		Supervisor was distracted	Char
CFR_SupervisorDrugImpared	Victim		CFR: Supervisor Drug Impared	Char
CFR_SupervisorKnownHazard	Victim		Supervisor was a known hazard	Num
CFR_SupervisorMentallyIll	Victim		Supervisor was mentally ill	Num
CFR_SupervisorNone	Victim		No supervision of the victim	Char
CFR_SupervisorOther	Victim		Other supervisory factor contributed to victims death	Char
CFR_SupervisorPerpetrator	Victim		CFR: Supervisor Perpetrator	Num
CFR_SupervisorPerpetratorLabel	Victim		CFR: Supervisor Perpetrator	Char
CFR_SupervisorQuality	Victim		Did the quality of supervision contribute to the death of the victim?	Num
CFR_SupervisorQualityLabel	Victim		Did the quality of supervision contribute to the death of the victim?	Char
CFR_SupervisorRelationshipVictim	Victim		CFR: Supervisor Relationship Victim	Num
CFR_SupervisorRelationshipVictimLabel	Victim		CFR: Supervisor Relationship Victim Label	Char
CFR_SupervisorSex	Victim		Sex of supervisor	Num
CFR_SupervisorSexLabel	Victim		Sex of supervisor	Char
CFR_SuspectCharged	Victim		Suspect was charged as a perpetrator in this death	Num
CFR_SuspectChargedLabel	Victim		Suspect was charged as a perpetrator in this death	Char
CFR_SuspectChargedPriorHomicide	Victim		CFR: Suspect Charged Prior Homicide	Num
CFR_SuspectChargedPriorHomicideLabel	Victim		CFR: Suspect Charged Prior Homicide	Char
CFR_SuspectConvicted	Victim		Suspect was convicted as a perpetrator in this death	Num
CFR_SuspectConvictedLabel	Victim		Suspect was convicted as a perpetrator in this death	Char

CFR_SuspectConvictedOriginalCharge	Victim		CFR: Suspect Convicted Original Charge	Num
CFR_SuspectConvictedOriginalChargeLabel	Victim		CFR: Suspect Convicted Original Charge Label	Char
CFR_SuspectedArrested	Victim		CFR: Suspected Arrested	Num
CFR_SuspectedArrestedLabel	Victim		CFR: Suspected Arrested	Char
CFR_SuspectIdentified	Victim		Law enforcement identified the suspect by name	Num
CFR_SuspectIdentifiedLabel	Victim		Law enforcement identified the suspect by name	Char
CFR_SuspectProsecuted	Victim		Suspect was prosecuted as a perpetrator in this death	Num
CFR_SuspectProsecutedLabel	Victim		Suspect was prosecuted as a perpetrator in this death	Char
CFR_TargetShooting	Victim		CFR: Target Shooting	Char
CFR_TerroristAttack	Victim		CFR: Terrorist Attack	Char
CFR_VictimBiologicalParentsMaritalRelationship	Victim		CFR: Victim Biological Parents Marital Relationship	Num
CFR_VictimBiologicalParentsMaritalRelationshipLabel	Victim		CFR: Victim Biological Parents Marital Relationship Label	Char
CFR_VictimContactHealthCareSystem2	Victim		CFR: Victim Contact Health Care System	Char
CFR_VictimContactJuvenileJusticeSystem2	Victim		CFR: Victim Contact Health Care System	Char
CFR_VictimContactMentalHealthServices2	Victim		CFR: Victim Contact Mental Health Services	Char
CFR_VictimContactPolice2	Victim		CFR: Victim Contact Police	Char
CFR_VictimDisability2	Victim		CFR: Victim Disability	Char
CFR_VictimDisabilityDevelopmental2	Victim		CFR: Victim Disability Developmental	Char
CFR_VictimDisabilityPhysical2	Victim		CFR: Victim Disability Physical	Char
CFR_VictimDisabilitySensory2	Victim		CFR: Victim Disability Sensory	Char
CFR_VictimPhysicalIllness2	Victim		CFR: Victim Physical Illness	Char
CFR_VictimPoliceOfficeOnDuty	Victim		CFR: Victim Police Office On Duty	Char

CFR_VictimPrimaryCaregiverContactMedicaid2	Victim		CFR: Victim Primary Caregiver Contact Medicaid	Char
CFR_VictimPrimaryCaregiverContactSocialServices2	Victim		CFR: Victim Primary Caregiver Contact Social Services	Char
CFR_VictimPrimaryCaregiverContactWIC2	Victim		CFR: Victim Primary Caregiver Contact WIC	Char
CFR_VictimUsedWeapon	Victim		CFR: Person Used Weapon	Char
CFR_Witness	Victim		Were there any witnesses to the incident?	Num
CFR_WitnessLabel	Victim		Were there any witnesses to the incident?	Char
ChildWitnesses	Victim	Injury and Death	Children present and/or witnessed fatal incident	Num
CME_AbusedAsChild	Victim	Circumstances	CME: Victim had a history of abuse (physical, mental or emotional) or neglect (physical or emotional) as a child	Char
CME_AlcoholProblem	Victim	Circumstances	CME: Victim had alcohol dependence or alcohol problem	Char
CME_Argument	Victim	Circumstances	CME: An argument or conflict led to the victims death	Char
CME_ArgumentTiming	Victim	Circumstances	CME: Timing of the argument that led to victims death	Num
CME_ArgumentTimingLabel	Victim	Circumstances	CME: Timing of the argument that led to victims death	Char
CME_Brawl	Victim	Circumstances	CME: A mutual physical fight between 3 or more individuals resulted in the death of individuals involved in the fight or, bystanders or individuals trying to stop the argument	Char
CME_BulletRicochet	Victim	Circumstances	CME: Bullet ricocheted off course from its intended target and struck the victim	Char
CME_Bystander	Victim	Circumstances	CME: Victim was a bystander, not the intended target	Char
CME_CelebratoryFiring	Victim	Circumstances	CME: Shooter was firing the gun in a celebratory manner with no intention of threatening or endangering others	Char
CME_CircumstancesKnown	Victim	Circumstances	CME: Indicates if any information is available in the CME record about the circumstances, including other circumstances, associated with this violent death	Char
CME_CircumstancesOtherText	Victim	Circumstances	CME: Other specified problems contributed to the death	Char
CME_CrisisAlcoholProblem	Victim	Circumstances	CME: Alcohol problem was a crisis	Char
CME_CrisisCivilLegal	Victim	Circumstances	CME: Civil/legal problems were a crisis	Char
CME_CrisisCriminal	Victim	Circumstances	CME: Contributing criminal legal problem was a crisis	Char
CME_CrisisDisasterExposure	Victim	Circumstances	CME: Disaster exposure was a crisis	Char

CME_CrisisEviction	Victim	Circumstances	CME: Eviction or loss of home was a crisis	Char
CME_CrisisFamilyRelationship	Victim	Circumstances	CME: Family relationship problem was a crisis	Char
CME_CrisisFinancial	Victim	Circumstances	CME: Financial problem was a crisis	Char
CME_CrisisIntimatePartnerProblem	Victim	Circumstances	CME: Intimate partner problem was a crisis	Char
CME_CrisisJealousy	Victim	Circumstances	CME: Jealousy (lovers' triangle) was a crisis	Char
CME_CrisisJob	Victim	Circumstances	CME: Job problem was a crisis	Char
CME_CrisisMentalHealth	Victim	Circumstances	CME: Current diagnosed mental health problem was a crisis	Char
CME_CrisisOtherAddiction	Victim	Circumstances	CME: Other addiction was a crisis	Char
CME_CrisisPhysicalHealth	Victim	Circumstances	CME: Contributing physical health problem was a crisis	Char
CME_CrisisProstitution	Victim	Circumstances	CME: Prostitution was a crisis	Char
CME_CrisisRecent	Victim	Circumstances	CME: Victim experienced a crisis within two weeks of the incident, or a crisis was imminent within two weeks of the incident that was not associated with another circumstance variable	Char
CME_CrisisRelatedDeathFriendOrFamilyOther	Victim	Circumstances	CME: Crisis Related Death Friend of Family (Other)	Char
CME_CrisisRelatedSuicideFriendOrFamily	Victim	Circumstances	CME: Crisis Related Suicide Friend or Family	Char
CME_CrisisRelationshipProblemOther	Victim	Circumstances	CME: Crisis Relationship Problem (Other)	Char
CME_CrisisSchool	Victim	Circumstances	CME: School problem was a crisis	Char
CME_CrisisStalking	Victim	Circumstances	CME: Stalking was a crisis	Char
CME_CrisisSubstanceAbuse	Victim	Circumstances	CME: Other substance abuse problem was a crisis	Char
CME_DeathAbuse	Victim	Circumstances	CME: Violent death was directly related or precipitated by abuse (physical, mental or emotional) or neglect (physical, medical, or emotional) by a caretaker	Char
CME_DeathFriendOrFamilyOther	Victim	Circumstances	CME: Death of a family member or friend due to something other than suicide appears to have contributed to the death	Char
CME_DepressedMood	Victim	Circumstances	CME: Victim was perceived by self or others to be depressed at the time of the injury	Char
CME_DisasterExposure	Victim	Circumstances	CME: Exposure to a disaster was perceived as a contributing factor in incident	Char

CME_DisclosedIntentToWhom	Victim	Circumstances	CME: Person to whom victim recently disclosed suicidal thoughts and/or plans to commit suicide	Num
CME_DiscloseToFriend	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to victim's close friend	Char
CME_DiscloseToHealthCareWorker	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to healthcare worker	Char
CME_DiscloseToIntimatePartner	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to victim's intimate partner	Char
CME_DiscloseToNeighbor	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to victim's neighbor	Char
CME_DiscloseToOther	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to other (specify in textbox)	Char
CME_DiscloseToOtherDesc	Victim	Circumstances	CME: other type of person whom victim recently disclosed suicidal thoughts and/or plans to die by suicide description	Char
CME_DiscloseToOtherFamilyMember	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to family member other than intimate partner	Char
CME_DiscloseToSocialMedia	Victim	Circumstances	CME: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to social media	Char
CME_DiscloseToUnknown	Victim	Circumstances	CME: unknown whom victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.")	Char
CME_DriveByShooting	Victim	Circumstances	CME: Victim was killed in shooting where the suspect(s) drives near the victim or target and shoots while driving, or uses a car to approach and flee the scene of a	Char

			homicide, but steps out of the car just long enough to use a weapon	
CME_DrugInvolvement	Victim	Circumstances	CME: Drug dealing, drug trade, or drug use is suspected to have played a role in precipitating the incident	Char
CME_EvictionOrLossOfHome	Victim	Circumstances	CME: A recent eviction or other loss of the victims housing, or the threat of it, appears to have contributed to the death	Char
CME_FamilyRelationship	Victim	Circumstances	CME: Victim had relationship problems with a family member (other than an intimate partner) that appear to have contributed to the death	Char
CME_FightBetweenTwoPeople	Victim	Circumstances	CME: Immediately before the violent death, there was a physical fight between two individuals which resulted in the death of individuals involved in the fight, bystanders, or individuals trying to stop the argument	Char
CME_FinancialProblem	Victim	Circumstances	CME: Financial problems appear to have contributed to the death	Char
CME_GangType	Victim	Circumstances	CME:Gang Related CME	Num
CME_GangTypeLabel	Victim	Circumstances	CME:Gang type label	Char
CME_GunCleaning	Victim	Circumstances	CME: Shooter pulled the trigger or the gun otherwise discharged (e.g., bumped gun while cleaning) while cleaning, repairing, or assembling/disassembling the gun	Char
CME_GunDefectMalfunction	Victim	Circumstances	CME: Firearm discharged due to some defect or mechanical malfunction	Char
CME_GunDropped	Victim	Circumstances	CME: Gun was dropped and unintentionally discharged upon impact	Char
CME_GunFiredHolstering	Victim	Circumstances	CME: Firearm discharged while it was being placed in or removed from its holster or clothing	Char
CME_GunFiredLoadingUnloading	Victim	Circumstances	CME: Shooter was loading or unloading ammunition from the gun when it discharged	Char
CME_GunFiredOperatingSafetyLock	Victim	Circumstances	CME: Gun unintentionally discharged while the gun handler was attempting to open or close the lock	Char
CME_GunPlaying	Victim	Circumstances	CME: Shooter was playing with gun when it discharged	Char
CME_GunShowing	Victim	Circumstances	CME: Shooter was showing the gun to another person when the gun discharged	Char
CME_GunThoughtSafetyEngaged	Victim	Circumstances	CME: Shooter thought the safety was on and the firearm would not discharge	Char

CME_GunThoughtToy	Victim	Circumstances	CME: Gun was mistaken for a toy and discharged during handling/play	Char
CME_GunThoughtUnloadedMagazineDisengaged	Victim	Circumstances	CME: Gun Thought Unloaded Magazine Disengaged	Char
CME_GunThoughtUnloadedOther	Victim	Circumstances	CME: Shooter thought the gun was unloaded for a reason other than the magazine being disengaged, or for an unspecified reason	Char
CME_GunUnintentionallyPulledTrigger	Victim	Circumstances	CME: Gun Unintentionally Pulled Trigger	Char
CME_HateCrime	Victim	Circumstances	CME: Homicide was associated with a hate crime	Char
CME_HealthProblemAcute	Victim	Circumstances	CME: victim's acute pain contributed to the death	Char
CME_HealthProblemChronicPain	Victim	Circumstances	CME: victim's chronic pain contributed to the death	Char
CME_HealthProblemOther	Victim	Circumstances	CME: Other specified problems contributed to the death	Char
CME_HealthProblemPainUnknownDuration	Victim	Circumstances	CME: pain of unknown duration contributed to the death	Char
CME_HealthProblemTerminalIllness	Victim	Circumstances	CME: a terminal illness or condition contributed to the death	Char
CME_HealthProblemTypeDesc	Victim	Circumstances	CME: description of the type of illness, condition, or pain that contributed to death	Char
CME_HealthProblemUnknown	Victim	Circumstances	CME: an unknown type illness or condition contributed to the death	Char
CME_HistoryMentalIllnessTreatment	Victim	Circumstances	CME: History Mental Illness Treatment	Char
CME_Hunting	Victim	Circumstances	CME: Shooter or victim was hunting or on a hunting trip	Char
CME_InterpersonalViolencePerpetrator	Victim	Circumstances	CME: Interpersonal Violence Perpetrator	Char
CME_InterpersonalViolenceVictim	Victim	Circumstances	CME: Victim experienced violence in the past month that was distinct and occurred before the violence that killed the victim	Char
CME_IntervenerAssistingVictim	Victim	Circumstances	CME: Victim was an intervener other than a law enforcement officer who was killed while assisting a crime victim	Char
CME_IntimatePartnerProblem	Victim	Circumstances	CME: Problems with a current or former intimate partner appear to have contributed to the suicide or undetermined death	Char

CME_IntimatePartnerViolence	Victim	Circumstances	CME: Homicide or legal intervention death was related to immediate or ongoing conflict or violence between current or former intimate partners	Char
CME_IsCaregiverBurden	Victim	Circumstances	CME: Caregiver burden	Char
CME_IsCommunityRelatedStressor	Victim	Circumstances		Char
CME_IsCorporalPunishment	Victim	Circumstances	CME: Caregiver use of corporal punishment contributed to child death	Char
CME_IsCrisisCommunityRelatedStressor	Victim	Circumstances		Char
CME_IsFamilyStressor	Victim	Circumstances	CME: Family stressor	Char
CME_IsHistorySelfHarm	Victim	Circumstances	CME: History of non-suicidal self-injury/self-harm	Char
CME_IsHouseholdKnown	Victim	Circumstances	CME: Household known to local authorities	Char
CME_IsHouseholdSubstanceAbuse	Victim	Circumstances	CME: Substance abuse in child victim's household	Char
CME_IsLivingTransition	Victim	Circumstances	CME: Living transition/loss of independent living	Char
CME_IsPriorCPSReport	Victim	Circumstances	CME: Prior child protective services (CPS) report on a child victim's household	Char
CME_IsTraumaticBrainInjuryHistory	Victim	Circumstances	CME: History of traumatic brain injury (TBI)	Char
CME_IsTreatmentNonAdherence	Victim	Circumstances	CME: Non-adherence to mental health/substance abuse treatment	Char
CME_Jealously	Victim	Circumstances	CME: Jealously	Char
CME_JobProblem	Victim	Circumstances	CME: Job problem(s) appear to have contributed to the death	Char
CME_JustifiableSelfDefense	Victim	Circumstances	CME: Homicide was committed by a law enforcement officer in the line of duty or was committed by a civilian in legitimate self-defense or in defense of others	Char
CME_LegalProblemOther	Victim	Circumstances	CME: Civil legal (non-criminal) problems appear to have contributed to the death	Char
CME_MentalHealthDiagnosis1	Victim	Circumstances	CME: 1st type of mental illness diagnosis	Num
CME_MentalHealthDiagnosis1Label	Victim	Circumstances	CME: 1st type of mental illness diagnosis	Char
CME_MentalHealthDiagnosis2	Victim	Circumstances	CME: 2nd type of mental illness diagnosis	Num

CME_MentalHealthDiagnosis2Label	Victim	Circumstances	CME: 2nd type of mental illness diagnosis	Char
CME_MentalHealthDiagnosisOther	Victim	Circumstances	CME: Other type of mental illness diagnosis	Char
CME_MentalHealthProblem	Victim	Circumstances	CME: Victim had been identified as currently having a mental health problem	Char
CME_MentalIllnessTreatmentCurrent	Victim	Circumstances	CME: Mental Illness Treatment Current	Char
CME_MercyKilling	Victim	Circumstances	CME: Victim was killed, at the victims request, out of compassion in order to end his or her pain or distress	Char
CME_NatureOtherCrime1	Victim	Circumstances	CME: Nature of the 1st crime that precipitated the incident	Num
CME_NatureOtherCrime1Label	Victim	Circumstances	CME: Nature of the 1st crime that precipitated the incident	Char
CME_NatureOtherCrime2	Victim	Circumstances	CME: Nature of the 2nd crime that precipitated the incident	Num
CME_NatureOtherCrime2Label	Victim	Circumstances	CME: Nature of the 2nd crime that precipitated the incident	Char
CME_OtherAddiction	Victim	Circumstances	CME: Victim had an addiction other than alcohol or other substance abuse, such as gambling, sexual, etc., that appears to have contributed to the death	Char
CME_OtherContextInjury	Victim	Circumstances	CME: Shooting occurred during some context other than those described by the existing codes	Char
CME_OtherCrimeInProgress	Victim	Circumstances	CME: Precipitating crime was in progress at the time of the incident	Char
CME_OtherCrisis	Victim	Circumstances	CME: Victim experienced a crisis within two weeks of the incident, or a crisis was imminent within two weeks of the incident that was not associated with another circumstance variable description.	Char
CME_OtherMechanismInjury	Victim	Circumstances	CME: Shooting occurred as the result of a mechanism not already described by one of the existing codes	Char
CME_PhysicalHealthProblem	Victim	Circumstances	CME: Victims physical health problem(s) appear to have contributed to the death	Char
CME_PhysicalHealthProblemType	Victim	Circumstances	CME: Type of physical health problem from CME	Char

CME_PrecipitatedbyOtherCrime	Victim	Circumstances	CME: Death was precipitated by another serious crime (e.g., drug dealing, robbery)	Char
CME_Prostitution	Victim	Circumstances	CME: Prostitution or prostitution-related activities played a precipitating role in the incident	Char
CME_RandomViolence	Victim	Circumstances	CME: Victim was killed by a random act of violence	Char
CME_RecentCriminalLegalProblem	Victim	Circumstances	CME: Criminal legal problems appear to have contributed to the death	Char
CME_RecentSuicideFriendFamily	Victim	Circumstances	CME: Suicide of a family member or friend appears to have contributed to the death	Char
CME_RelationshipProblemOther	Victim	Circumstances	CME: Problems with a friend or associate (other than an intimate partner or family member) appear to have contributed to the death	Char
CME_SchoolProblem	Victim	Circumstances	CME: Problems at or related to school appear to have contributed to the death	Char
CME_SelfDefense	Victim	Circumstances	CME: Victim was attempting to defend him or herself with a gun and inadvertently shot him or herself	Char
CME_Stalking	Victim	Circumstances	CME: Stalking behaviors precipitated the violent incident	Char
CME_SubstanceAbuseOther	Victim	Circumstances	CME: Victim had a non-alcohol related substance abuse problem	Char
CME_SuicideAttemptHistory	Victim	Circumstances	CME: Victim had a history of attempting suicide before the fatal incident	Char
CME_SuicideIntentDisclosed	Victim	Circumstances	CME: Victim disclosed to another person their thoughts and/or plans to commit suicide within the last month	Char
CME_SuicideNote	Victim	Circumstances	CME: Victim left a suicide note (or other recorded communication)	Char
CME_SuicideThoughtHistory	Victim	Circumstances	CME: Victim had a history of suicidal thoughts, plans or attempts	Char
CME_TargetShooting	Victim	Circumstances	CME: Shooter was aiming for a target and unintentionally hit a person	Char
CME_TerroristAttack	Victim	Circumstances	CME: Death resulted from a terrorist attack	Char
CME_TraumaticAnniversary	Victim	Circumstances	CME: Incident occurred on or near the anniversary of a traumatic event in the victims life and was perceived as a contributing factor	Char
CME_VictimKnownToLocalAuthorities	Victim	Circumstances	CME: the victim was known to local authorities	Char

CME_VictimPoliceOfficeOnDuty	Victim	Circumstances	CME: Victim Police Office On Duty	Char
CME_VictimUsedWeapon	Victim	Circumstances	CME: Victim used a weapon during the course of the incident	Char
CME_WalkByAssault	Victim	Circumstances	CME: A targeted attack, such as an ambush, where the suspect(s) approached and fled on foot	Char
CMENumberLastFour	Victim	Demographics	Last 4 of CME	Char
CocaineResult	Victim	Toxicology	Cocaine test result	Num
CocaineResultLabel	Victim		Cocaine results summary	Char
CocaineTested	Victim	Toxicology	Tested for cocaine	Num
CocaineTestedLabel	Victim		Tested for cocaine	Char
Comments	Victim		Toxicology comments	Char
CompleteCME	Incident	Incident Overview	Coroner/Medical Examiner data abstraction complete	Char
CompleteDC	Incident	Incident Overview	Death Certificate data abstraction complete	Char
CompleteIncident	Incident	Incident Overview	Incident complete	Char
CompleteLE	Incident	Incident Overview	Law Enforcement data abstraction complete	Char
CompleteToxicology	Incident	Incident Overview	Toxicology data abstraction complete	Char
Country	Victim	Demographics	Country of residence of victim	Num
CountryLabel	Victim	Demographics	Residential country of victim	Char
CPSReportOnWhom	Victim		CPS Report On Whom	Num
CPSReportOnWhomLabel	Victim		CPS Report On Whom	Char
CPSSubstantiated	Victim		CPS Substantiated	Num
CPSSubstantiatedLabel	Victim		CPS Substantiated	Char
CreateDate	Incident	Incident Overview	Date incident record was created	Num
Date_unresponsive	OD	OD	Date found unresponsive	Char
DateDeleted	Incident		Date incident record was deleted	Num
DateMerged	Incident		Date incident record was merged	Num
Day_unresponsive	OD	OD	Day found unresponsive	Num
DCNumberLastFour	Victim	Demographics	Last 4 of DC	Num
DeathCause1	Victim	Injury and Death	Immediate cause of death	Char

DeathCause2	Victim	Injury and Death	Cause leading to immediate cause of death	Char
DeathCause3	Victim	Injury and Death	Next antecedent cause of death	Char
DeathCause4	Victim	Injury and Death	Underlying cause of death	Char
DeathCounty	Victim	Injury and Death	County of Death	Num
DeathCountyLabel	Victim	Injury and Death	County of Death Label	Char
DeathDate	Victim	Injury and Death	Date of victim's death	Char
DeathMannerAbstractor	Victim	Injury and Death	Manner of death per abstractor	Num
DeathMannerAbstractorLabel	Victim	Injury and Death	Manner of death based on abstractor review of all available data	Char
DeathMannerCME	Victim	Injury and Death	Manner of death per CME	Num
DeathMannerCMELabel	Victim	Injury and Death	Manner of death recorded in CME report	Char
DeathMannerDC	Victim	Injury and Death	Manner of death on DC	Num
DeathMannerDCLabel	Victim	Injury and Death	Manner of death on death certificate	Char
DeathMannerLE	Victim	Injury and Death	Manner of death per LE	Num
DeathMannerLELabel	Victim	Injury and Death	Manner of death recorded in law enforcement report	Char
DeathPlace	Victim	Injury and Death	Place of death	Num
DeathPlaceLabel	Victim	Injury and Death	Victim's place of death	Char
DeathPlaceText	Victim	Injury and Death	Place of death if other	Char
DeathPronouncedDate	Victim	Injury and Death	Date victim was pronounced dead	Char
DeathState	Victim	Injury and Death	State or territory of death	Num
DeathStateLabel	Victim	Injury and Death	State in which the death occurred	Char
DrugEvidence_NOS	OD	OD	Evidence of unspecified drug type	Char
DrugObtainedFor	Toxicology	Toxicology	Relationship between the victim and the person to whom prescription medications were prescribed; Variable transposed because can have multiple substances per incident; DrugObtainedFor_1-DrugObtainedFor_42 included in dataset	Num
DrugObtainedForLabel	Toxicology	Toxicology	Description of the relationship between the victim and the person to whom prescription medications were prescribed; Variable transposed because can have multiple substances per incident; DrugObtainedForLabel_1-DrugObtainedForLabel_42 included in dataset	Char
DrugUseEvidence_NOS	OD	OD	Non-specific drug use evidence	Char
EducationLevel	Victim	Demographics	Victim's educational level as measured by the highest degree attained	Num

EducationLevelLabel	Victim	Demographics	Victim's educational level as measured by the highest degree attained	Char
EducationYears	Victim	Demographics	Education by number of years	Num
EmergencyDepartment	Victim	Injury and Death	Victim seen in emergency department following the fatal incident	Num
EmergencyDepartmentLabel	Victim	Injury and Death	Victim was seen in emergency department following the fatal incident	Char
EMSPresent	Victim	Injury and Death	EMS at scene	Num
EMSPresentLabel	Victim	Injury and Death	Emergency medical services were present at the scene of the injury incident	Char
Ethnicity	Victim	Demographics	Ethnicity of the victim is Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race	Num
EthnicityLabel	Victim	Demographics	Ethnicity of the victim is Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race	Char
EvidenceOfInjectionOtherDescription	OD	OD	Evidence Of Injection Other Description	Char
ExternalCause1ICD10	Victim	Injury and Death	First external cause of injury ICD10 code by hospital	Num
ExternalCause1ICD10Label	Victim	Injury and Death	First external cause of injury ICD10 code description by hospital	Char
ExternalCause1ICD9	Victim	Injury and Death	First external cause of injury ICD9 code by hospital	Num
ExternalCause1ICD9Label	Victim	Injury and Death	First external cause of injury ICD9 code description by hospital	Char
ExternalCause2ICD10	Victim	Injury and Death	Second external cause of injury ICD10 code by hospital	Num
ExternalCause2ICD10Label	Victim	Injury and Death	Second external cause of injury ICD10 code description by hospital	Char
ExternalCause2ICD9	Victim	Injury and Death	Second external cause of injury ICD9 code by hospital	Num
ExternalCause2ICD9Label	Victim	Injury and Death	Second external cause of injury ICD9 code description by hospital	Char
FentanylRx	OD	OD	Prescription information: Decedent prescribed fentanyl	Char
FirearmCaliber	Weapon		Caliber of the firearm used to inflict the injury	Char
FirearmCaliberLabel	Weapon		Caliber of the firearm used to inflict the injury	Char
FirearmGauge	Weapon		Gauge of the firearm used to inflict the injury	Char
FirearmGaugeLabel	Weapon		Gauge of the firearm used to inflict the injury	Char
FirearmMake	Weapon		Manufacturer of the firearm used to inflict the injury	Num

FirearmMakeLabel	Weapon		Manufacturer of the firearm used to inflict the injury	Char
FirearmMakeText	Weapon		Other manufacturer of the firearm used to inflict the injury	Char
FirearmModel	Weapon		Model of the firearm used to inflict the injury	Num
FirearmModelLabel	Weapon		Model of the firearm used to inflict the injury	Char
FirearmModelText	Weapon		Other model of the firearm used to inflict the injury	Char
FirearmStolen	Weapon		Firearm listed or reported as stolen	Num
FirearmStolenLabel	Weapon		Firearm listed or reported as stolen	Char
FirearmType	Weapon		Specific type of firearm used to inflict injury	Num
FirearmTypeLabel	Weapon		Specific type of firearm used to inflict injury	Char
FollowUp	Incident		Incident flagged for follow-up	Char
GunAccessNarrative	Weapon		Narrative that provides details about how the victim or suspect got access to the firearm used to inflict the injury	Char
GunOwner	Weapon		Owner of the firearm used to inflict the fatal injury	Num
GunOwnerLabel	Weapon		Owner of the firearm used to inflict the fatal injury	Char
GunStoredLoaded	Weapon		Firearm used in the violent death was or was not stored loaded	Num
GunStoredLoadedLabel	Weapon		Firearm used in the violent death was or was not stored loaded	Char
GunStoredLocked	Weapon		Firearm used in the violent death was or was not stored locked	Num
GunStoredLockedLabel	Weapon		Firearm used in the violent death was or was not stored locked	Char
HadPulse	OD	OD	Presence of pulse on first-responder arrival	Char
HasEvidenceOfIllicitCrystal	OD	OD	Evidence of illicit drugs: Crystal	Char
HasEvidenceOfIllicitPackage	OD	OD	Evidence of illicit drugs: Illicit Package	Char
HasEvidenceOfIllicitPowder	OD	OD	Evidence of illicit drugs: Powder	Char
HasEvidenceOfIllicitTar	OD	OD	Evidence of illicit drugs: Tar	Char
HasEvidenceOfIllicitWitnessReport	OD	OD	Evidence of illicit drugs: Witness report	Char
HasEvidenceOfInjectionCooker	OD	OD	Evidence of injection: Cookers	Char
HasEvidenceOfInjectionFilter	OD	OD	Evidence of injection: Filters	Char

HasEvidenceOfInjectionNeedle	OD	OD	Evidence of injection: Needles/Syringes	Char
HasEvidenceOfInjectionOther	OD	OD	Evidence of injection: Other injection evidence - Specify	Char
HasEvidenceOfInjectionReportRxUse	OD	OD	Witness report of prescription drugs	Char
HasEvidenceOfInjectionTourniquet	OD	OD	Evidence of injection: Tourniquet	Char
HasEvidenceOfInjectionWitnessReport	OD	OD	Evidence of injection: Witness report	Char
HasEvidenceOfPrescriptionDrug	OD	OD	Evidence of prescription drugs	Char
HasRapidOverdoseEvidence	OD	OD	Evidence of rapid overdose	Char
HasRouteBuccal	OD	OD	Route of Drug Administration: Evidence of buccal	Char
HasRouteSmoking	OD	OD	Route of Drug Administration: Evidence of smoking	Char
HasRouteSublingual	OD	OD	Route of Drug Administration: Evidence of sublingual	Char
HasRouteTransdermal	OD	OD	Route of Drug Administration: Evidence of transdermal	Char
HeightFeet	Victim	Demographics	Height Feet	Num
HeightInches	Victim	Demographics	Height Inches	Num
HistoryOpioid	OD	OD	History of opioid/heroin abuse	Num
HistoryOpioidDescription	OD	OD	History of opioid/heroin abuse, Description	Char
Homeless	Victim	Demographics	Victim's homeless status at the time of death (defined as having no fixed address AND living in a shelter, on the street, in a car, or in makeshift quarters in an outdoor setting)	Num
HomelessLabel	Victim	Demographics	Victim's homeless status (defined as having no fixed address AND living in a shelter, on the street, in a car, or in makeshift quarters in an outdoor setting)	Char
HospitalAdmit	Victim	Injury and Death	Victim admitted to inpatient care following the fatal incident	Char
HousingInstability	Victim	Demographics	Decendent experiencing housing instability at time of death	Char
HowInjuryOccurred	Victim	Injury and Death	How injury occurred on death certificate	Char
HxAnyOpioid	OD	OD	Current or past drug use/misuse: Unspecified opioids	Char
HxBenzo	OD	OD	Current or past drug use/misuse: Benzodiazepines	Char

HxCannabis	OD	OD	Current or past drug use/misuse: Cannabis (marijuana)	Char
HxCocaine	OD	OD	Current or past drug use/misuse: Cocaine	Char
HxDrugNoEvidence	OD	OD	No evidence of current or past drug use/misuse	Char
HxFentanyl	OD	OD	Current or past drug use/misuse: Fentanyl	Char
HxHeroin	OD	OD	Current or past drug use/misuse: Heroin	Char
HxMeth	OD	OD	Current or past drug use/misuse: Methamphetamine	Char
HxOther	OD	OD	Current or past drug use/misuse: Other substance	Char
HxOtherDescript	OD	OD	Current or past drug use/misuse: Other substance description	Char
HxRxOpioid	OD	OD	Current or past drug use/misuse: Prescription opioids	Char
HxUnspecified	OD	OD	Current or past drug use/misuse: Substance unspecified	Char
Incident_ID	OD	Incident Overview	Incident ID - When viewing the incident overview tab in the system, Incident ID can be found at the end of the URL . For example, https://nvdrs.cdc.gov/Incident/Details/9999999 where 9999999 is the incident ID	Num
Incident_Number	OD	Incident Overview	Incident Number - corresponds to when the incident was initiated in the system. Incident number can be repeated every incident year	Num
Incident_Year	OD	Incident Overview	Incident Year	Num
IncidentCategory	Incident	Incident Overview	Incident Category	Num
IncidentCategoryLabel	Incident	Incident Overview	Incident Category Label	Char
IncidentId	Toxicology		Incident ID	Num
IncidentId	Victim		Incident ID	Num
IncidentId	Incident		Incident ID	Num
IncidentId	Weapon		Incident ID	Num
IncidentNumber	Victim		Incident Number	Num
IncidentNumber	Weapon		Incident Number	Num
IncidentNumber	Incident		Incident Number	Num
IncidentNumber	Toxicology		Incident Number	Num

IncidentType	Incident	Incident Overview	Incident Type	Num
IncidentTypeLabel	Incident	Incident Overview	Overall description of whether the incident involved a single or multiple victims and the manner of all the victims' deaths	Char
IncidentYear	Toxicology		Year in which the incident occurred	Num
IncidentYear	Victim		Incident Year	Num
IncidentYear	Incident		Incident Year	Num
IncidentYear	Weapon		Incident Year	Num
IndicationsBuprenorphine	OD	OD	Prescription information: Prescribed buprenorphine/methadone	Char
IndicationsDrugPara	OD	OD	Any evidence of drug use	Char
IndicationsDrugsatScene	OD	OD	Evidence of illicit drugs	Char
IndicationsNone	OD	OD	No evidence of drug use	Char
IndicationsOther	OD	OD	Evidence of Illicit drugs: Other Illicit drug-specify	Char
IndicationsOtherNarrative	OD	OD	Evidence of Illicit drugs: Other Illicit drug-specify description	Char
IndicationsRxDrugs	OD	OD	Evidence of prescription drugs: Not prescribed to victim	Char
IndicationsTracks	OD	OD	Evidence of injection: Track marks on victim	Char
Industry	Victim	Demographics	Kind of business/industry code located on death certificate	Num
IndustryText	Victim	Demographics	Usual industry text	Char
InjuredAtVictimHome	Victim	Injury and Death	Injury occurred at the victim's residence	Num
InjuredAtVictimHomeLabel	Victim	Injury and Death	Injury occurred at the victim's residence	Char
InjuredAtWork	Victim	Injury and Death	Injury occurred at work or while the person was working	Num
InjuredAtWorkLabel	Victim	Injury and Death	Injury occurred at work or while the person was working	Char
InjuryCity	Victim	Injury and Death	City where injury occurred	Num
InjuryCityLabel	Victim	Injury and Death	City/town in which injury was inflicted	Char
InjuryCounty	Victim	Injury and Death	County where injury occurred	Num
InjuryCountyLabel	Victim	Injury and Death	County in which injury was inflicted	Char
InjuryDate	Victim	Injury and Death	Date of injury	Char
InjuryLocation	Victim	Injury and Death	Location where injury occurred	Num
InjuryLocationLabel	Victim	Injury and Death	Injury location	Char
InjuryState	Victim	Injury and Death	State or territory fips code where injury occurred	Char
InjuryStateLabel	Victim	Injury and Death	State or territory in which injury was inflicted	Char

InjuryTime	Victim	Injury and Death	Time of injury leading to death	Char
InjuryZip	Victim	Injury and Death	Zip code where injury occurred	Char
InterventionBreathing	OD	OD	First responder intervention: Rescue breathing	Char
InterventionCPR	OD	OD	First responder intervention: CPR	Char
InterventionEpinephrine	OD	OD	First responder intervention: Epinephrine administration	Char
InterventionOther	OD	OD	Other intervention - Specify:	Char
InterventionOtherSpecify	OD	OD	Other intervention - Specify Description	Char
InterventionOxygen	OD	OD	First responder intervention: Provided oxygen	Char
InterventionTransport	OD	OD	First responder intervention: Transport to ED	Char
InvoleCriminalJustice	OD	OD	Involved with criminal justice system (perpetrator)	Char
IPV_AlcoholProblemPerpetrator	Victim		IPV perpetrator had alcohol dependence or alcohol problem	Num
IPV_AlcoholProblemVictim	Victim		IPV victim had alcohol dependence or alcohol problem	Num
IPV_BreakupLength	Victim		Length of the breakup in the relationship between IPV perpetrator and IPV victim	Num
IPV_BreakupLengthUOM	Victim		Unit of time for IPV perpetrator and IPV Victim breakup	Num
IPV_BreakupLengthUOMLabel	Victim		Unit of time for IPV perpetrator and IPV Victim breakup	Char
IPV_ChildrenDropoffPickup	Victim		Homicide occurred during drop-off or pick-up of children	Num
IPV_ChildrenHome	Victim		Indicator of whether or not there were children under 18 living at the home	Num
IPV_ChildrenIntervened	Victim		Child intervened during the incident	Num
IPV_ChildrenNumberExposed	Victim		Number of children directly exposed to the incident (i.e., saw it, heard it, or discovered the body)	Num
IPV_ChildrenNumberLiving	Victim		How many of children under age 18 were living at the victims home at the time of the incident	Num
IPV_ChildrenNumberUnder5	Victim		Number of children age 5 or younger who witnessed the incident	Num
IPV_ChildrenShield	Victim		Use of child as shield during the incident	Num
IPV_CohabitationStatus	Victim		Cohabitation status of the IPV perpetrator and IPV victim at the time of the incident, i.e., living together in the same household, irrespective of marital status	Num
IPV_ConvictionTypeOtherPerpetrator	Victim		IPV: Conviction Type Perpetrator (Other)	Char
IPV_ConvictionTypeOtherVictim	Victim		Text describing other type(s) of conviction for IPV victim	Char

IPV_ConvictionTypePerpetrator	Victim		IPV: Conviction Type Perpetrator	Num
IPV_ConvictionTypePerpetratorLabel	Victim		IPV: Conviction Type Perpetrator	Char
IPV_ConvictionTypeVictim	Victim		Type of convictions for IPV victim	Num
IPV_ConvictionTypeVictimLabel	Victim		Type of convictions for IPV victim	Char
IPV_DiagnosisPhysicalIllnessPerpetrator	Victim		IPV: Diagnosis Physical Illness Perpetrator	Char
IPV_DiagnosisPhysicalIllnessVictim	Victim		IPV: Diagnosis Physical Illness Victim	Char
IPV_DisabilityDevelopmentalPerpetrator	Victim		IPV: Disability Developmental Perpetrator	Num
IPV_DisabilityDevelopmentalVictim	Victim		IPV: Disability Developmental Victim	Num
IPV_DisabilityPerpetrator	Victim		IPV perpetrator had a disability at the time of the incident	Num
IPV_DisabilityPhysicalPerpetrator	Victim		IPV: Disability Physical Perpetrator	Num
IPV_DisabilityPhysicalVictim	Victim		IPV victims disability was physical (e.g., paraplegia, cerebral palsy)	Num
IPV_DisabilitySensoryPerpetrator	Victim		IPV: Disability Sensory Perpetrator	Num
IPV_DisabilitySensoryVictim	Victim		IPV victim's disability was sensory (e.g., blindness, deafness)	Num
IPV_DisabilityVictim	Victim		IPV victim had a disability at the time of the incident	Num
IPV_HistoryMentalIllnessPerpetrator	Victim		IPV: History Mental Illness Perpetrator	Num
IPV_HistoryMentalIllnessVictim	Victim		IPV victim ever treated for a mental health problem	Num
IPV_HistorySuicideAttemptsPerpetrator	Victim		IPV: History Suicide Attempts Perpetrator	Num
IPV_HistorySuicideAttemptsVictim	Victim		IPV victim had a history of attempting to commit suicide	Num
IPV_HomicideDuringArgument	Victim		IPV homicide occurred in the midst of an argument or altercation	Num

IPV_IncidentType	Victim		Type of IPV homicide incident	Num
IPV_IncidentTypeLabel	Victim		Type of IPV homicide incident	Char
IPV_MentalHealthDiagnosis OtherPerpetrator	Victim		IPV: Mental Health Diagnosis Other Perpetrator	Char
IPV_MentalHealthDiagnosis OtherVictim	Victim		IPV: Mental Health Diagnosis Other Victim	Char
IPV_MentalHealthDiagnosis Pepetrator1	Victim		IPV: Mental Health Diagnosis Pepetrator 1	Num
IPV_MentalHealthDiagnosis Pepetrator1Label	Victim		IPV: Mental Health Diagnosis Pepetrator 1	Char
IPV_MentalHealthDiagnosis Pepetrator2	Victim		IPV: Mental Health Diagnosis Pepetrator 2	Num
IPV_MentalHealthDiagnosis Pepetrator2Label	Victim		IPV: Mental Health Diagnosis Pepetrator 2	Char
IPV_MentalHealthDiagnosis Pepetrator3	Victim		IPV: Mental Health Diagnosis Pepetrator 3	Num
IPV_MentalHealthDiagnosis Pepetrator3Label	Victim		IPV: Mental Health Diagnosis Pepetrator 3	Char
IPV_MentalHealthDiagnosis Victim1	Victim		IPV: Mental Health Diagnosis Victim 1	Num
IPV_MentalHealthDiagnosis Victim1Label	Victim		IPV: Mental Health Diagnosis Victim 1	Char
IPV_MentalHealthDiagnosis Victim2	Victim		IPV: Mental Health Diagnosis Victim 2	Num
IPV_MentalHealthDiagnosis Victim2Label	Victim		IPV: Mental Health Diagnosis Victim 2	Char
IPV_MentalHealthDiagnosis Victim3	Victim		IPV: Mental Health Diagnosis Victim 3	Num
IPV_MentalHealthDiagnosis Victim3Label	Victim		IPV: Mental Health Diagnosis Victim 3	Char
IPV_MentalHealthProblemP erpetrator	Victim		IPV: Mental Health Problem Perpetrator	Num
IPV_MentalHealthProblem Victim	Victim		IPV victim had a mental health problem	Num
IPV_Perpetrator	Victim		Identification of whether the IPV perpetrator is the NVDRS suspect, victim, or neither	Num

IPV_PerpetratorArrestType	Victim		Type of arrests for IPV perpetrator	Num
IPV_PerpetratorArrestTypeLabel	Victim		Type of arrests for IPV perpetrator	Char
IPV_PerpetratorArrestTypeText	Victim		Text describing other type(s) of arrest for IPV perpetrator	Char
IPV_PerpetratorLabel	Victim		Identification of whether the IPV perpetrator is the NVDRS suspect, victim, or neither	Char
IPV_PhysicalIllnessPerpetrator	Victim		IPV: Physical Illness Perpetrator	Num
IPV_PhysicalIllnessVictim	Victim		IPV victim had an acute or chronic physical illness at the time of the incident	Num
IPV_Premeditated	Victim		IPV homicide appears to have involved premeditation or advance planning	Num
IPV_PriorArrestPerpetrator	Victim		IPV perpetrator had prior arrest(s)	Num
IPV_PriorArrestPerpetratorIPV	Victim		IPV perpetrator had prior arrest for violence against an intimate partner	Num
IPV_PriorArrestVictim	Victim		IPV victim had prior arrest(s)	Num
IPV_PriorArrestVictimIPV	Victim		IPV victim had prior arrest for violence against an intimate partner	Num
IPV_PriorConvictionsPerpetrator	Victim		IPV: Prior Convictions Perpetrator	Num
IPV_PriorConvictionsVictim	Victim		IPV victim had prior criminal conviction(s)	Num
IPV_RelationshipBreakup	Victim		Indication of a breakup or in-process breakup of IPV perpetrator and IPV victim	Num
IPV_RelationshipLength	Victim		Length of time the IPV perpetrator and IPV victim were involved in a romantic relationship	Num
IPV_RelationshipLengthUOM	Victim		Unit of time for IPV perpetrator and IPV victim involvement in a romantic relationship	Num
IPV_RelationshipLengthUOMLabel	Victim		Unit of time for IPV perpetrator and IPV victim involvement in a romantic relationship	Char
IPV_RestrainingOrder	Victim		Refers to whether there was a restraining order between the members of the couple (IPV victim and IPV perpetrator) at the time of incident	Num
IPV_RestrainingOrderHistory	Victim		Refers to whether there was ever a restraining order between the members of the couple (IPV victim and IPV perpetrator)	Num

IPV_RestrainingOrderIssueDate	Victim		IPV: Restraining Order Issue Date	Char
IPV_RestrainingOrderPersonsProtected	Victim		IPV: Restraining Order Persons Protected	Num
IPV_RestrainingOrderPersonsProtectedLabel	Victim		IPV: Restraining Order Persons Protected	Char
IPV_RestrainingOrderServed	Victim		IPV: Indication of whether the restraining order was served	Num
IPV_RestrainingOrderType	Victim		IPV: The type of restraining order in place	Num
IPV_SourceCME	Victim		IPV data source: Coroner/Medical Examiner Report	Char
IPV_SourceCriminalHistory	Victim		IPV data source: Criminal History Database	Char
IPV_SourceDeathCertificate	Victim		IPV data source: Death Certificate	Char
IPV_SourceDistrictAttorney	Victim		IPV data source: Court or Prosecutor Records	Char
IPV_SourceDomesticViolenceFatalityReviewTeam	Victim		IPV: Source Domestic Violence Fatality Review Team	Char
IPV_SourceGunTrace	Victim		IPV data source: Gun Trace Report	Char
IPV_SourceHospicalEmergencyRoom	Victim		IPV: Source Hospical Emergency Room	Char
IPV_SourceLab	Victim		IPV data source: Crime Lab Report	Char
IPV_SourceNews	Victim		IPV data source: Newspaper Reports	Char
IPV_SourceOther	Victim		IPV data source: Other Data Sources	Char
IPV_SourcePoliceReport	Victim		IPV data source: Law enforcement report	Char
IPV_SourceRestrainingOrder	Victim		IPV data source: Restraining Order Records	Char
IPV_SourceSupplementaryHomicideReportNationalIncidentBasedReportingSystem	Victim		IPV: Source Supplementary Homicide Report National Incident Based Reporting System	Char
IPV_StepChildPerpetrator	Victim		Were any of those children not the IPV perpetrators offspring	Num
IPV_StepChildVictim	Victim		Were any of those children not the IPV victims offspring	Num
IPV_SuicideDisclosedIntentPerpetrator	Victim		IPV: Suicide Disclosed Intent Perpetrator	Num
IPV_SuicideDisclosedIntentVictim	Victim		IPV victim disclosed to another person intentions to commit suicide	Num

IPV_SusbstanceAbusePerpetrator	Victim		IPV: Susbstance Abuse Perpetrator	Num
IPV_SusbstanceAbuseVictim	Victim		IPV: Susbstance Abuse Victim	Num
IPV_SuspectCharged	Victim		IPV suspect charged in this incident	Num
IPV_SuspectChargedLabel	Victim		IPV suspect charged in this incident	Char
IPV_SuspectConvicted	Victim		IPV suspect convicted in this incident	Num
IPV_SuspectConvictedOriginalCharge	Victim		IPV: Suspect Convicted Original Charge	Num
IPV_SuspectDied	Victim		IPV suspect died following the incident	Num
IPV_SuspectedArrested	Victim		IPV: Suspected Arrested	Num
IPV_SuspectedDrugUsePerpetrator	Victim		IPV perpetrator suspected to be under the influence of an illicit drug at the time of the incident	Num
IPV_SuspectedDrugUseVictim	Victim		IPV victim suspected to be under the influence of an illicit drug at the time of the incident	Num
IPV_SuspectedIntoxicatedPerpetrator	Victim		IPV: Suspected Intoxicated Perpetrator	Num
IPV_SuspectedIntoxicatedVictim	Victim		IPV victim suspected to be under the influence of alcohol at the time of the incident	Num
IPV_SuspectFled	Victim		IPV suspect arrested but fled while on bond or escaped custody	Num
IPV_SuspectWarrant	Victim		Warrant issued for the IPV suspect in this incident	Num
IPV_TreatmentMentalHealthPerpetrator	Victim		IPV: Treatment Mental Health Perpetrator	Num
IPV_TreatmentMentalHealthVictim	Victim		IPV victim currently in treatment for a mental health problem	Num
IPV_Victim	Victim		Identification of whether the IPV victim is the NVDRS suspect, victim, or neither	Num
IPV_VictimArrestType	Victim		Type of arrests for IPV victim	Num
IPV_VictimArrestTypeLabel	Victim		Type of arrests for IPV victim	Char
IPV_VictimArrestTypeText	Victim		Text describing other type(s) of arrest for IPV victim	Char
IPV_VictimLabel	Victim		Identification of whether the IPV victim is the NVDRS suspect, victim, or neither	Char
IsAdministeredByLE	OD		Naloxone administered By LE	Char
IsNaloxoneAdminBystander	OD	OD	Naloxone administered by lay-person	Char
IsNaloxoneAdminEms	OD	OD	Naloxone administered by EMS/fire	Char

IsNaloxoneAdminHospital	OD	OD	Naloxone administered by hospital (ED/inpatient)	Char
IsNaloxoneAdminLaw	OD	OD	Naloxone administered by law enforcement	Char
IsNaloxoneAdminOther	OD	OD	Naloxone administered by other person type (specify in narrative)	Char
IsNaloxoneAdminUnknown	OD	OD	Naloxone administered, Unknown by whom	Char
IsNaloxoneNotAdmin	OD	OD	Naloxone not administered	Char
IsNaloxoneUnknown	OD	OD	Unknown whether naloxone administered	Char
IsNaloxoneWhoFriend	OD	OD	Type of lay-person who administered naloxone: Friend	Char
IsNaloxoneWhoOther	OD	OD	Type of lay-person who administered naloxone: Other-Specify:	Char
IsNaloxoneWhoOtherFamily	OD	OD	Type of lay-person who administered naloxone: Other family	Char
IsNaloxoneWhoPartner	OD	OD	Type of lay-person who administered naloxone: Intimate Partner	Char
IsNaloxoneWhoPerson	OD	OD	Type of lay-person who administered naloxone: Person using drugs	Char
IsNaloxoneWhoRoommate	OD	OD	Type of lay-person who administered naloxone: Roommate	Char
IsNaloxoneWhoStranger	OD	OD	Type of lay-person who administered naloxone: Stranger	Char
IsNoSubstanceAsCauseOfDeath	Victim	Toxicology	No substance(s) given as cause of death	Char
IsPrescribedToVictim	OD	OD	Evidence of prescription drugs: prescribed to victim	Char
IsPrescriptionBottle	OD	OD	Type of prescription drug evidence found: Prescription Bottle	Char
IsPrescriptionCounterfeit	OD	OD	Evidence of illicit drugs: Counterfeit Pills	Char
IsPrescriptionFentanyl	OD	OD	Evidence of use of prescription fentanyl at scene or by witness report	Char
IsPrescriptionLiquid	OD	OD	Type of prescription drug evidence found: Liquid	Char
IsPrescriptionLozenge	OD	OD	Type of prescription drug evidence found: Lozenges/lollipops	Char
IsPrescriptionOther	OD	OD	Type of prescription drug evidence found: Other form	Char
IsPrescriptionPatch	OD	OD	Type of prescription drug evidence found: Patch	Char
IsPrescriptionPill	OD	OD	Type of prescription drug evidence found: Pills/Tablets	Char
IsPrescriptionVial	OD	OD	Type of prescription drug evidence found: Vial	Char
IsSchoolRelated	Victim			Char
IsTourniquetAroundArm	OD	OD	Evidence of rapid overdose: Tourniquet around arm	Char

IsUnknownWhoPrescribed	OD	OD	Evidence of prescription drugs: Unknown who prescribed	Char
LastNameFirstInitial	Victim	Demographics	First initial of last name	Char
LastSeenAliveDate	OD	OD	Date last known alive and well	Char
LastSeenAliveDay	OD	OD	Day last known alive and well	Num
LastSeenAliveMonth	OD	OD	Month last known alive and well	Num
LastSeenAliveTime	OD	OD	Time last known alive and well	Char
LastSeenAliveYear	OD	OD	Year last known alive and well	Num
LastUpdateDate	Incident		Date incident record was last updated	Num
LE_AbusedAsChild	Victim	Circumstances	LE: Victim had a history of abuse (physical, mental or emotional) or neglect (physical or emotional) as a child	Char
LE_AlcoholProblem	Victim	Circumstances	LE: Victim had alcohol dependence or alcohol problem	Char
LE_Argument	Victim	Circumstances	LE: An argument or conflict led to the victims death	Char
LE_ArgumentTiming	Victim	Circumstances	LE: Timing of the argument that led to victims death	Num
LE_ArgumentTimingLabel	Victim	Circumstances	LE: Timing of the argument that led to victims death	Char
LE_Brawl	Victim	Circumstances	LE: A mutual physical fight between 3 or more individuals resulted in the death of individuals involved in the fight or, bystanders or individuals trying to stop the argument	Char
LE_BulletRicochet	Victim	Circumstances	LE: Bullet ricocheted off course from its intended target and struck the victim	Char
LE_Bystander	Victim	Circumstances	LE: Victim was a bystander, not the intended target	Char
LE_CelebratoryFiring	Victim	Circumstances	LE: Shooter was firing the gun in a celebratory manner with no intention of threatening or endangering others	Char
LE_CircumstancesKnown	Victim	Circumstances	LE: Indicates if any information is available in the LE report about the circumstances, including other circumstances, associated with this violent death	Char
LE_CircumstancesOtherText	Victim	Circumstances	LE: Other specified problems contributed to the death	Char
LE_CrisisAlcoholProblem	Victim	Circumstances	LE: Alcohol problem was a crisis	Char
LE_CrisisCivilLegal	Victim	Circumstances	LE: Civil/legal problems were a crisis	Char
LE_CrisisCriminal	Victim	Circumstances	LE: Contributing criminal legal problem was a crisis	Char
LE_CrisisDisasterExposure	Victim	Circumstances	LE: Disaster exposure was a crisis	Char
LE_CrisisEviction	Victim	Circumstances	LE: Eviction or loss of home was a crisis	Char
LE_CrisisFamilyRelationship	Victim	Circumstances	LE: Family relationship problem was a crisis	Char
LE_CrisisFinancial	Victim	Circumstances	LE: Financial problem was a crisis	Char
LE_CrisisIntimatePartnerProblem	Victim	Circumstances	LE: Intimate partner problem was a crisis	Char

LE_CrisisJealousy	Victim	Circumstances	LE: Jealousy (lovers' triangle) was a crisis	Char
LE_CrisisJob	Victim	Circumstances	LE: Job problem was a crisis	Char
LE_CrisisMentalHealth	Victim	Circumstances	LE: Current diagnosed mental health problem was a crisis	Char
LE_CrisisOtherAddiction	Victim	Circumstances	LE: Other addiction was a crisis	Char
LE_CrisisPhysicalHealth	Victim	Circumstances	LE: Contributing physical health problem was a crisis	Char
LE_CrisisProstitution	Victim	Circumstances	LE: Prostitution was a crisis	Char
LE_CrisisRecent	Victim	Circumstances	LE: Victim experienced a crisis within two weeks of the incident, or a crisis was imminent within two weeks of the incident that was not associated with another circumstance variable	Char
LE_CrisisRelatedDeathFriendOrFamilyOther	Victim	Circumstances	LE: Crisis Related Death Friend Or Family (Other)	Char
LE_CrisisRelatedSuicideFriendOrFamily	Victim	Circumstances	LE: Crisis Related Suicide Friend Or Family	Char
LE_CrisisRelationshipProblemOther	Victim	Circumstances	LE: Crisis Relationship Problem (Other)	Char
LE_CrisisSchool	Victim	Circumstances	LE: School problem was a crisis	Char
LE_CrisisStalking	Victim	Circumstances	LE: Stalking was a crisis	Char
LE_CrisisSubstanceAbuse	Victim	Circumstances	LE: Other substance abuse problem was a crisis	Char
LE_DeathAbuse	Victim	Circumstances	LE: Violent death was directly related or precipitated by abuse (physical, mental or emotional) or neglect (physical, medical, or emotional) by a caretaker	Char
LE_DeathFriendOrFamilyOther	Victim	Circumstances	LE: Death of a family member or friend due to something other than suicide appears to have contributed to the death	Char
LE_DepressedMood	Victim	Circumstances	LE: Victim was perceived by self or others to be depressed at the time of the injury	Char
LE_DisasterExposure	Victim	Circumstances	LE: Exposure to a disaster was perceived as a contributing factor in incident	Char
LE_DisclosedIntentToWhom	Victim	Circumstances	LE: Person to whom victim recently disclosed suicidal thoughts and/or plans to commit suicide	Num
LE_DiscloseToFriend	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to victim's close friend	Char

LE_DiscloseToHealthCareWorker	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to healthcare worker	Char
LE_DiscloseToIntimatePartner	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to victim's intimate partner	Char
LE_DiscloseToNeighbor	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to victim's neighbor	Char
LE_DiscloseToOther	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to other (specify in textbox)	Char
LE_DiscloseToOtherDesc	Victim	Circumstances	LE: other type of person whom victim recently disclosed suicidal thoughts and/or plans to die by suicide description	Char
LE_DiscloseToOtherFamilyMember	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to family member other than intimate partner	Char
LE_DiscloseToSocialMedia	Victim	Circumstances	LE: victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.") to social media	Char
LE_DiscloseToUnknown	Victim	Circumstances	LE: unknown whom victim recently disclosed suicidal thoughts and/or plans to die by suicide (i.e., coded "Recent Disclosed Suicidal Thought and/or Plan.")	Char
LE_DriveByShooting	Victim	Circumstances	LE: Victim was killed in shooting where the suspect(s) drives near the victim or target and shoots while driving, or uses a car to approach and flee the scene of a homicide, but steps out of the car just long enough to use a weapon	Char
LE_DrugInvolvement	Victim	Circumstances	LE: Drug dealing, drug trade, or drug use is suspected to have played a role in precipitating the incident	Char

LE_EvictionOrLossOfHome	Victim	Circumstances	LE: A recent eviction or other loss of the victims housing, or the threat of it, appears to have contributed to the death	Char
LE_FamilyRelationship	Victim	Circumstances	LE: Victim had relationship problems with a family member (other than an intimate partner) that appear to have contributed to the death	Char
LE_FightBetweenTwoPeople	Victim	Circumstances	LE: Immediately before the violent death, there was a physical fight between two individuals which resulted in the death of individuals involved in the fight, bystanders, or individuals trying to stop the argument	Char
LE_FinancialProblem	Victim	Circumstances	LE: Financial problems appear to have contributed to the death	Char
LE_GangType	Victim	Circumstances	LE: Gang Type	Num
LE_GangTypeLabel	Victim	Circumstances	LE:Gang type label	Char
LE_GunCleaning	Victim	Circumstances	LE: Shooter pulled the trigger or the gun otherwise discharged (e.g., bumped gun while cleaning) while cleaning, repairing, or assembling/disassembling the gun	Char
LE_GunDefectMalfunction	Victim	Circumstances	LE: Firearm discharged due to some defect or mechanical malfunction	Char
LE_GunDropped	Victim	Circumstances	LE: Gun was dropped and unintentionally discharged upon impact	Char
LE_GunFiredHolstering	Victim	Circumstances	LE: Firearm discharged while it was being placed in or removed from its holster or clothing	Char
LE_GunFiredLoadingUnloading	Victim	Circumstances	LE: Shooter was loading or unloading ammunition from the gun when it discharged	Char
LE_GunFiredOperatingSafetyLock	Victim	Circumstances	LE: Gun unintentionally discharged while the gun handler was attempting to open or close the lock	Char
LE_GunPlaying	Victim	Circumstances	LE: Shooter was playing with gun when it discharged	Char
LE_GunShowing	Victim	Circumstances	LE: Shooter was showing the gun to another person when the gun discharged	Char
LE_GunThoughtSafetyEngaged	Victim	Circumstances	LE: Shooter thought the safety was on and the firearm would not discharge	Char
LE_GunThoughtToy	Victim	Circumstances	LE: Gun was mistaken for a toy and discharged during handling/play	Char
LE_GunThoughtUnloadedMagazineDisengaged	Victim	Circumstances	LE: Gun Thought Unloaded Magazine Disengaged	Char

LE_GunThoughtUnloadedOther	Victim	Circumstances	LE: Shooter thought the gun was unloaded for a reason other than the magazine being disengaged, or for an unspecified reason	Char
LE_GunUnintentionallyPulledTrigger	Victim	Circumstances	LE: Gun Unintentionally Pulled Trigger	Char
LE_HateCrime	Victim	Circumstances	LE: Homicide was associated with a hate crime	Char
LE_HealthProblemAcute	Victim	Circumstances	LE: victim's acute pain contributed to the death	Char
LE_HealthProblemChronicPain	Victim	Circumstances	LE: victim's chronic pain contributed to the death	Char
LE_HealthProblemOther	Victim	Circumstances	LE: other specified problems contributed to the death	Char
LE_HealthProblemPainUnknownDuration	Victim	Circumstances	LE: pain of unknown duration contributed to the death	Char
LE_HealthProblemTerminalIllness	Victim	Circumstances	LE: a terminal illness or condition contributed to the death	Char
LE_HealthProblemTypeDesc	Victim	Circumstances	LE: description of the type of illness, condition, or pain that contributed to death	Char
LE_HealthProblemUnknown	Victim	Circumstances	LE: an unknown type illness or condition contributed to the death	Char
LE_HistoryMentalIllnessTreatment	Victim	Circumstances	LE: History Mental Illness Treatment	Char
LE_Hunting	Victim	Circumstances	LE: Shooter or victim was hunting or on a hunting trip	Char
LE_InterpersonalViolencePerpetrator	Victim	Circumstances	LE : Interpersonal Violence Perpetrator	Char
LE_InterpersonalViolenceVictim	Victim	Circumstances	LE: Victim experienced violence in the past month that was distinct and occurred before the violence that killed the victim	Char
LE_IntervenerAssistingVictim	Victim	Circumstances	LE: Victim was an intervener other than a law enforcement officer who was killed while assisting a crime victim	Char
LE_IntimatePartnerProblem	Victim	Circumstances	LE: Problems with a current or former intimate partner appear to have contributed to the suicide or undetermined death	Char
LE_IntimatePartnerViolence	Victim	Circumstances	LE: Homicide or legal intervention death was related to immediate or ongoing conflict or violence between current or former intimate partners	Char
LE_IsCaregiverBurden	Victim	Circumstances	LE: Caregiver burden	Char

LE_IsCommunityRelatedStressor	Victim	Circumstances		Char
LE_IsCorporalPunishment	Victim	Circumstances	LE: Caregiver use of corporal punishment contributed to child death	Char
LE_IsCrisisCommunityRelatedStressor	Victim	Circumstances		Char
LE_IsFamilyStressor	Victim	Circumstances	LE: Family stressor	Char
LE_IsHistorySelfHarm	Victim	Circumstances	LE: History of non-suicidal self-injury/self-harm	Char
LE_IsHouseholdKnown	Victim	Circumstances	LE: Household known to local authorities	Char
LE_IsHouseholdSubstanceAbuse	Victim	Circumstances	LE: Substance abuse in child victim's household	Char
LE_IsLivingTransition	Victim	Circumstances	LE: Living transition/loss of independent living	Char
LE_IsPriorCPSReport	Victim	Circumstances	LE: Prior child protective services (CPS) report on a child victim's household	Char
LE_IsTraumaticBrainInjuryHistory	Victim	Circumstances	LE: History of traumatic brain injury (TBI)	Char
LE_IsTreatmentNonAdherence	Victim	Circumstances	LE: Non-adherence to mental health/substance abuse treatment	Char
LE_Jealously	Victim	Circumstances	LE: Jealousy (lovers' triangle) was a crisis	Char
LE_JobProblem	Victim	Circumstances	LE: Job problem(s) appear to have contributed to the death	Char
LE_JustifiableSelfDefense	Victim	Circumstances	LE: Homicide was committed by a law enforcement officer in the line of duty or was committed by a civilian in legitimate self-defense or in defense of others	Char
LE_LegalProblemOther	Victim	Circumstances	LE: Civil legal (non-criminal) problems appear to have contributed to the death	Char
LE_MentalHealthDiagnosis1	Victim	Circumstances	LE: 1st type of mental illness diagnosis	Num
LE_MentalHealthDiagnosis1Label	Victim	Circumstances	LE: 1st type of mental illness diagnosis description	Char
LE_MentalHealthDiagnosis2	Victim	Circumstances	LE: 2nd type of mental illness diagnosis	Num
LE_MentalHealthDiagnosis2Label	Victim	Circumstances	LE: 2nd type of mental illness diagnosis description	Char
LE_MentalHealthDiagnosisOther	Victim	Circumstances	LE: Other type of mental illness diagnosis	Char
LE_MentalHealthProblem	Victim	Circumstances	LE: Victim had been identified as currently having a mental health problem	Char

LE_MentalIllnessTreatmentCurrent	Victim	Circumstances	LE: Mental Illness Treatment Current	Char
LE_MercyKilling	Victim	Circumstances	LE: Victim was killed, at the victims request, out of compassion in order to end his or her pain or distress	Char
LE_NatureOtherCrime1	Victim	Circumstances	LE: Nature of the 1st crime that precipitated the incident	Num
LE_NatureOtherCrime1Label	Victim	Circumstances	LE: Nature of the 1st crime that precipitated the incident	Char
LE_NatureOtherCrime2	Victim	Circumstances	LE: Nature of the 2nd crime that precipitated the incident	Num
LE_NatureOtherCrime2Label	Victim	Circumstances	LE: Nature of the 2nd crime that precipitated the incident	Char
LE_OtherAddiction	Victim	Circumstances	LE: Victim had an addiction other than alcohol or other substance abuse, such as gambling, sexual, etc., that appears to have contributed to the death	Char
LE_OtherContextInjury	Victim	Circumstances	LE: Shooting occurred during some context other than those described by the existing codes	Char
LE_OtherCrimeInProgress	Victim	Circumstances	LE: Precipitating crime was in progress at the time of the incident	Char
LE_OtherCrisis	Victim	Circumstances	LE: Victim experienced a crisis within two weeks of the incident, or a crisis was imminent within two weeks of the incident that was not associated with another circumstance variable description.	Char
LE_OtherMechanismInjury	Victim	Circumstances	LE: Shooting occurred as the result of a mechanism not already described by one of the existing codes	Char
LE_PhysicalHealthProblem	Victim	Circumstances	LE: Victims physical health problem(s) appear to have contributed to the death	Char
LE_PhysicalHealthProblemType	Victim	Circumstances	LE: Type of physical health problem from CME	Char
LE_PrecipitatedbyOtherCrime	Victim	Circumstances	LE: Death was precipitated by another serious crime (e.g., drug dealing, robbery)	Char
LE_Prostitution	Victim	Circumstances	LE: Prostitution or prostitution-related activities played a precipitating role in the incident	Char
LE_RandomViolence	Victim	Circumstances	LE: Victim was killed by a random act of violence	Char
LE_RecentCriminalLegalProblem	Victim	Circumstances	LE: Criminal legal problems appear to have contributed to the death	Char

LE_RecentSuicideFriendFamily	Victim	Circumstances	LE: Suicide of a family member or friend appears to have contributed to the death	Char
LE_RelationshipProblemOther	Victim	Circumstances	LE: Problems with a friend or associate (other than an intimate partner or family member) appear to have contributed to the death	Char
LE_SchoolProblem	Victim	Circumstances	LE: Problems at or related to school appear to have contributed to the death	Char
LE_SelfDefense	Victim	Circumstances	LE: Victim was attempting to defend him or herself with a gun and inadvertently shot him or herself	Char
LE_Stalking	Victim	Circumstances	LE: Stalking behaviors precipitated the violent incident	Char
LE_SubstanceAbuseOther	Victim	Circumstances	LE: Victim had a non-alcohol related substance abuse problem	Char
LE_SuicideAttemptHistory	Victim	Circumstances	LE: Victim had a history of attempting suicide before the fatal incident	Char
LE_SuicideIntentDisclosed	Victim	Circumstances	LE: Victim disclosed to another person their thoughts and/or plans to commit suicide within the last month	Char
LE_SuicideNote	Victim	Circumstances	LE: Victim left a suicide note (or other recorded communication)	Char
LE_SuicideThoughtHistory	Victim	Circumstances	LE: Victim had a history of suicidal thoughts, plans or attempts	Char
LE_TargetShooting	Victim	Circumstances	LE: Shooter was aiming for a target and unintentionally hit a person	Char
LE_TerroristAttack	Victim	Circumstances	LE: Death resulted from a terrorist attack	Char
LE_TraumaticAnniversary	Victim	Circumstances	LE: Incident occurred on or near the anniversary of a traumatic event in the victims life and was perceived as a contributing factor	Char
LE_VictimKnownToLocalAuthorities	Victim	Circumstances	LE: the victim was known to local authorities	Char
LE_VictimPoliceOfficeOnDuty	Victim	Circumstances	LE: Victim Police Offic On Duty	Char
LE_VictimUsedWeapon	Victim	Circumstances	LE: Victim used a weapon during the course of the incident	Char
LE_WalkByAssault	Victim	Circumstances	LE: A targeted attack, such as an ambush, where the suspect(s) approached and fled on foot	Char
MarijuanaResult	Victim	Toxicology	Marijuana test result	Num
MarijuanaResultLabel	Victim	Toxicology	Marijuana results summary	Char

MarijuanaTested	Victim	Toxicology	Tested for marijuana	Num
MarijuanaTestedLabel	Victim		Tested for marijuana	Char
MaritalStatus	Victim	Demographics	Marital status	Num
MaritalStatusLabel	Victim	Demographics	Marital status of the victim	Char
MedHx_Apnea	OD	OD	Medical history: Sleep apnea	Char
MedHx_Asthma	OD	OD	Medical history: Asthma	Char
MedHx_Backpain	OD	OD	Medical history: Back pain	Char
MedHx_COPD	OD	OD	Medical history: COPD	Char
MedHx_Heart	OD	OD	Medical history: Heart disease	Char
MedHx_hepc	OD	OD	Medical history: Hepatitis C	Char
MedHx_hiv	OD	OD	Medical history: HIV/AIDS	Char
MedHx_Injury	OD	OD	History of major injury	Char
MedHx_Migraine	OD	OD	Medical history: Migraine	Char
MedHx_Obesity	OD	OD	Medical history: Obesity	Char
MedHx_OtherBreathing	OD	OD	Medical history: Other breathing problem (describe in narrative)	Char
MedHx_OtherPain	OD	OD	Medical history: Other chronic pain (describe in narrative)	Char
Military	Victim	Demographics	Current or former military personnel	Num
MilitaryLabel	Victim	Demographics	Has the person ever served in the U.S. Armed Forces	Char
Month_unresponsive	OD	OD	Month found unresponsive	Num
MultiCondition01ICD10		Injury and Death	Multiple conditions on DC (1)	Char
MultiCondition01ICD10Label	Victim		Multiple conditions on DC (1)	Char
MultiCondition02ICD10		Injury and Death	Multiple conditions on DC (2)	Char
MultiCondition02ICD10Label	Victim		Multiple conditions on DC (2)	Char
MultiCondition03ICD10		Injury and Death	Multiple conditions on DC (3)	Char
MultiCondition03ICD10Label	Victim		Multiple conditions on DC (3)	Char
MultiCondition04ICD10		Injury and Death	Multiple conditions on DC (4)	Char
MultiCondition04ICD10Label	Victim		Multiple conditions on DC (4)	Char
MultiCondition05ICD10		Injury and Death	Multiple conditions on DC (5)	Char
MultiCondition05ICD10Label	Victim		Multiple conditions on DC (5)	Char

MultiCondition06ICD10		Injury and Death	Multiple conditions on DC (6)	Char
MultiCondition06ICD10Label	Victim		Multiple conditions on DC (6)	Char
MultiCondition07ICD10		Injury and Death	Multiple conditions on DC (7)	Char
MultiCondition07ICD10Label	Victim		Multiple conditions on DC (7)	Char
MultiCondition08ICD10		Injury and Death	Multiple conditions on DC (8)	Char
MultiCondition08ICD10Label	Victim		Multiple conditions on DC (8)	Char
MultiCondition09ICD10		Injury and Death	Multiple conditions on DC (9)	Char
MultiCondition09ICD10Label	Victim		Multiple conditions on DC (9)	Char
MultiCondition10ICD10		Injury and Death	Multiple conditions on DC (10)	Char
MultiCondition10ICD10Label	Victim		Multiple conditions on DC (10)	Char
MuscleRelaxantResult	Victim	Toxicology	Muscle relaxer test result	Num
MuscleRelaxantResultLabel	Victim	Toxicology	Muscle relaxant results summary	Char
MuscleRelaxantTested	Victim	Toxicology	Tested for muscle relaxers	Num
MuscleRelaxantTestedLabel	Victim	Toxicology	Tested for muscle relaxant	Char
NaloxoneAdministered	OD	OD	Naloxone administered	Char
NaloxoneAdministeredDescription	OD		Naloxone Administered Description	Char
NaloxoneTotalBystander	OD	OD	Administered by bystander: Total # of Naloxone dosages administered by bystander	Num
NaloxoneTotalResponder	OD	OD	Total # of Naloxone dosages administered by first responders/health care	Num
NaloxoneWhoOtherDescription	OD	OD	Type of lay-person: Other- Specify Description	Char
NarrativeCME	Incident	Incident Overview	Incident narrative: CME	Char
NarrativeLE	Incident	Incident Overview	Incident narrative: LE	Char
NeedleLocation	OD	OD	Evidence of rapid overdose: Needle location	Num
NeedleLocationDescription	OD	OD	Evidence of rapid overdose: Needle location description	Char
No_Toxicology_Available	Victim	Toxicology	No Toxicology Available	Char

NoCMEReportAvailable	OD	OD	No CME report is available for abstraction	Char
NumberBullets	Victim		Number of bullets	Num
NumberNonfatallyShot	Incident		Number of persons who were non-fatally shot in the incident	Num
NumberOfDocuments	Incident		Number of source documents in the incident	Num
NumberOfSuspects	Incident		Number of suspects in the incident	Num
NumberOfVictims	Incident		Number of victims in the incident	Num
NumberOfWeapons	Incident		Number of weapons in the incident	Num
NumberWounds	Victim		Number of penetrating wounds	Num
NumDoctorsPrescribing30Days	OD	OD	Number of doctors writing opioid prescriptions in 180 days preceding injury	Num
NumPharmaciesPast30Days	OD	OD	Number of pharmacies dispensing opioids in 180 days preceding injury	Num
NumScripsPast30Days	OD	OD	Number of opioid prescriptions in the 30 days preceding injury	Num
OccupationCurrentText	Victim	Demographics	Current occupation	Char
OccupationText	Victim	Demographics	Usual occupation text	Char
OpiateResult	Victim	Toxicology	Opiate test result	Num
OpiateResultLabel	Victim	Toxicology	Opiate results summary	Char
OpiateTested	Victim	Toxicology	Tested for opiates	Num
OpiateTestedLabel	Victim	Toxicology	Tested for opiate	Char
OtherCondition	Victim	Injury and Death	Other significant conditions contributing to death	Char
OtherFormDescription	OD		Other Form Description	Char
Overdose0to2DaysPrior	OD	OD	Overdose occurred 0-2 days prior	Char
Overdose3to7DaysPrior	OD	OD	Overdose occurred 3-7 days prior	Char
Person_ID	OD	Incident Overview	Unique Person ID. When viewing the demographics tab in the system, this ID can be found after "Details/" in the URL. For example, https://nvdrs.cdc.gov/Victim/Details/999999?incidentId=123456 where 999999 is the Person ID	Num
PersonId	Victim		Person ID (victim)	Num
PersonId	Toxicology		Person ID (victim)	Num
PersonId	Weapon		Person ID	Num
PersonType	Victim	Demographics	Indicates whether the person was a victim of violence or both a victim and suspect	Num

PersonTypeLabel	Victim	Demographics	Indicates whether the person was a victim of violence or both a victim and suspect	Char
Pregnant	Victim	Demographics	Victim was pregnant or recently pregnant at the time of death	Num
PregnantLabel	Victim	Demographics	Victim was pregnant or recently pregnant at the time of death	Char
PrescriptionMorphine	OD	OD	Use of pharmaceutical morphine	Num
PrescriptionMorphineDescription	OD	OD	pharmaceutical morphine description	Char
PrescriptionMorphineNarrative	OD	OD	pharmaceutical morphine narrative	Char
PrescriptionOtherDescription	OD	OD	Other form of prescription drug evidence found - specify	Char
PreviousOverdose	OD	OD	Victim experienced a previous drug overdose	Num
PreviousOverdoseDescription	OD	OD	Previous drug overdose description	Char
RaceAmericanIndian	Victim	Demographics	Victim is American Indian or Alaskan Native	Char
RaceAsian	Victim	Demographics	Victim is Asian	Char
RaceBlack	Victim	Demographics	Victim is Black or African American	Char
RaceOther	Victim	Demographics	Victim is some other race	Char
RacePacificIslander	Victim	Demographics	Victim is Native Hawaiian or other Pacific Islander	Char
RaceUnspecified	Victim	Demographics	Victims race is unspecified (e.g., if ethnicity such as Hispanic was provided in place of their race)	Char
RaceWhite	Victim	Demographics	Victim is white	Char
RapidOverdoseOther	OD	OD	Evidence of rapid overdose: Other evidence	Char
RapidOverdoseOtherDescription	OD	OD	Rapid overdose other description	Char
RapidOverdoseWitnessReport	OD	OD	Evidence of rapid overdose: Witness report	Num
ReabstractionIncidentNumber	Incident		Incident Number of re-abstraction	Num
ReabstractionYear	Incident		Year of re-abstraction	Num
RecentED	OD	OD	Recent emergency department visit	Char
RecentOpioidUse	OD	OD	Recent return to use of opioids	Num
RecentOpioidUseDescription	OD	OD	Recent return to use of opioids description	Char

RecentRelease	Victim	Injury and Death	Death occurred within a month of the decedent being released from or admitted to an institutional setting	Num
RecentReleaseLabel	Victim	Injury and Death	Death occurred within a month of the decedent being released from or admitted to an institutional setting	Char
RelationshipStatus	Victim	Demographics	Victim's relationship status	Char
ResidenceCensusBlock	Victim	Demographics	US Census block group of residence	Num
ResidenceCensusTract	Victim	Demographics	US Census tract of residence	Char
ResidenceCity	Victim	Demographics	City of residence	Num
ResidenceCityLabel	Victim	Demographics	Residential city address of the victim (place code)	Char
ResidenceCounty	Victim	Demographics	County of residence	Num
ResidenceCountyLabel	Victim	Demographics	Residential county address of victim	Char
ResidenceState	Victim	Demographics	State or territory of residence	Num
ResidenceStateLabel	Victim	Demographics	Residential U.S. state or territory of victim	Char
ResidenceZip	Victim	Demographics	Zip code of residence	Char
RouteIngestion	OD	OD	Evidence of ingestion	Char
RouteInjection	OD	OD	Evidence of injection	Char
RouteSnorting	OD	OD	Evidence of snorting/sniffing	Char
RouteSuppository	OD	OD	Evidence of suppository	Char
RouteUnknown	OD	OD	No information on route of administration	Char
RxBuprenorphine	OD	OD	Prescribed buprenorphine	Char
RxBuprenorphine_MAT	OD	OD	Prescribed buprenorphine for MAT	Char
RxBuprenorphine_pain	OD	OD	Prescribed buprenorphine for pain	Char
RxBuprenorphine_unknown	OD	OD	Prescribed buprenorphine for unknown reason	Char
RxMethadone	OD	OD	Prescribed methadone	Char
RxMethadone_MAT	OD	OD	Prescribed methadone for MAT	Char
RxMethadone_pain	OD	OD	Prescribed methadone for pain	Char
RxMethadone_unknown	OD	OD	Prescribed methadone for unknown reason	Char
RxNaltrexone	OD	OD	Prescribed naltrexone	Char
SAVD_AccessRestrictionInUse	Incident		Access restrictions (e.g. proximity or card swipe access for staff, intrusion alarm systems)-in use	Char
SAVD_AccessRestrictionPresent	Incident		Access restrictions (e.g. proximity or card swipe access for staff, intrusion alarm systems)-present	Char
SAVD_AffiliationType	Victim		What was the victim's primary affiliation with the school associated with the death?	Char
SAVD_AlignedIdeologies	Victim		Aligned themselves with violent ideologies online	Char
SAVD_Auditorium	Incident		In an auditorium	Char

SAVD_BeforeKnowledge	Incident		What information was known by the witness in advance of the attack?	Char
SAVD_BeforeKnowledgeDesc	Incident			Char
SAVD_BreakRoom	Incident		In a break room or lounge	Char
SAVD_BusPickupDropOff	Incident		At a bus pickup or drop off point	Char
SAVD_Cafeteria	Incident		In a cafeteria	Char
SAVD_CalledNames	Victim		Called names, teased, or was bullied by peers	Char
SAVD_CampusLawn	Incident		On a campus lawn or gardens	Char
SAVD_Classroom	Incident		In a classroom	Char
SAVD_CommunicationDeviceInUse	Incident		Communication devices (e.g. 2-way radios, intercoms, mass text messages, mass e-mails)-in use	Char
SAVD_CommunicationDevicePresent	Incident		Communication devices (e.g. 2-way radios, intercoms, mass text messages, mass e-mails)-present	Char
SAVD_CommunityRelatedCrisis	Victim		Community-related crisis	Char
SAVD_ContextType	Victim		Which of the following best describes the context in which the injury event occurred?	Char
SAVD_DamagedProperty	Victim		Damaged or stole another's personal property or damaged school property	Char
SAVD_Driveway	Incident		In a driveway	Char
SAVD_ElectronicMedia	Incident			Char
SAVD_EmotionalAbuse	Victim		Emotional/psychological abuse as a child	Char
SAVD_FamilyRelatedCrisis	Victim		Family-related crisis	Char
SAVD_Gymnasium	Incident		In a gymnasium or other indoor sports facility	Char
SAVD_HadPropertyDamage	Victim		Had personal property damaged or stolen	Char
SAVD_Hallway	Incident		In a hallway	Char
SAVD_HandHeldMetalDetectorInUse	Incident		Hand-held metal detectors-in use	Char
SAVD_HandHeldMetalDetectorPresent	Incident		Hand-held metal detectors-present	Char
SAVD_HasElectronicMedia	Incident			Char
SAVD_HasJournal	Incident			Char
SAVD_HasNote	Incident			Char
SAVD_HasSocialMediaSign	Incident			Char

SAVD_HasVerbalThreat	Incident			Char
SAVD_InjuryEventLocationType	Incident		Where did the injury event occur?	Num
SAVD_Journal	Incident			Char
SAVD_LibraryMediaCenter	Incident		Library/Media center	Char
SAVD_LockerRoom	Incident		In a locker room	Char
SAVD_NameCalling	Victim		Name calling, teasing and/or bullying peers	Char
SAVD_Neglect	Victim		Neglect	Char
SAVD_Note	Incident			Char
SAVD_NumberOfNonFatalInjuries	Incident		Number of non-fatally injured persons in this incident	Num
SAVD_Office	Incident		In an office	Char
SAVD_OtherAffiliationType	Victim		Victim's primary affiliation: if other selected, please specify	Char
SAVD_OtherBehavior	Victim		Other	Char
SAVD_OtherBehaviorDesc	Victim		Other-specify	Char
SAVD_OtherContextType	Victim		Context in which the injury occurred: if other selected, please specify	Char
SAVD_OtherIndoorLocation	Incident		Other indoor location	Char
SAVD_OtherIndoorLocationDesc	Incident		Other indoor location-specify	Char
SAVD_OtherOutdoorLocation	Incident		Other outdoor location	Char
SAVD_OtherOutdoorLocationDesc	Incident		Other outdoor location-specify	Char
SAVD_OtherSecurityDeviceDesc	Incident		Other security measures present-specify	Char
SAVD_OtherSecurityDeviceInuse	Incident		Other security measures-in use	Char
SAVD_OtherSecurityDevicePresent	Incident		Other security measures-present	Char
SAVD_OtherSign	Incident		Other actions (e.g. playful suggestion that person might commit act, voiced suicidal thoughts)-present	Char
SAVD_OtherSignDesc	Incident		Other actions (e.g. playful suggestion that person might commit act, voiced suicidal thoughts)-specify	Char

SAVD_OtherTimingSAVDIncident	Victim			Char
SAVD_ParkingLot	Incident		In a parking lot	Char
SAVD_PartnerAbuse	Victim		Victimization in intimate partner violence/teen dating	Char
SAVD_PhysicalChildAbuse	Victim		Physical child abuse	Char
SAVD_PhysicallyThreatened	Victim		Physically threatened on physically fought with peers	Char
SAVD_PossessedIllegalSubstances	Victim		Possessed/used illegal substances	Char
SAVD_PossessedWeapon	Victim		Possessed a weapon	Char
SAVD_PostedThreats	Victim		Posted threats or manifestos online	Char
SAVD_ReceivedPhysicalThreats	Victim		Physically threatened and/or assaulted by peers	Char
SAVD_ReceivedVerbalThreats	Victim		Received verbal, written, or electronic threats	Char
SAVD_RelationshipRelatedCrisis	Victim		Relationship-related crisis	Char
SAVD_Restroom	Incident		In a restroom	Char
SAVD_SchoolEvent	Incident		Type of school sponsored event	Num
SAVD_SchoolRelatedCrisis	Victim		School-related crisis	Char
SAVD_SecurityAvailable	Incident		Security measures at the time of injury-present	Num
SAVD_SecurityInUse	Incident		Security measures at the time of injury-in use	Char
SAVD_SecurityMeasureComment	Incident		Any specifics about security measures e.g., number of security devices, when in use, where in use, how monitored, etc	Char
SAVD_SentThreats	Victim		Sent verbal, written, or electronic threats	Char
SAVD_SexualChildAbuse	Victim		Sexual child abuse	Char
SAVD_SexualViolence	Victim		Victimization in sexual violence	Char
SAVD_SocialMediaSign	Incident			Char
SAVD_SportingFieldPlayground	Incident		On sporting fields or playground	Char
SAVD_Stairwell	Incident		In a stairwell	Char
SAVD_SurveillanceCameralnUse	Incident		Surveillance cameras-in use	Char
SAVD_SurveillanceCameraPresent	Incident		Surveillance cameras-present	Char

SAVD_TimingSAVDIncident	Victim			Char
SAVD_UnknownSign	Incident		Signs: unknown	Char
SAVD_UseWeapon	Victim		If this victim used a weapon, specify the type	Char
SAVD_VerbalThreat	Incident			Char
SAVD_WalkThroughMetalDetectorInUse	Incident		Walk-through metal detectors-in use	Char
SAVD_WalkThroughMetalDetectorPresent	Incident		Walk-through metal detectors-present	Char
Sex	Victim	Demographics	Biological sex of the victim	Num
SexLabel	Victim	Demographics	Biological sex of the victim	Char
SexOfPartner	Victim	Demographics	Sex of victim's partner	Char
SexualOrientation	Victim	Demographics	Sexual orientation	Num
SexualOrientationLabel	Victim	Demographics	Sexual orientation (includes gay, lesbian, or bisexual)	Char
SiteID	Victim		Site ID (state)	Num
SiteID	Weapon		Site ID	Num
SiteID	Incident		Site ID	Num
SiteID	OD		Site ID	Num
SiteId	Toxicology		Site ID (state)	Num
SmokingBongBowl	OD	OD	Evidence of smoking/inhalation: bong or bowl	Char
SmokingOther	OD	OD	Evidence of smoking/inhalation: other smoking evidence	Char
SmokingOtherDescript	OD	OD	Evidence of smoking/inhalation: other smoking evidence-specify	Char
SmokingPipe	OD	OD	Evidence of smoking/inhalation: pipes	Char
SmokingTinfoil	OD	OD	Evidence of smoking/inhalation: tinfoil	Char
SmokingVape	OD	OD	Evidence of smoking/inhalation: vap pens or e-cigarettes	Char
SmokingWitness	OD	OD	Evidence of smoking/inhalation: witness report	Char
SnortingOther	OD	OD	Evidence of snorting/sniffing: other snorting evidence	Char
SnortingOtherDescript	OD	OD	Evidence of snorting/sniffing: other snoring evidence-specify	Char
SnortingPowderMirror	OD	OD	Evidence of snorting/sniffing: powder on table/mirror	Char
SnortingPowderNose	OD	OD	Evidence of snorting/sniffing: powder on decedent's nose	Char
SnortingRazor	OD	OD	Evidence of snorting/sniffing: razor blades	Char
SnortingRolled	OD	OD	Evidence of snorting/sniffing: rolled paper or dollar bills	Char

SnortingStraw	OD	OD	Evidence of snorting/sniffing: straws	Char
SnortingWitness	OD	OD	Evidence of snorting/sniffing: witness report	Char
SpecimensDate	Victim	Toxicology	Date specimens were collected	Char
SpecimensTime	Victim	Toxicology	Time specimens were collected	Char
SubstanceCausedDeath	Toxicology	Toxicology	Substance identified as COD. Variable transposed because can have multiple substances per incident; SubstanceCausedDeath_1-SubstanceCaused Death_42 included in dataset	Char
SubstanceClass	Toxicology	Toxicology	Substance class on toxicology. Variable transposed because can have multiple substances per incident; SubstanceClass_1-SubstanceClass_42 included in dataset	Char
SubstanceCode	Toxicology	Toxicology	Code in parentheses associated with substance entered on tox. Variable transposed because can have multiple substances per incident; SubstanceCode_1-SubstanceCode_42 included in dataset	Char
SubstanceDescription	Toxicology	Toxicology	Substance description on toxicology. Variable transposed because can have multiple substances per incident; SubstanceDescription_1-SubstanceDescription_42 included in dataset	Char
SubstanceId	Toxicology	Toxicology	ID associated with substance entered on tox. Variable transposed because can have multiple substances per incident; SubstanceId_1-SubstanceId_42 included in dataset	Num
SubstanceName	Toxicology	Toxicology	Name of substance entered on tox. Variable transposed because can have multiple substances per incident; SubstanceName_1-SubstanceName_42 included in dataset	Char
SubstanceNameOther	Toxicology	Toxicology	Other substance name on tox. Variable transposed because can have multiple substances per incident; SubstanceNameOther_1-SubstanceNameOther_42 included in dataset	Char
SubstanceResult	Toxicology	Toxicology	Toxicology test results for the substance. Variable transposed because can have multiple substances per incident; SubstanceResult_1-SubstanceResult_42 included in dataset	Num

SubstanceResultLabel	Toxicology		Toxicology test results for the substance. Variable transposed because can have multiple substances per incident; SubstanceResultLabel_1-SubstanceResultLabel_42 included in dataset	Char
SubstanceTested	Toxicology	Toxicology	Substance was tested for. Variable transposed because can have multiple substances per incident; SubstanceTested_1-SubstanceTested_42 included in dataset	Num
SubstanceTestedLabel	Toxicology	Toxicology	Substance was tested. Variable transposed because can have multiple substances per incident; SubstanceTestedLabel_1-SubstanceTestedLabel_42 included in dataset	Char
SubstanceType	Toxicology	Toxicology	Opiate class subcategory. Variable transposed because can have multiple substances per incident; SubstanceType_1-SubstanceType_42 included in dataset	Num
SubsTx_CogTherapy	OD	OD	Type of substance use disorder treatment: Cognitive/behavioral therapy	Char
SubsTx_MAT	OD	OD	Type of substance use disorder treatment: Medication-assisted treatment, or MAT (cognitive/behavioral therapy unknown)	Char
SubsTx_MATcog	OD	OD	Type of substance use disorder treatment: Medication-assisted treatment, or MAT (with cognitive/behavioral therapy)	Char
SubsTx_MATnocog	OD	OD	Type of substance use disorder treatment: Medical assisted treatment, or Mat (withouth cognitive/behavioral therapy)	Char
SubsTx_NA	OD	OD	Type of substance use disorder treatment: Narcotics Anonymous	Char
SubsTx_Other	OD	OD	Type of substance use disorder treatment: Other-Specify:	Char
SubsTx_OtherSpecify	OD	OD	Type of substance use disorder treatment: Other- Specify Description	Char
SubsTx_rehab	OD	OD	Type of substance use disorder treatment: Inpatient/outpatient rehabilitation	Char
SUDORSCase	OD	OD	SUDORS case	Char

SupervisorCheckedDate	Incident	Incident Overview	Date supervisor checked incident	Num
SupervisorRecheckedDate	Incident	Incident Overview	Date supervisor re-checked incident	Num
SurvivalTime	Victim	Injury and Death	Survival time no. of units:	Num
SurvivalTimeUnit	Victim	Injury and Death	Unit used to report interval between injury and death	Num
SurvivalTimeUnitLabel	Victim	Injury and Death	Unit used to report interval between injury and death	Char
Time_unresponsive	OD	OD	Time first found unresponsive	Char
Transgender	Victim	Demographics	Transgender	Char
TreatedforPain	OD	OD	Treated for pain at time of injury	Num
TreatedforPainDescription	OD	OD	Treated for pain description	Char
TreatmentForSubstanceAbuse	OD	OD	Treatment for substance use disorder	Num
TreatmentForSubstanceAbuseDescription	OD	OD	Treatment for substance use disorder description	Char
TypeOfPoisoning	OD	OD	Type of drug overdose/poisoning	Num
TypeOfPoisoningDescription	OD	OD	Type of poisoning description	Char
UnderlyingCauseCode4thDigitLabel	Victim	Injury and Death	Underlying CauseCode 4th Digit Label	Char
UnderlyingCauseCode5thDigitLabel	Victim	Injury and Death	Underlying CauseCode 5th Digit Label	Char
UnderlyingCauseCodeLabel	Victim		Underlying cause of death ICD10 code	Char
UsualOccupation	Victim	Injury and Death	Usual occupation code located on death certificate	Num
Victim_Number	OD		Victim Number	Num
Victim_Number	Victim	Injury and Death	Victim Number; Variable transposed because can have multiple victims per incident; Victim_Number_1-Victim_Number_42 included in dataset	Num
Victim_Number	Toxicology		Victim Number	Num
VictimInCustody	Victim	Injury and Death	Victim was in public custody when injury occurred	Num
VictimInCustodyLabel	Victim	Injury and Death	Victim was in public custody when injury occurred	Char
VictimNumber	Weapon		Victim Number	Num
Weapon_Number	Weapon	Weapon(s)	Weapon Number. Variable transposed because can have multiple weapons per incident;	Num

			Weapon_Number_1-Weapon_Number_13 included in dataset	
WeaponId	Weapon	Weapon(s)	Weapon ID. Variable transposed because can have multiple weapons per incident; WeaponId_1-WeaponId_11 included in dataset	Num
WeaponOther	Weapon	Weapon(s)	Additional descriptive information about the weapon. Variable transposed because can have multiple weapons per incident; WeaponOther_1-WeaponOther_11 included in dataset	Char
WeaponType	Weapon	Weapon(s)	Type of weapon or means used to inflict the fatal injury. Variable transposed because can have multiple weapons per incident; WeaponType_1-WeaponType_11 included in dataset	Num
WeaponTypeLabel	Weapon	Weapon(s)	Type of weapon or means used to inflict the fatal injury. Variable transposed because can have multiple weapons per incident; WeaponTypeLabel_1-WeaponTypeLabel_11 included in dataset	Char
Weight	Victim	Demographics	Weight (lbs)	Num
WitnessedDrugUse	OD	OD	Drug use witnessed	Num
WitnessedDrugUseDescription	OD	OD	Drug use witnessed, description	Char
WitnessReportOverdoseDescription	OD	OD	Witness report of rapid overdose description	Char
WoundToAbdomen	Victim		Wound to the abdomen	Num
WoundToAbdomenLabel	Victim		Wound to the abdomen	Char
WoundToFace	Victim		Wound to the face	Num
WoundToFaceLabel	Victim		Wound to the face	Char
WoundToHead	Victim		Wound to the head	Num
WoundToHeadLabel	Victim		Wound to the head	Char
WoundToLowerExtremity	Victim		Wound to a lower extremity	Num
WoundToLowerExtremityLabel	Victim		Wound to a lower extremity	Char
WoundToNeck	Victim		Wound to the neck	Num
WoundToNeckLabel	Victim		Wound to the neck	Char
WoundToSpine	Victim		Wound to the spine	Num
WoundToSpineLabel	Victim		Wound to the spine	Char

WoundToThorax	Victim		Wound to the thorax	Num
WoundToThoraxLabel	Victim		Wound to the thorax	Char
WoundToUpperExtremity	Victim		Wound to an upper extremity	Num
WoundToUpperExtremityLabel	Victim		Wound to an upper extremity	Char
Year_unresponsive	OD	OD	Year found unresponsive	Num