

# Opioid Overdose

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## Date

August 26, 2021

## Definition

The patient is experiencing a potential opioid overdose.

## Criteria Description

Patient care reports where:

- any symptom or impression is opioid related disorders or poisoning by opioids (except subsequent encounter and sequela)  
or
  - naloxone is administered  
and
  - patient condition improves in response to naloxone

## Pseudocode

Patient care reports where:

eSituation.09 - Primary Symptom

eSituation.10 - Other Associated Symptoms

eSituation.11 - Provider's Primary Impression

eSituation.12 - Provider's Secondary Impressions

- F11\* Opioid related disorders
- T40.0X?[1-4]?A?\$ Poisoning by opium
- T40.1X?[1-4]?A?\$ Poisoning by heroin
- T40.2X?[1-4]?A?\$ Poisoning by other opioids
- T40.3X?[1-4]?A?\$ Poisoning by methadone
- T40.4.[?][1-4]?A?\$ Poisoning by synthetic narcotics
- T40.4X?[1-4]?A?\$ Poisoning by synthetic narcotics
- T40.60?[1-4]?A?\$ Poisoning by unspecified narcotics
- T40.69?[1-4]?A?\$ Poisoning by other narcotics

OR

eMedications.Medication Group where:

- eMedications.03 - Medication Given is a code for naloxone (Narcan, etc.)  
AND
- eMedications.07 - Response to Medication is Improved

## XPath Code

```
/EMSDataset/Header/PatientCareReport
[
  eSituation/(eSituation.09, eSituation.10, eSituation.11, eSituation.12)
  [matches(., '(F11.*)|(T40\[0-3]X?[1-4]?A?)|(T40\.4.?[1-4]?A?)|
  (T40\.6[09]?[1-4]?A?)$')]
  or
  eMedications/eMedications.MedicationGroup
  [
    eMedications.03 = ('7242', '203192', '197117')
    and
    eMedications.07 = '9916001'
  ]
]
```

## SAS Code

```
proc sql;
  create table OpioidOverdoseKey as
  select distinct pcrKey from
  (
    select pcrKey from nemsis.factPcrPrimaryImpression where prxmatch(
      '/^(F11.*)|(T40\[0-3]X?[1-4]?A?)|(T40\.4.?[1-4]?A?)|
      (T40\.6[09]?[1-4]?A?)$/', eSituation_11)
    union
    select pcrKey from nemsis.factPcrSecondaryImpression where prxmatch(
      '/^(F11.*)|(T40\[0-3]X?[1-4]?A?)|(T40\.4.?[1-4]?A?)|
      (T40\.6[09]?[1-4]?A?)$/', eSituation_12)
    union
    select pcrKey from nemsis.factPcrPrimarySymptom where prxmatch(
      '/^(F11.*)|(T40\[0-3]X?[1-4]?A?)|(T40\.4.?[1-4]?A?)|
      (T40\.6[09]?[1-4]?A?)$/', eSituation_09)
    union
    select pcrKey from nemsis.factPcrAdditionalSymptom where prxmatch(
      '/^(F11.*)|(T40\[0-3]X?[1-4]?A?)|(T40\.4.?[1-4]?A?)|
      (T40\.6[09]?[1-4]?A?)$/', eSituation_10)
  )
  union
```

```
select pcrKey from nemsis.factPcrMedication where eMedications_03 in
('7242', '203192', '197117') and eMedications_07 = '9916001'
)
;
quit;
```

## Discussion

The use of eInjury.01 - Cause of Injury for the ICD-10-CM codes starting with “T40” (see list above) was considered, but it selects very few additional records (less than 0.1%).

In the October 2020 release of ICD-10-CM, the T40.4X series of codes was replaced by T40.4[129]. The case definition covers the retired and new codes.

This definition differs from the CSTE *Emergency Medical Services Nonfatal Opioid Overdose Case Definition* in these ways:

- The CSTE definition excludes records where eResponse.05 - Type of Service Requested indicates a non-emergent response or eResponse.13 – Initial Patient Acuity is “Dead Without Resuscitation Efforts (Black)”. See “**Error! Reference source not found.**” for information about how to apply this additional criterion.
- The CSTE definition optionally includes eNarrative.01 - Patient Care Report Narrative. This definition does not, since the element is not a national element.
- The CSTE definition only includes billable ICD-10-CM codes. EMS often uses non-billable codes as well, so this definition includes more ICD-10-CM codes than the CSTE definition.

## References

*Emergency Medical Services Nonfatal Opioid Overdose Case Definition*. Council of State and Territorial Epidemiologists (CSTE). [nasemso.org/wp-content/uploads/EMS-Nonfatal-Opioid-Overdose-Case-Definition\\_V5.pdf](https://www.nasemso.org/wp-content/uploads/EMS-Nonfatal-Opioid-Overdose-Case-Definition_V5.pdf).

*Nonfatal Opioid Overdose Standardized Surveillance Case Definition*. Council of State and Territorial Epidemiologists. [cste.org/resource/resmgr/ps/2019ps/Nonfatal\\_Opioid\\_Overdose\\_011.pdf](https://www.cste.org/resource/resmgr/ps/2019ps/Nonfatal_Opioid_Overdose_011.pdf).

*Guidance for Documenting Drug Overdose-related EMS Trips*. Georgia Department of Public Health. [dph.georgia.gov/document/document/attached-0/download](https://dph.georgia.gov/document/document/attached-0/download).

*Enhanced State Opioid Overdose Surveillance (ESOOS) Case Definition for Emergency Medical Services (EMS)*. Rhode Island Department of Health. [health.ri.gov/publications/guidelines/ESOOSCaseDefinitionForEMS.pdf](https://www.health.ri.gov/publications/guidelines/ESOOSCaseDefinitionForEMS.pdf).

*Virginia Office of Emergency Medical Services Opioid Overdose Definition*. Virginia Department of Health. [vdh.virginia.gov/content/uploads/sites/23/2019/08/Virginia-Office-of-EMS-Opioid-Overdose-Definition.pdf](https://www.vdh.virginia.gov/content/uploads/sites/23/2019/08/Virginia-Office-of-EMS-Opioid-Overdose-Definition.pdf).