**CDC Heroin Definition v3**

Purpose: States currently funded by CDC’s Enhanced State Opioid Overdose Surveillance (ESOOS) program have been asked to monitor opioid overdose trends, including heroin overdose, in their states. In collaboration with our ESOOS partners, CDC staff developed some lessons learned in querying heroin overdose ED visits in syndromic surveillance systems. Based on this preliminary work, CDC developed a heroin overdose syndrome definition that captured all of the lessons learned from ESOOS states.

How it was developed: CDC scientists first started developing the definition using lessons learned from ESOOS states and researching guidance documents from other sources including NCHS, CSTE, and SAMSHA. They then built the query using discharge diagnosis codes and SNOMED codes indicating an acute heroin poisoning were identified. Next, we used a set of “overdose terms” along with identified “drug terms” indicating that heroin was involved in the overdose.

How it works: We use both the discharge diagnosis codes/SNOMED and chief complaint free text with exclusions (as necessary). If discharge diagnosis code/SNOMED indicating a heroin poisoning is present, the ED visit is automatically included in the syndrome. If there is no discharge diagnosis code/SNOMED present for heroin poisoning, the visit is only included if the chief complaint text has both an “overdose” and “drug” term. In addition, the list of exclusions are only applied to the chief complaint text when a discharge diagnosis code is not present.

Other things for consideration: Overdoses related to illicitly-made fentanyl may be listed as a heroin overdose in the chief complaint and even diagnosis codes.A large increase in heroin overdose ED visits may be attributable to increased supply and use of illicitly-made fentanyl by heroin users. This occurs because illicitly-made fentanyl is commonly mixed with heroin and injected by people who historically use heroin. Because fentanyl is commonly not included in emergency department toxicology tests, an ED toxicology test may only detect heroin even though the overdose involved a mixture of heroin and illicitly-made fentanyl.

**Table 1. Chief complaint and discharge diagnosis search terms for suspected heroin overdose**

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| **Variable** | **Automatic inclusion?** | **Specific terms** |
| *Inclusions* |  |  |
| Discharge Diagnosis – ICD-9-CM poisoning | Yes | 965.01, E850.0 (also included terms with no period, e.g., “96501”) |
| Discharge Diagnosis – ICD-10-CM poisoning | Yes | T40.1X1A, T40.1X4A (also included terms with no period, e.g., “T401X1A”) |
| Discharge Diagnosis – SNOMED | Yes | 295174006, 295175007, 295176008 |
| Chief complaint – overdose term | No, must use in combination with opioid term | Poisoning (poison)  Overdose (overdose, overdoes, averdose, averdoes, over does, overose)  Nodding off  Snort  Ingestion (ingest, injest)  Intoxication (intoxic)  Unresponsive (unresponsiv)  Loss of consciousness (syncopy, syncope)  Shortness of breath (SOB)  Altered mental status (AMS) |
| Chief complaint – opioid term | No, must use in combination with overdose term | Heroin, herion, heroine, HOD, speedball, dope |
| *Exclusions* |  |  |
| Chief complaint | Exclude | See list below in ESSENCE code |

**Table 2. ESSENCE query for suspected heroin overdose**

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| (,^[;/ ]T40.1X1A^,OR,^[;/ ]T401X1A^,OR,^[;/ ]T40.1X4A^,OR,^[;/ ]T401X4A^,OR,^[;/ ]965.01;^,OR,^[;/ ]96501;^,OR,^[;/ ]965.[0][1],OR,^[;/ ]965[0][1],OR,^[;/ ]E850.0^,OR,^[;/ ]E8500^,or,^295174006^,or,^295175007^,or,^295176008^,),or,(,(,(,^narcan^,or,^naloxo^,or,^poison^,or,^[ao]verdo[se][se]^,or,^over dose^,or,^overose^,or,^nodding^,or,^ nod ^,or,^snort^,or,^in[gj]est^,or,^intoxic^,or,^unresponsiv^,or,^loss of consciousness^,or,^syncop^,or,^shortness of breath^,or,^altered mental status^,),and,(,^her[io][oi]n^,or,^ hod ^,or,^speedball^,or,^speed ball^,or,^dope^,),),andnot,(,^denies her[io][oi]n^,or,^deny her[io][oi]n^,or,^denied her[io][oi]n^,or,^denying her[io][oi]n^,or,^denies drug^,or,^deny drug^,or,^denied drug^,or,^denying drug^,or,^denies any drug^,),) |