**CDC Stimulant Definition v1**

Purpose: States currently funded by CDC’s Enhanced State Opioid Overdose Surveillance (ESOOS) program have been monitoring opioid overdose trends in their states. Within the last year, they started to notice increases in overdose visits related to stimulant use. Because CDC had worked with these states to develop syndrome definitions for heroin and opioid overdose, they decided to also develop a syndrome definition for stimulant overdose.

How it was developed: CDC scientists first started developing the definition using guidance from CSTE and SAMSHA. They then built the query using a similar process to the opioid and heroin query development. First, discharge diagnosis codes and SNOMED indicating an acute stimulant poisoning were identified. Next, we used the same “overdose terms” used previously with the opioid and heroin query. Finally, we identified “drug terms” indicating that a stimulant was involved in the overdose.

How it works: Similar to the opioid and heroin queries, we use both the discharge diagnosis codes/SNOMED and chief complaint free text with exclusions (as necessary). If discharge diagnosis code/SNOMED indicating a stimulant poisoning is present, the ED visit is automatically included in the syndrome. If there is no discharge diagnosis code/SNOMED present for stimulant 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: With the opioid query, CDC identified several non-poisoning ICD-10-CM codes for inclusion in the syndrome definition (e.g., F11 codes). CDC also explored the inclusion of the stimulant-related F codes (i.e., F14 and F15) in this definition. However, our analysis showed that these codes were not identifying acute overdose visits and instead were being coded correctly as “stimulant abuse” etc. The team attempted to identify most drug names used for stimulants; however, it’s likely that some drug names and slang terms should be added to a revision definition. For example, the term “molly” (and spelling variations) used as a slang for ecstasy, should be considered in future revision.

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

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| **Variable** | **Automatic inclusion?** | **Specific terms** |
| *Inclusions* |  |  |
| Discharge Diagnosis – ICD-9-CM poisoning | Yes | 970.8, 970.81, 970.89, 970.9, E854.2, E854.3 (also included terms with no period, e.g., “97080”) |
| Discharge Diagnosis – ICD-10-CM poisoning | Yes | T40.5X1A, T40.5X4A, T43.601A, T43.604A, T43.611A, T43.614A, T43.621A, T43.624A, T43.631A, T43.634A, T43.641A, T43.644A, T43.691A, T43.694A (also included terms with no period, e.g., “T405X1A”) |
| Discharge Diagnosis – SNOMED | Yes | 296321004, 441527004, 296290006, 61803000 |
| Chief complaint – overdose term | No, must use in combination with opioid term | Poisoning (poison)Overdose (overdose, overdoes, averdose, averdoes, over does, overose)Nodding offSnortIngestion (ingest, injest)Intoxication (intoxic)Unresponsive (unresponsiv)Loss of consciousness (syncopy, syncope)Shortness of breath (SOB), short of breathAltered mental status (AMS) |
| Chief complaint – opioid term | No, must use in combination with overdose term | Speedball, Cocaine, Coke, Crack, Amphetamine (will catch methamphetamine), meth, Crystal meth, Lisdexamfetamine, Dextroamphetamine, Levoamphetamine, Biphetamine, Dexedrine, Adderal, Vyvanse, Concerta, Methylin, Ritalin, Cathinone, Bath salt, Stimulant, MDMA, Ecstasy, Molly |
| *Exclusions* |  |  |
| Chief complaint | Exclude | See list below in ESSENCE code (most around molly and crack) |

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

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| (,^[;/ ]970.8[0-9][;/]^,or,^[;/ ]9708[0-9][;/]^,or,^[;/ ]970.9[0-9][;/]^,or,^[;/ ]9709[0-9][;/]^,or,^[;/ ]E854.2[;/]^,or,^[;/ ]E8542[;/]^,or,^[;/ ]E854.3[;/]^,or,^[;/ ]E8543[;/]^,or,^[;/ ]T40.5X1A^,or,^[;/ ]T405X1A^,or,^[;/ ]T40.5X4A^,or,^[;/ ]T405X4A^,or,^[;/ ]T43.6[012349][14]A^,or,^[;/ ]T436[01239][14]A^,or,^[;/ ]296321004;^,or,^[;/ ]441527004;^,or,^[;/ ]296290006;^,or,^[;/ ]61803000;^,),or,(,(,(,^poison^,or,^verdo[se][es]^,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,^short of breath^,or,^altered mental status^,),and,(,^speedball^,or,^speed ball^,or,^coc[ai][ia]ne^,or,^cocc[ai][ia]ne^,or,^cocane^,or,^cocanne^,or,^coke^,or,^crack^,or,^ meth ^,or,^amphetamine^,or,^c[ry][yr]stal meth^,or,^lisdexamfetamine^,or,^dextroamphetamine^,or,^levoamphetamine^,or,^biphetamine^,or,^dexedrine^,or,^adderal^,or,^aderal^,or,^vyvanse^,or,^concerta^,or,^methylin^,or,^ritalin^,or,^cathinone^,or,^bath salt^,or,^bathsalt^,or,^stimulant^,or,^ MDMA ^,or,^e[sc][cs]ta[cs]y^,or,^e[xsc]ta[sc]y^,or,^ex[sc]ta[sc]y^,or,^ moly ^,or,^ moll[iy] ^,),),andnot,(,^crackle^,or,^crackled^,or,^cracked^,or,^cracking^,or,^cracks^,or,^crackles^,or,^crackling^,or,^crackinling^,or,^crackiling^,or,^cracker^,or,^crackers^,or,^crackels^,or,^crackly^,or,^mccracken^,or,^buttcrack^,or,^a crack^,or,^crack in^,or,^knee crack^,or,^shoulder crack^,or,^butt crack^,or,^ankle crack^,or,^callous crack^,or,^crack due to^,or,^pop crack^,or,^loud crack^,or,^it crack^,or,^heard crack^,or,^felt crack^,or,(,^rib^,and,^crack^,),or,^fell crack^,or,^snap crack^,or,^growth plate^,or,^to crack of^,or,^crack sidewalk^,or,^sidewalk crack^,or,^tooth^,or,^teeth^,or,^hands cracke^,or,^heard something^,or,^nail^,or,^cracky^,or,^crack area^,or,^crack cast^,or,^back crack^,or,^crack of^,or,^crack his^,or,(,^lip^,and,^crack^,),or,^my crack^,or,^glass crack^,or,(,^buttock^,and,^crack^,),or,^crack on ^,or,^crack to ^,or,^foot crack^,or,^no loss of consciousness^,or,^denie[sd] loss of consciousness^,or,^negative loss of consciousness^,or,^denies any loss of consciousness^,or,^denies drug^,or,^deny drug^,or,^denied drug^,or,^denying drug^,or,^denies any drug^,or,^ with dra ^,or,^withdra^,or,^detoxification^,or,^detos^,or,^detoz^,or,^dtox^,or,^coker^,or,^coke bottle^,or,^coke can^,or,^coke case^,or,^case of coke^,or,(,^rum^,and,^coke^,),or,^jack and coke^,or,^coke tea^,or,^coffee coke^,or,^delirium tremens coke^,or,^drink a coke^,or,^jack coke^,or,^dirnking coke^,or,^coke tab^,or,^scotch coke^,or,^drinking coke^,or,^aspirating on coke^,or,^coke colored^,or,^drank coke^,or,^cardiac-stimulant^,or,^cardiac stimulant^,or,^meth germantown^,or,^meth gmt^,or,^meth odist^,or,^meth obstet^,or,^meth group^,),) |