

Michigan Emergency Medical Services Case Definition of Drug-Involved Emergency

This definition supports public health workers in state, tribal and local jurisdictions to utilize emergency medical services (EMS) data to identify drug-involved emergencies responded to by EMS. For comments or questions, email MDHHS-MODASurveillance@michigan.gov.

Background

Michigan Emergency Medical Services (EMS) agencies report information regarding EMS responses electronically to the Michigan Department of Health and Human Services (MDHHS) through the Michigan EMS Information System (MI-EMSIS). These data can be accessed by authorized users via ImageTrend Elite. MI-EMSIS aligns with the national EMS reporting system (NEMSIS – National EMS Information System). More information regarding NEMSIS can be found at the [“How NEMSIS Works” website](#). The MI-EMSIS data elements for this case definition are provided on the [“Required Elements” page](#) for Non-Suicidal, Non-Medicinal Chemical Poisonings & Traumatic Injuries. This list is a subset of the [complete list](#) of required data elements.

As of September 2019, all EMS agencies in Michigan report data to MI-EMSIS. Michigan currently operates under NEMSIS 3, specifically Version 3.5. Michigan began the transition from NEMSIS 2 to NEMSIS 3 in 2018 and stopped accepting NEMSIS 2 data from EMS agencies on January 1, 2019. Differences between NEMSIS 2 and NEMSIS 3 may affect the analysis and interpretation of historical data.

EMS data collection

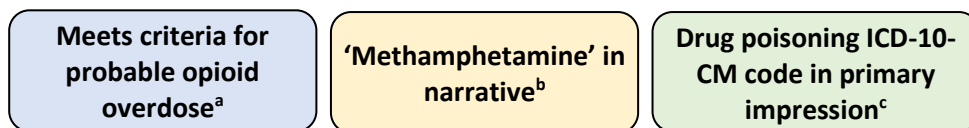
After an EMS incident response has been completed, the on-scene providers submit a Patient Care Record (PCR) to their corresponding EMS agency, which then transfers the information to MI-EMSIS and then NEMSIS. While each state is different, the Council of State and Territorial Epidemiologists (CSTE) estimates that NEMSIS receives about 40% of records within 24 hours of an incident.¹

MI-EMSIS Data for Drug-Involved Emergencies

The MDHHS Michigan Overdose Data to Action team defines a “drug-involved emergency” using EMS data as follows:

Case Definition²

An EMS response is considered a ‘drug-involved emergency’ if **one** of the following three criteria is present:



¹ https://nasemso.org/wp-content/uploads/EMS-Nonfatal-Opioid-Overdose-Case-Definition_V5.pdf

² This case definition was adapted for use in Michigan from the Rhode Island Enhanced State Opioid Overdose Surveillance (ESOOS) Case Definition for Drug Overdose using EMS data (<https://health.ri.gov/publications/guidelines/ESOOSCaseDefinitionForEMS.pdf>).

An EMS response is otherwise considered a “drug-involved emergency” if one of the following **combinations** of alternate criteria is present:

	Naloxone, Kloxxado, Opvee, or Nalmefene in medications, narrative, or primary complaint	Drug poisoning ICD-10-CM Code in secondary impression ^c	Drug overdose terms in narrative or primary complaint ^d	ICD-10-CM codes for overdose-related symptoms ^e
Combination 1	X	X		
Combination 2	X		X	
Combination 3		X	X	
Combination 4			X	X

Notes:

^aDocumentation for the probable opioid overdose case definition can be found [here](#).

^bRecord includes mention of ‘methamphetamine’ in narrative (*eNarrative.01*) without mentioning withdrawal, detox, or meth lab explosion/injury.

^cDrug poisoning ICD-10-CM codes include T36-T50 and T65.9 in Primary or Secondary Impressions (*eSituation.11* and *eSituation.12*).

^dNarrative (*eNarrative.01*) or Primary Complaint (*eSituation.04*) includes drug overdose terms (overdose, opioid, heroin, cocaine, stimulant, speedball, etc.) without mentioning withdrawal or detox.

^eRecord indicates ICD-10-CM code for overdose-related symptoms in Primary or Secondary Impression (*eSituation.11* and *eSituation.12*). (ex. psychosis, unspecified; cardiac arrest; somnolence; convulsions; respiratory failure; symptoms and signs involving emotional state; nausea and vomiting; altered mental status, etc.).

Restrictions

This syndrome is restricted to incidents where the Type of Service (*eResponse.05*) is “911 response (scene),” “intercept,” or “mutual aid.” To remove duplicate responses captured within MI-EMSIS (which occurs when multiple units respond to and report an incident to MI-EMSIS), this syndrome is restricted to only incidents where the Response Primary Role of the Unit (*eResponse .07*) is “Ground Transport.”

Limitations

The case definition for drug-involved emergency can include some false positives, while also not capturing all drug-involved emergencies. A manual review by MDHHS epidemiologists found that an estimated 8% of EMS responses categorized as drug-involved emergencies were not true positives.

This case definition is for “drug-involved emergencies” rather than “drug overdoses.” Some drug-involved emergencies are drug overdoses, with clear clinical signs, symptoms, and treatment. For other drug-involved emergencies, the difference between overdose, adverse effects, intoxication, and sequelae is less clear.