

# COCAINE-INVOLVED DRUG POISONINGS

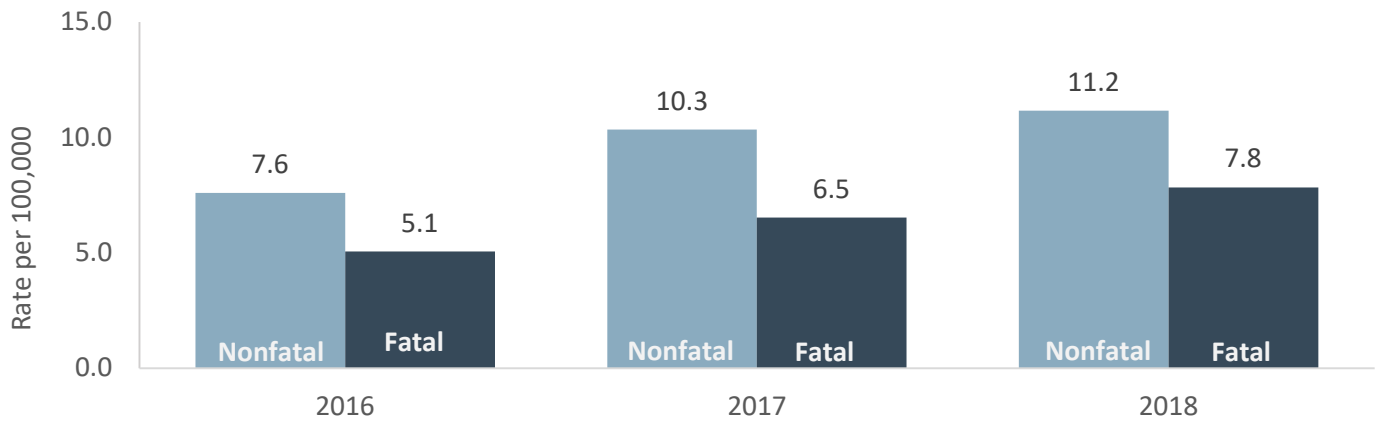
## MICHIGAN 2016-2018<sup>1</sup>



### Short-term trends in cocaine poisonings

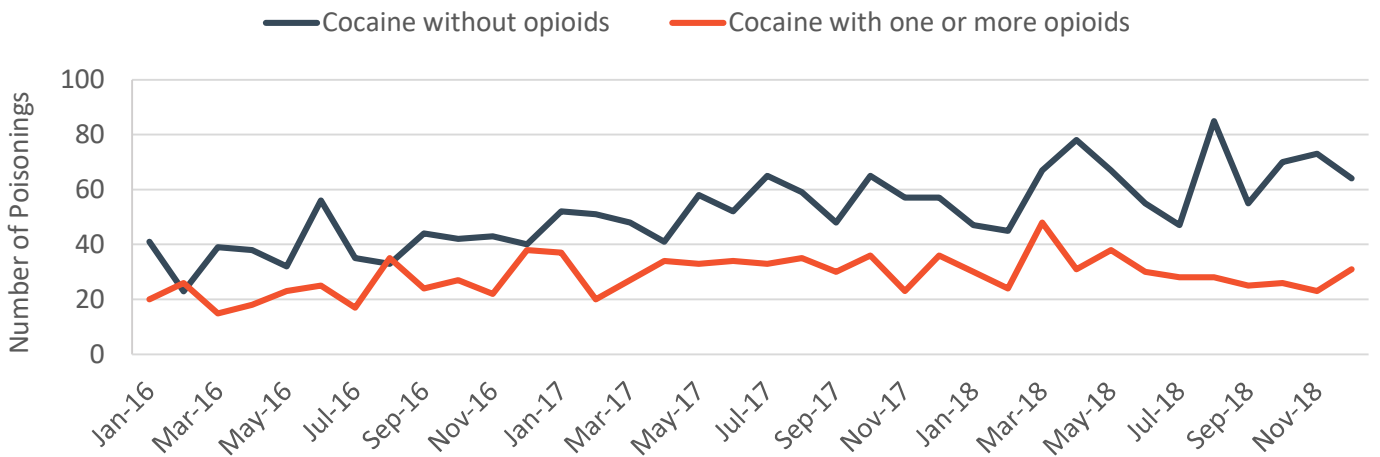
Cocaine poisonings are a growing public health concern in Michigan and nationwide. From 2016 to 2018 there were at least 1,937 fatal cocaine-involved drug poisonings and 2,902 nonfatal cocaine-involved drug poisonings admitted for inpatient care at acute care hospitals among Michigan residents. The rate of nonfatal cocaine-involved drug poisoning hospitalizations increased 47.4 percent during the three-year time span and the rate of fatal cocaine-involved drug poisonings increased 52.9 percent.

**Crude rate (per 100,000) of nonfatal<sup>2</sup> and fatal drug poisonings involving cocaine among Michigan residents, 2016-2018<sup>1</sup>**

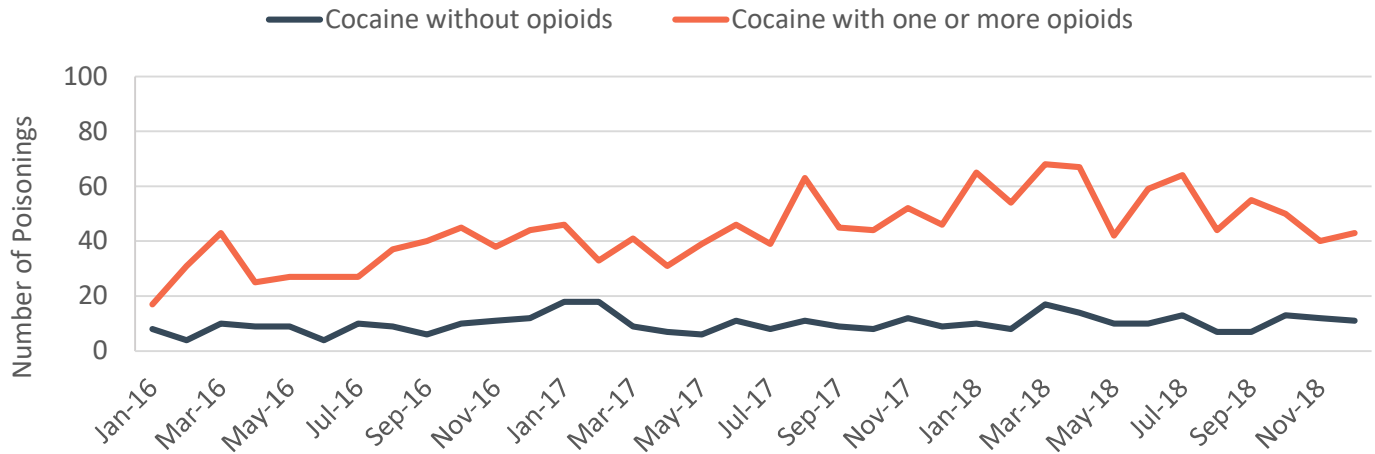


The majority (81.4 percent) of fatal cocaine-involved drug poisonings and over a third (35.5 percent) of nonfatal cocaine-involved drug poisoning hospitalizations also involved opioids. Heroin was present in 21.5 percent of nonfatal cocaine-involved drug poisoning hospitalizations and 33.7 percent of fatal cocaine-involved drug poisonings. Between January 2016 and December 2018, there was an average monthly increase of 1.0 nonfatal cocaine-involved drug poisoning hospitalizations without opioid involvement (95% CI: 1.0-1.1) and 0.2 nonfatal cocaine-involved drug poisoning hospitalizations with opioid involvement (95% CI: 0.0-0.5). Over the same time period, there was an average monthly increase of 0.8 fatal cocaine-involved drug poisonings with opioid involvement (95% CI: 0.5-1.1), but no observable increase in the average monthly number of fatal cocaine-involved drug poisonings without opioid involvement.

**Number of nonfatal<sup>2</sup> cocaine-involved poisoning hospitalizations by month among Michigan residents, 2016-2018<sup>1</sup>**



## Number of fatal cocaine-involved drug poisonings by month among Michigan residents, 2016-2018

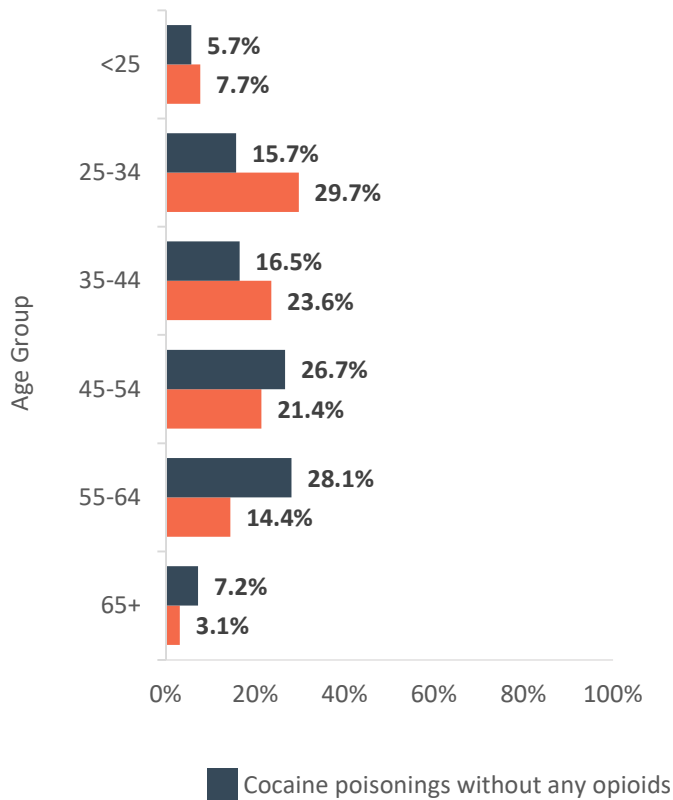


## Demographic patterns

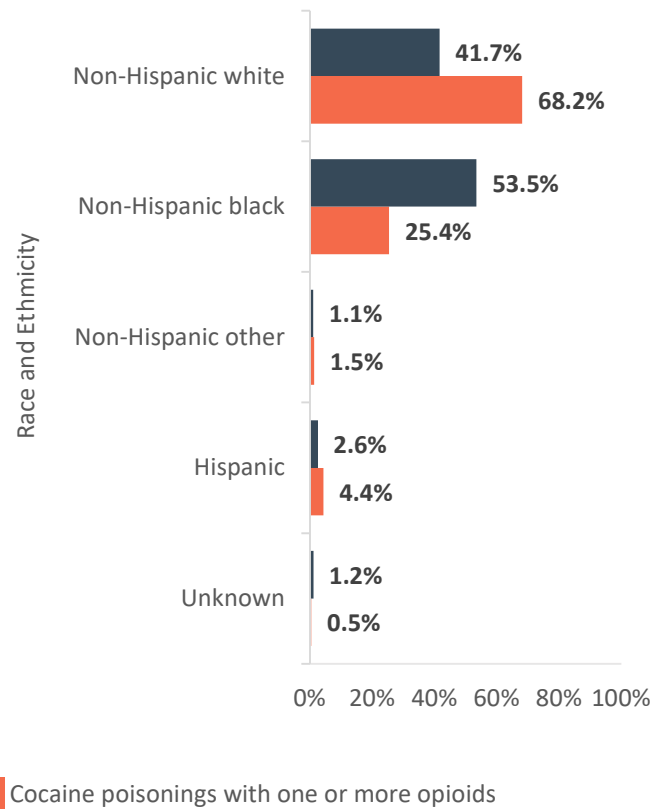
Drug poisonings involving cocaine but not opioids were more likely to occur among middle-aged adults than poisonings involving both cocaine and opioids. Nearly two out of three (62.0 percent) of cocaine poisonings without opioid involvement occurred among adults aged 45 and older. In comparison, only 38.9 percent of drug poisonings involving both cocaine and opioids were among adults aged 45 and older.

The prevalence of opioid involvement among cocaine poisonings differed by race and ethnicity. Non-Hispanic whites who experienced a cocaine poisoning were 84 percent more likely (95% CI: 72 percent – 97 percent) to also have an opioid involved than non-Hispanic blacks who experienced a cocaine poisoning.

**Age group distribution of combined nonfatal<sup>2</sup> and fatal cocaine-involved poisonings among Michigan residents, 2016-2018<sup>1</sup>**



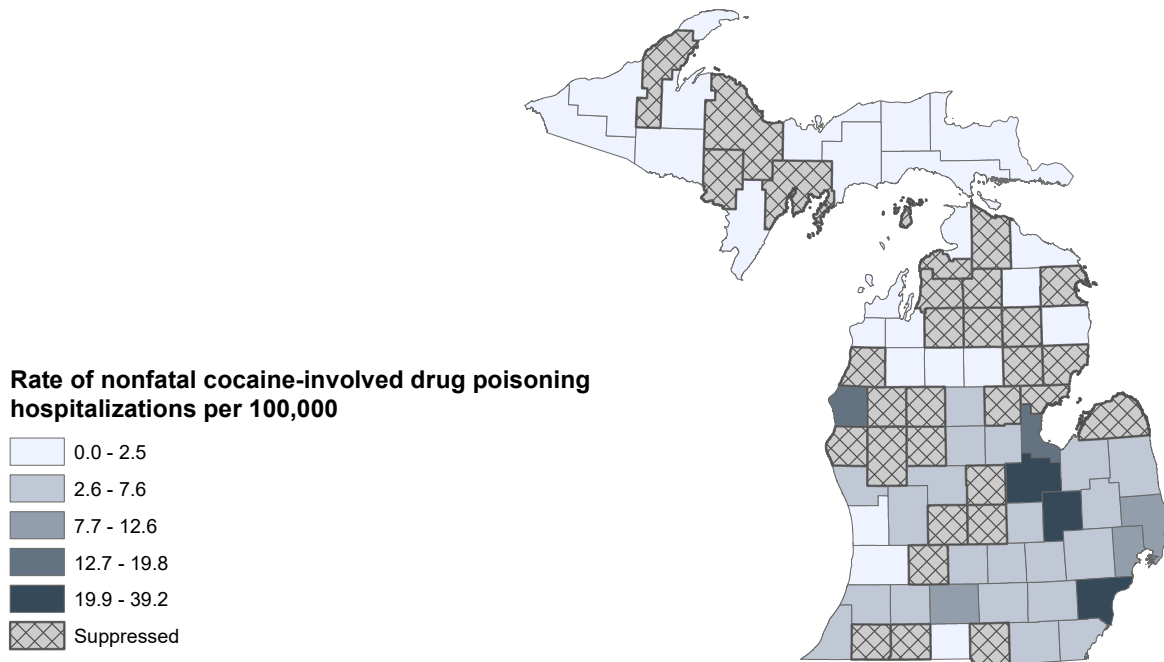
**Race and ethnicity distribution of combined nonfatal<sup>2</sup> and fatal cocaine-involved poisonings among Michigan residents, 2016-2018<sup>1</sup>**



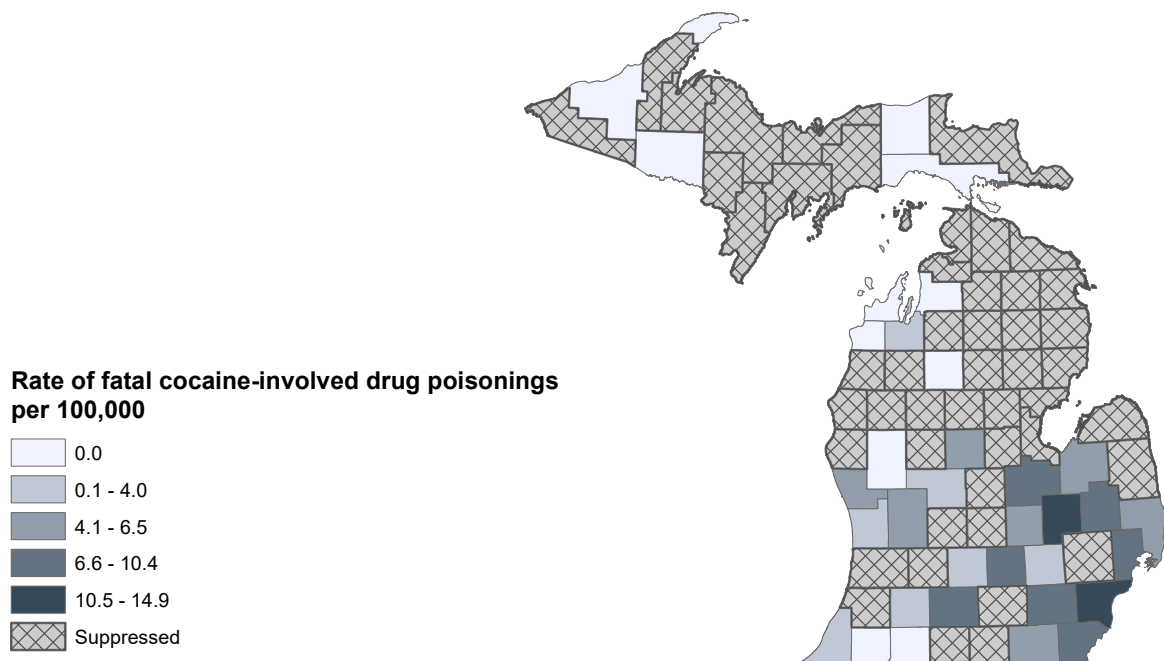
## Geographic patterns

The maps below display the rates of nonfatal cocaine-involved drug poisoning hospitalizations and fatal cocaine-involved drug poisonings by county of residence for 2016 through 2018. Both nonfatal and fatal cocaine-involved drug poisoning rates were highest in Wayne, Genesee and Saginaw counties. Counties in the Upper Peninsula typically had the lowest rates of fatal cocaine-involved drug poisoning and hospitalizations for nonfatal cocaine-involved drug poisonings. Rates were not calculated when the number of poisonings was between one and five due to statistical unreliability. Mortality rates were also not calculated for counties with a high proportion of overdose deaths with no specific drug indicated on the death certificate.

**Crude rate (per 100,000) of nonfatal<sup>2</sup> cocaine-involved drug poisonings by Michigan county of residence, 2016-2018<sup>1</sup>**



**Crude rate (per 100,000) of fatal cocaine-involved drug poisonings by Michigan county of residence, 2016-2018**



## Technical Documentation

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### Data sources

- 2016-2018 Michigan Inpatient Database, Michigan Health & Hospital Association.
- 2016-2018 Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services.
- Vintage 2018 postcensal estimates of the resident population of the United States (April 1, 2010, July 1, 2010-July 1, 2018), by year, county, single-year of age, bridged race, Hispanic origin, and sex. National Center for Health Statistics. Prepared under a collaborative arrangement with the U.S. Census Bureau. Available from: [http://www.cdc.gov/nchs/nvss/bridged\\_race.htm](http://www.cdc.gov/nchs/nvss/bridged_race.htm) as of June 25, 2019.

### Case definitions

Nonfatal cocaine-involved drug poisonings include inpatient admissions of Michigan residents at acute-care hospitals with an ICD-10-CM code of T40.5 listed as a principal or any secondary diagnosis. Cocaine poisonings that also involved opioids included an additional ICD-10-CM code of T40.0-T40.4, T40.6, or T40.69. Subsequent and sequela visits and visits with a patient discharge disposition of 'expired' were not included.

Fatal cocaine-involved drug poisonings include deaths of Michigan residents, including deaths that occurred outside Michigan, with an underlying cause of death listed as a poisoning (ICD-10 codes X40-X44, X60-X64, X85, Y10-Y14) and a contributing cause of death ICD-10 code of T40.5. Fatal cocaine poisonings that also involved opioid poisoning were identified by an additional contributing cause of death ICD-10 code of T40.0-T40.4 or T40.6.

### Inpatient Admission Data Notes

The Michigan Inpatient Database (MIDB) includes data collected from hospitals that are members of the Michigan Health and Hospital Association. A total of 128 Michigan acute-care hospitals reported inpatient data each year from 2016 through 2018, representing 92.8 percent of all acute-care hospitals in the State of Michigan. Each record in the inpatient data reflects a unique hospital admission. Individuals who have been hospitalized multiple times in a year will be captured more than once.

### Mortality Data Notes

Fatal cocaine-involved drug poisonings may be underestimated if the medical examiner who investigates the death does not indicate which specific drugs were responsible for the death on the death certificate. From 2016 through 2018, the percent of drug poisoning deaths within each county that had no specified drug ranged from 0.0 percent to 57.9 percent. To reduce potential bias, county-level data are suppressed when the percent of drug poisonings with a specific drug indicated on the death certificate falls below an established threshold. For counties with fewer than 20 drug poisoning deaths, rates are only shown if at least 75.0 percent have a specific drug listed. For counties with 20 or more drug poisoning deaths, rates are only shown if at least 85.0 percent have a specified drug.

### Statistical Notes

The rates presented in this document are crude rates and are calculated by dividing the total number of events (i.e. fatal or nonfatal cocaine-involved drug poisonings) by the number of individuals in the corresponding category and multiplying the result by 100,000. Rates were not calculated when the number of events was between one and five due to statistical unreliability.



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<sup>1</sup> 2018 Michigan Inpatient Database data are provisional as of November 2019.

<sup>2</sup> Includes inpatient hospitalizations for nonfatal cocaine-involved drug poisonings.