



Funded by the Office of National Drug Control Policy
and the Centers for Disease Control and Prevention

Overdose Response Strategy (ORS): Cross- Sector Partnership Innovation

L COLLABORATE • SHARE • INFORM &
HELP



Michigan ORS Team



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Federal Acknowledgement

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What is the Overdose Response Strategy (ORS)?

The Overdose Response Strategy is an unprecedented and unique collaboration between public health and public safety, created to help local communities reduce drug overdoses and save lives by sharing timely data, pertinent intelligence and innovative strategies.

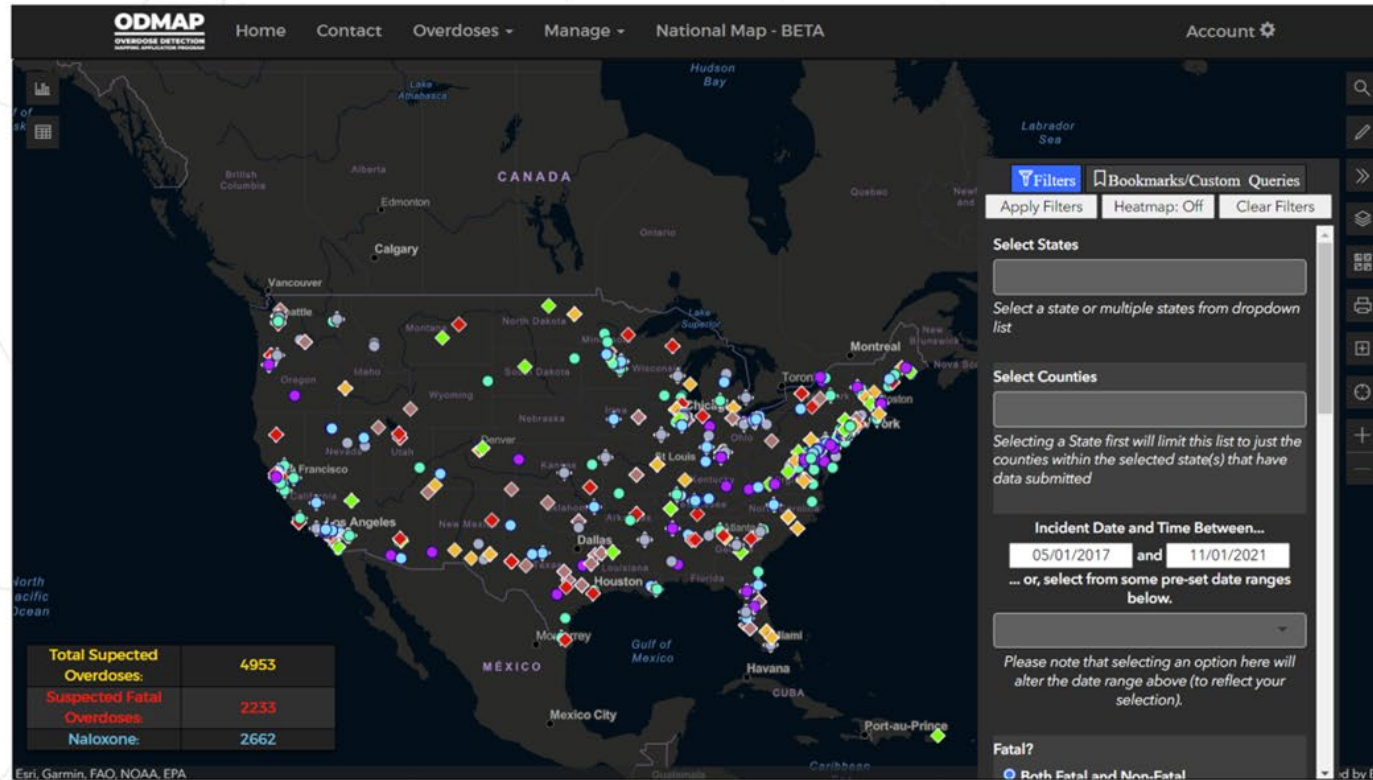


Visit us at
ORSprogram.org!



Overdose Data Resources

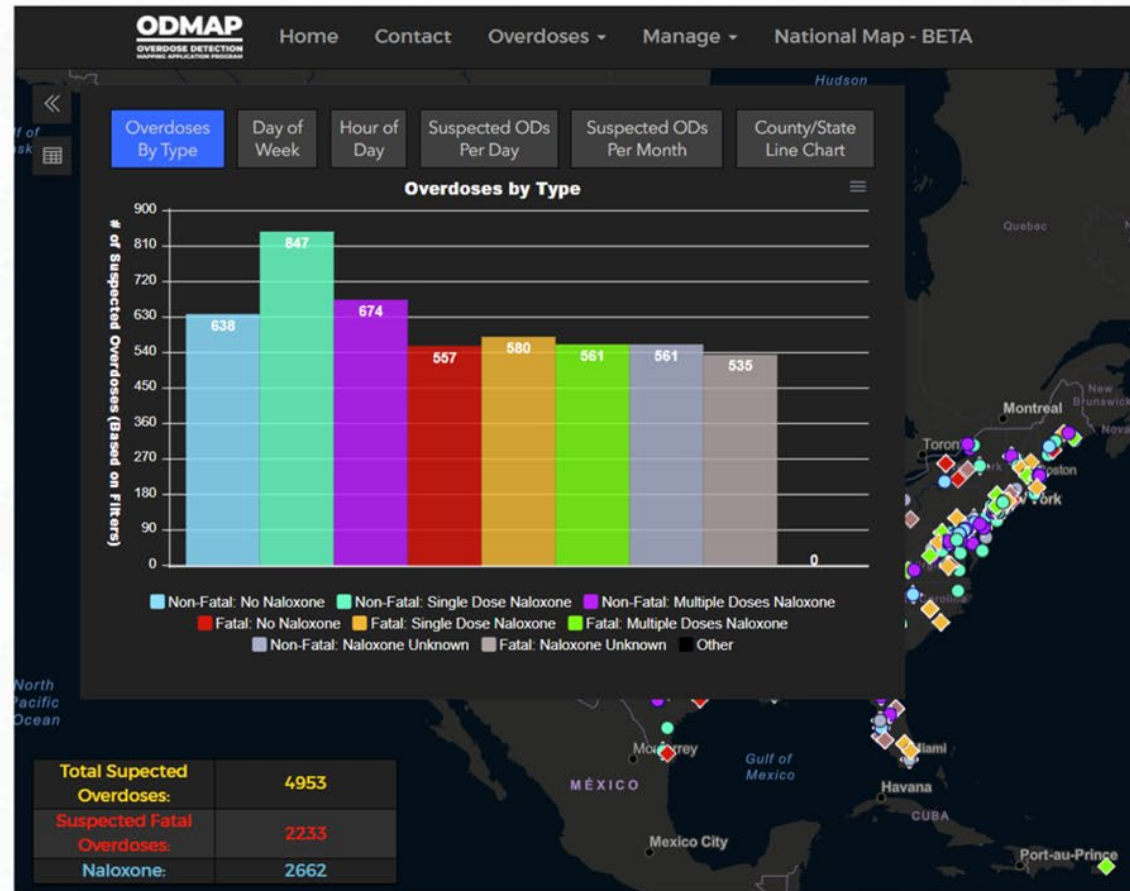
National Map and Its Features



ODMAP
OVERDOSE DETECTION
MAPPING APPLICATION PROGRAM

ODMAP.org





ODMAP.org





The System For Opioid Overdose Surveillance (SOS)

[VIEW THE DASHBOARD](#)

[REQUEST ACCESS HERE](#)



Overview

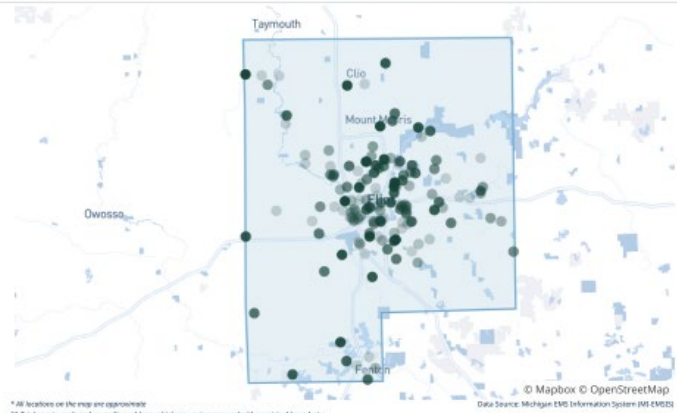
Opioid overdose represents an urgent public health problem in the United States, with Michigan ranking among the states hardest hit by the dramatic escalation over the past 15 years. A key component of

<https://injurycenter.umich.edu/opioid-overdose/opioid-surveillance/>



Genesee County

EMS Naloxone Administrations
Jan 1, 2025 to Jun 5, 2025



156

total

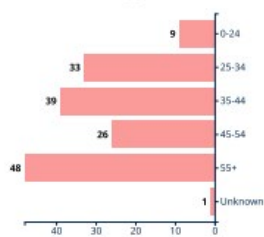
4

unmappable incidents

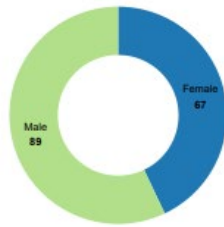
* All locations on the map are approximate.
** Total counts are based on mailing address, which may not correspond with municipal boundaries.
*** Some incidents may be unmapable due to incomplete location information.
**** All locations on the map are randomly displayed between 100 and 200 meters to protect privacy.



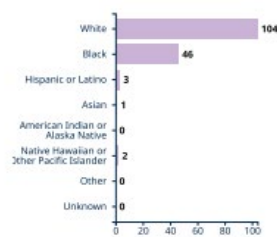
Age



Gender



Race



Frequency per City

City	Incidents	Percent
Flint	90	57.7%
Burton	15	9.6%
Davison	8	5.1%
Grand Blanc	6	3.8%
Swartz Creek	5	3.2%
Clio	4	2.6%
Fenton	4	2.6%
Flushing	4	2.6%
Montrose	4	2.6%
Flint Twp	3	1.9%
Linden	3	1.9%
Mt Morris	3	1.9%
Beecher	1	0.6%
Davison Township	1	0.6%
Flushing Twp	1	0.6%
Gaines	1	0.6%
Genesee	1	0.6%
Goodrich	1	0.6%
Lennon	1	0.6%

Frequency per Zip Code

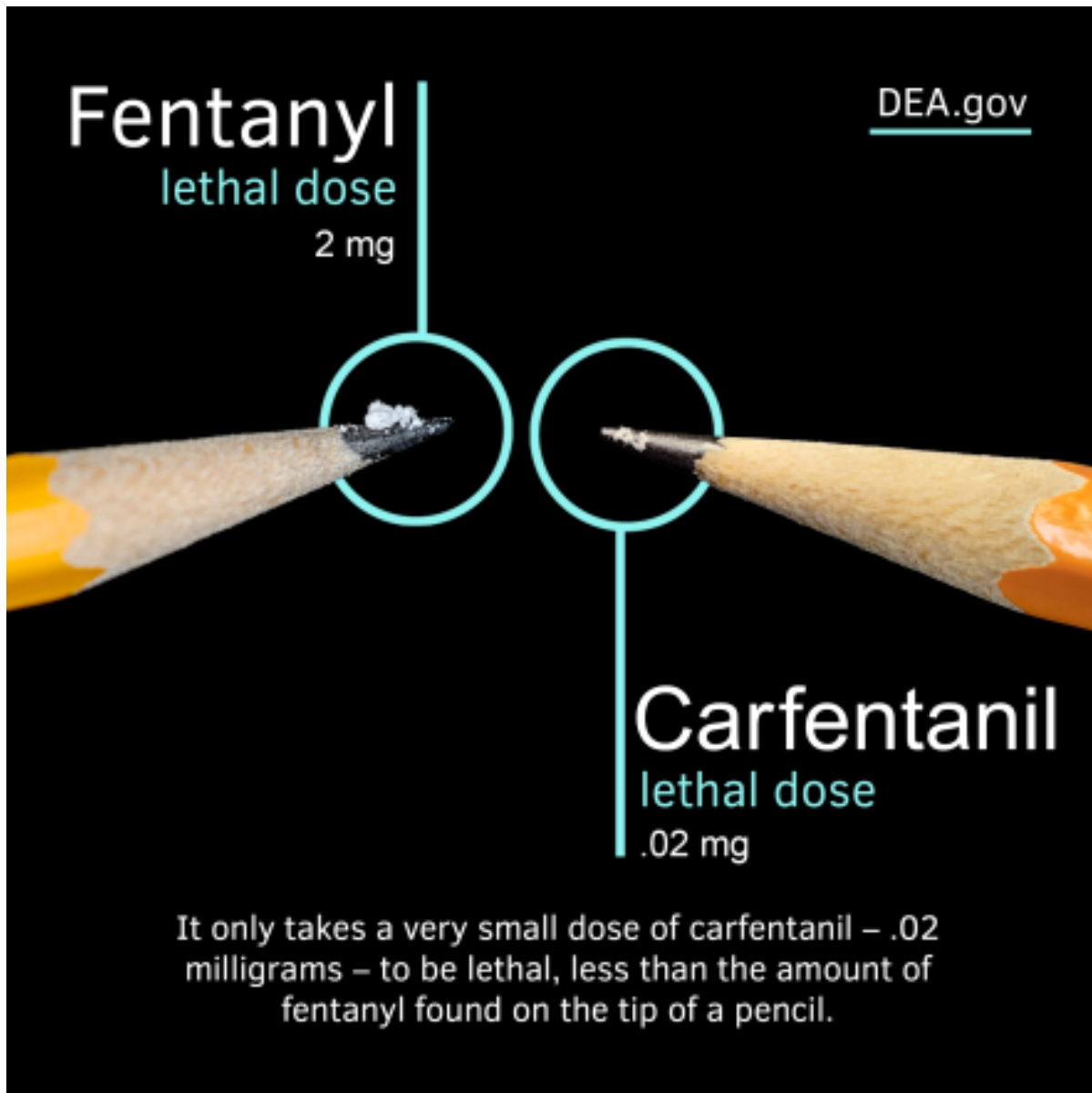
Zip Code	Incidents	Percent
48507	23	14.7%
48503	17	10.9%
48506	17	10.9%
48504	12	7.7%
48505	12	7.7%
48532	10	6.4%
48423	9	5.8%
48529	8	5.1%
48433	7	4.5%
48439	6	3.8%
48473	6	3.8%
48509	5	3.2%
48420	4	2.6%
48430	4	2.6%
48457	4	2.6%
48451	3	1.9%
48458	3	1.9%
48519	2	1.3%
48436	1	0.6%
48437	1	0.6%
48438	1	0.6%
48502	1	0.6%



┌ Current and Emerging Drug Trends

Carfentanil





- Large animal tranquilizer (elephant)
- **100x more potent** than fentanyl, 10,000x morphine
- Surfaced in 2015-2016, then disappeared and is now reappearing
- Annual authorized production quota in U.S. is **20 mg** (DEA)

One Domino sugar packet = 3.5 mg





All Drugs

CTRL+Click to select multiple drugs, years, and/or counties

Select Drug(s)

Carfentanil

Select Year(s)

All

Select Counties

All



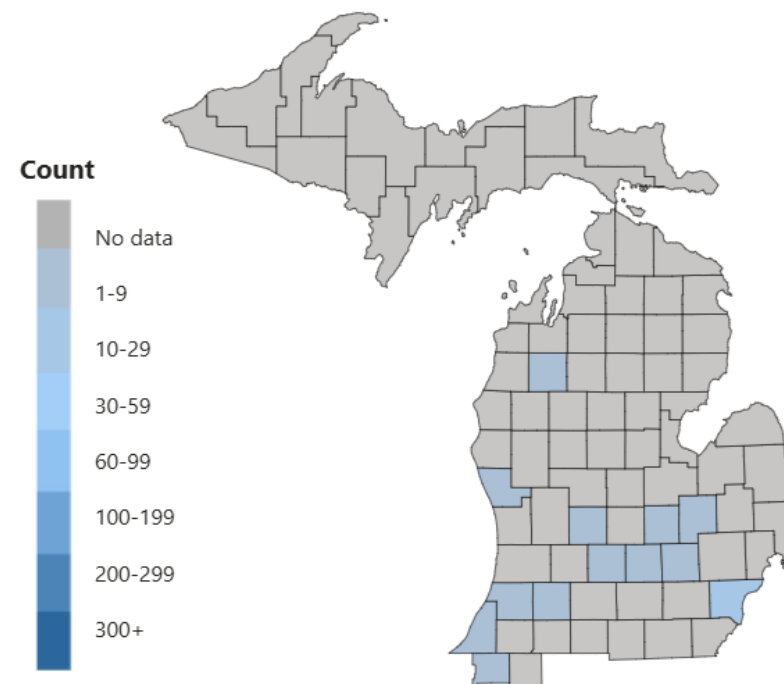
Count of Decedents Testing Positive

for at Least One of the Selected Drugs in Selected Years by County of Death

Substance	2018	2019	2020	2024	2025	Total
Carfentanil	1	1	3	3	36	44

Map Showing Count of Decedents Testing Positive

for at Least One the Selected Drugs in Selected Years by County of Death



Data current as of 10/20/2025

Note: STORM is considered **sentinel surveillance**, describing drug presence at time of death, not cause of death; counties participate voluntarily. Decedents can test positive for **multiple drugs**, and decedents not testing positive for any drugs do not appear on table or graph. For example, if fentanyl and xylazine were selected, and one decedent tested



┌ Current and Emerging Drug Trends

Xylazine



Content Advisory

Xylazine



+ - One Day

+ - Five Days



Courtesy of PAARI

Xylazine wounds

A progression of xylazine wounds over five days.

9 / 11

Also known as “tranq” or “tranq dope”

- **Non-opioid animal sedative** and analgesic created in 1962 for potential human use, but was too strong; approved by FDA for **veterinary use only** in 1972
- Epicenter - Philadelphia 2018
 - **Emerging threat - 2023** - Office of NDCP
- 2025 - pending Schedule III Federal (2/12/2025)
2024 - pending Schedule II - Michigan
- Reversal drug exists for animals only— none for humans
Does not respond to naloxone
- **Heavy sedation/unconsciousness for several hours but does not stop breathing**
 - **Not causally linked to death (Does it reduce mortality?)**
- **Normally found with fentanyl**





All Drugs

CTRL+Click to select multiple drugs, years, and/or counties

Select Drug(s)

Xylazine

Select Year(s)

All

Select Counties

All



Count of Decedents Testing Positive

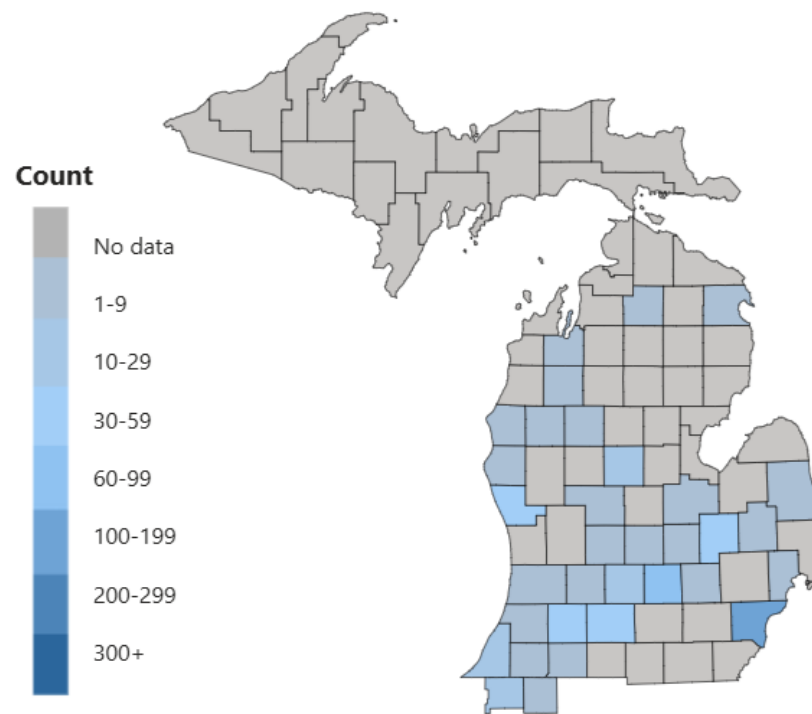
for at Least One of the Selected Drugs in Selected Years by County of Death

Substance	2019	2020	2021	2022	2023	2024	2025	Total
Xylazine	18	70	60	92	84	144	79	547

Data current as of 10/20/2025

Map Showing Count of Decedents Testing Positive

for at Least One the Selected Drugs in Selected Years by County of Death



Note: STORM is considered **sentinel surveillance**, describing drug presence at time of death, not cause of death; counties participate voluntarily. Decedents can test positive for **multiple drugs**, and decedents not testing positive for any drugs do not appear on table or graph. For example, if fentanyl and xylazine were selected, and one decedent tested



Current and Emerging Drug Trends

Medetomidine



D STREET A

STATE AND TERRITORY REPORT ON
ENDURING AND EMERGING THREATS



October 2024
NIIP-001-25

Medetomidine and Dexmedetomidine Submissions Increase Significantly

MEDETOMIDINE AND XYLAZINE

MEDETOMIDINE AND XYLAZINE POWDERS
HAVE A SIMILAR PRICE RANGE OF

\$10-\$300
PER KILOGRAM.

WHAT ARE THEY?

- Medetomidine is an analgesic used in veterinary medicine.
- Dexmedetomidine is an analgesic used in human and veterinary medicine.
- Both drugs have been diverted from their intended use.

- **Medetomidine – veterinary use** – detected in illicit drug supply in 2021-2022
- **(Dexmedetomidine – human use – intubation)**
- **NOT an opioid - not responsive to naloxone**
- **200-300x more potent than xylazine - severe sedation**
- Increase indicates a trafficker **shift in use of adulterants** due to xylazine scheduling in PA in 2023-2024





All Drugs

CTRL+Click to select multiple drugs, years, and/or counties

Select Drug(s)

Medetomidine

Select Year(s)

All

Select Counties

All



Count of Decedents Testing Positive

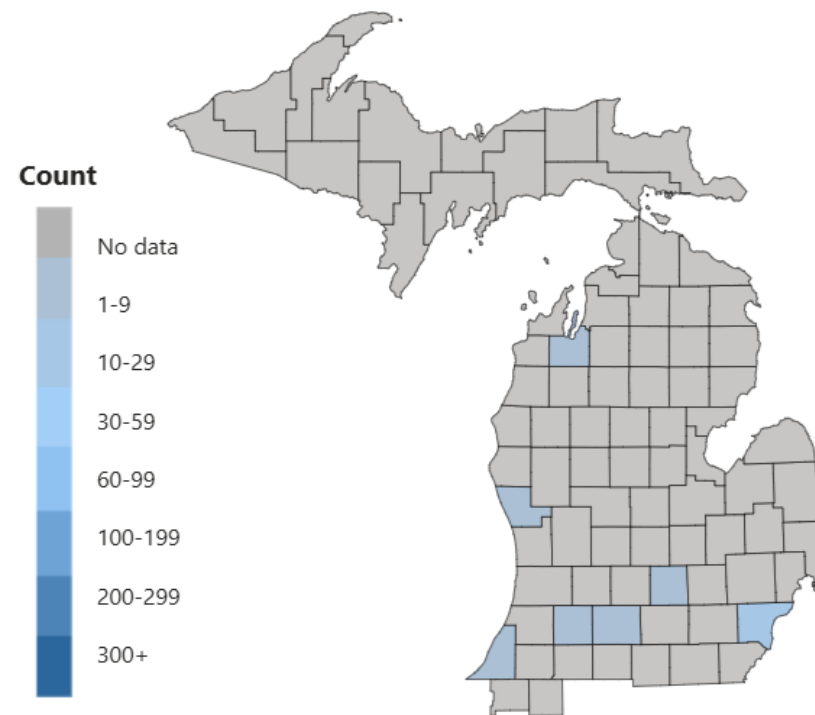
for at Least One of the Selected Drugs in Selected Years by County of Death

Substance	2024	2025	Total
Medetomidine	9	11	20

Data current as of 10/20/2025

Map Showing Count of Decedents Testing Positive

for at Least One the Selected Drugs in Selected Years by County of Death



Note: STORM is considered **sentinel surveillance**, describing drug presence at time of death, not cause of death; counties participate voluntarily. Decedents can test positive for **multiple drugs**, and decedents not testing positive for any drugs do not appear on table or graph. For example, if fentanyl and xylazine were selected, and one decedent tested



┌ Current and Emerging Drug Trends

7-OH

(7-hydroxymitragynine)



7-hydroxymitragynine (7-OH)

Doctors warn of addiction and overdose risks from legal drug 7-OH in Michigan

by Andrea Flores | Thu, September 18th 2025 at 6:49 PM
Updated Thu, September 18th 2025 at 6:50 PM



Doctors warn of addiction and overdose risks from legal drug 7-OH in Michigan (WEYI Andrea Flores)

Hiding in Plain Sight: 7-OH Products are Designed to Look Like Everyday Treats Like Gummies, Candies and Ice Cream.



- **7-OH** - natural substance in kratom plant w/< 2% total alkaloid content
- Amount needed for retail availability is result of **synthetic conversion of kratom** extracts
- **More potent** than primary alkaloid mitragynine as well as morphine
- Produces respiratory depression, physical dependance, and withdrawal symptoms similar to other opioids such as fentanyl, oxycodone and hydrocodone.
- **Significant addiction potential**
- **No FDA approved drugs** containing kratom or kratom-derived drug substances such as 7-OH



Current and Emerging Drug Trends

Nitazenes



Nitazenes

- Class of powerful synthetic **illicit** opioids
- Originally created in the 1950s as a possible prescription pain medication, but **never approved for use in the United States**
- Some nitazenes are **10x - 100x more potent than fentanyl**, some are less potent than fentanyl
- Appearing in fentanyl mixtures since 2019, and most likely being mixed into the drug supply by dealers in the U.S.
- Rapidly changing drug landscape



Comparing Concentrations in Death Cases

**Order similar to reported in vitro potency*

Drug	N	Mean ($\pm$ SD) (ng/mL)	Median (ng/mL)	Range (ng/mL)	Potency Compared to Fentanyl
N-Pyrrolidino Etonitazene*	15	3.9 $\pm$ 5.9	2.4	0.3 - 25	43x more
N-Pyrrolidino Protonitazene*	9	0.90 $\pm$ 0.43	1.0	0.1-1.5	25x more
Isotonitazene*	69	1.59 $\pm$ 1.81	1.0	0.5 - 9	9x more
Protonitazene*	3	11 $\pm$ 9.9	5	3.1 - 25	4x more
Metonitazene	18	6.3 $\pm$ 7.5	3.8	0.5 - 33	2x more
N-Pyrrolidino Metonitazene	5	0.46 $\pm$ 0.14	0.49	0.25-0.63	2x more
Butonitazene	1	3.2	N/A	N/A	2x less
Etodesnitazene	15	40 $\pm$ 61	5.2	0.53 - 230	4x less



DEA Orders Nitazenes to be Emergency Controlled to Protect the Public



Drug dealers in the United States continue to adulterate fentanyl with various synthetic opioids, such as nitazenes. Nitazenes are synthetic opioids that have been linked to numerous overdose deaths and can be more potent than fentanyl.

Due to this threat, the DEA temporarily ordered two nitazenes substances be emergency controlled and placed in schedule I to protect the public.

On **August 15, 2025**, based on the imminent hazard to public safety, DEA published a temporary, **emergency scheduling order** to

place these benzimidazole-opioids in schedule I under the Controlled Substances Act. Any person who handles these substances faces administrative, civil, and criminal sanctions.



Current and Emerging Drug Trends

Nitrous Oxide



Nitrous oxide poisoning, deaths sharply rising among Michigan youths, experts warn

By  Daniel Schoenherr  and  Capital News Service April 25, 2025

Emergency departments across the state saw a fivefold increase in nitrous oxide-related poisonings and deaths between 2019 and 2023, according to a new study from Wayne State University.

- Used in controlled medical/dental settings for patient sedation
- Misuse - frostbite damage to face and vocal cords, ruptured lungs
- Regular or prolonged use - vitamin B12 deficiency causing nerve damage and paralysis



Different Names, Same Drug

Chroming

- Huffing with a new name
- TikTok trend; #chroming, #whiptok
- Using household products may make it seem less dangerous
- The name comes from those who huff metallic products like spray paint
- Can lead to short- and long-term health effects

Galaxy Gas

- Marketed as whipped cream chargers
- Flavors appealing to youth like vanilla cupcake and mango
- Packaging is also appealing to youth
- There are multiple companies making whipped cream chargers. Galaxy gas is now being used as a generalized term.

The "Galaxy Gas" trend whipping up controversy on social media - CBS News

What Is Chroming? | UPMC HealthBeat



Tianeptine



- “Gas Station Heroin”
- Prescribed for depression in some countries, but not in the U.S.
- Often marketed as diet or cognition-enhancing drugs
- Euphoria at high doses
- Risk of misuse, tolerance, withdrawal and overdose



Additional Resources

ORS-Based Resources

- **Training and technical assistance for ODMAP and SOS**
- **Emerging Drug Trend Presentations**
- **Connections to other organizations in Michigan and nationally**
- **Training and technical assistance for other innovative and evidence-based programs**



「What did you learn today that is most helpful for your work?

Please go to **www.menti.com**
and enter the access code below

Access Code: 7815 4331



Thank you!



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- <https://michiganofr.org/>
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Alcohol and Drug-Related Harms: Examining a Hidden Catalyst in Overdose in Michigan

Michigan Premier Public Health Conference, October 2025

Sarah Konefal, PhD

Opioids & Emerging Drugs Unit



Overdose Mortality in Michigan: Who, Where and How

Michigan Overdose Data to Action Dashboard

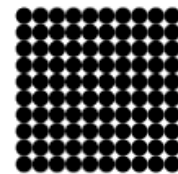
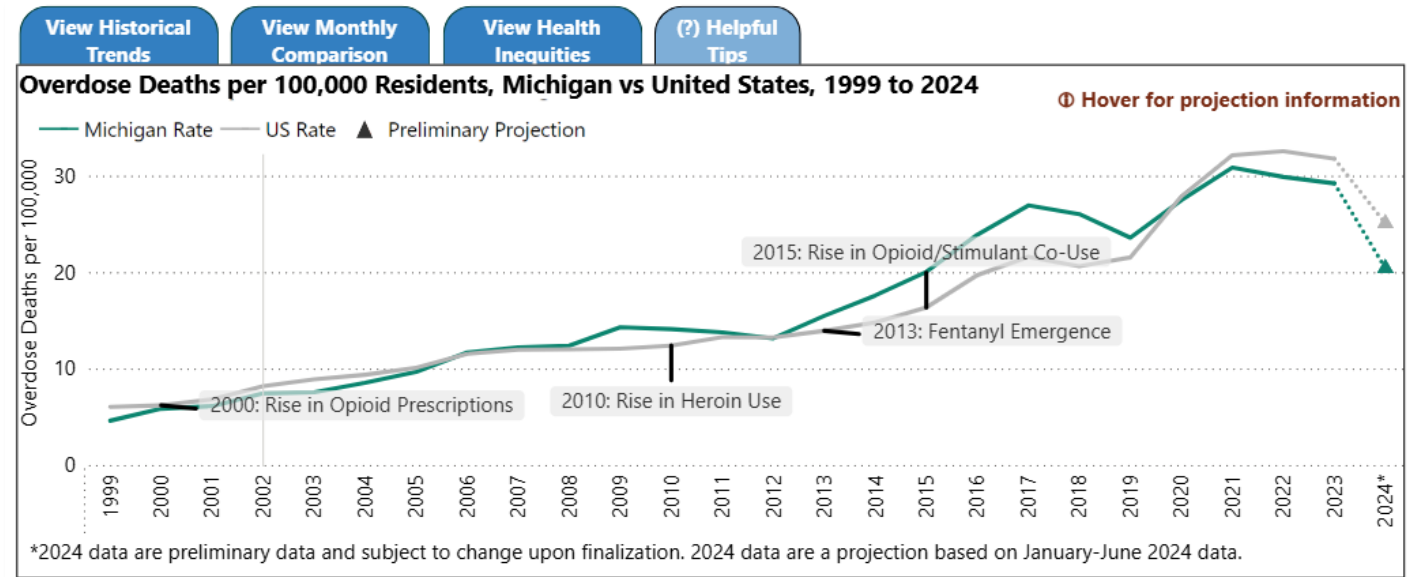
Home

Explore data

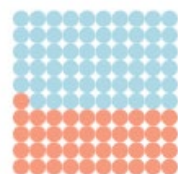
Current Trends

Technical Notes

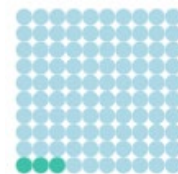
Frequently Asked Questions



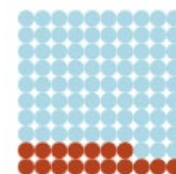
100%
All Drugs



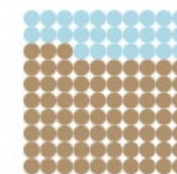
40.6%
Cocaine



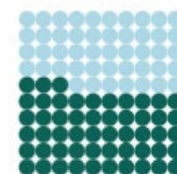
2.8%
Heroin



16.7%
Other Psychost.



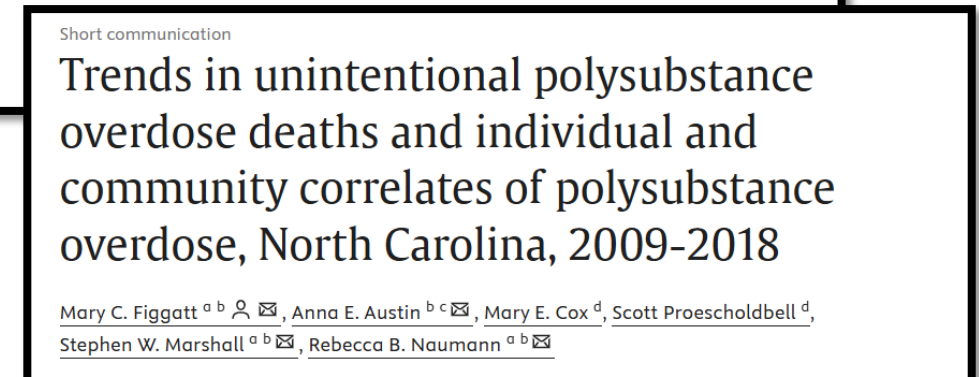
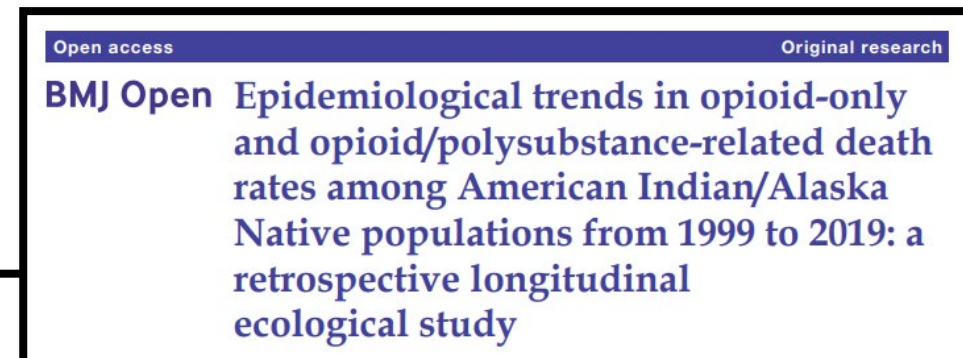
72.5%
Synth. Opioids



52.7%
Poly-Drug

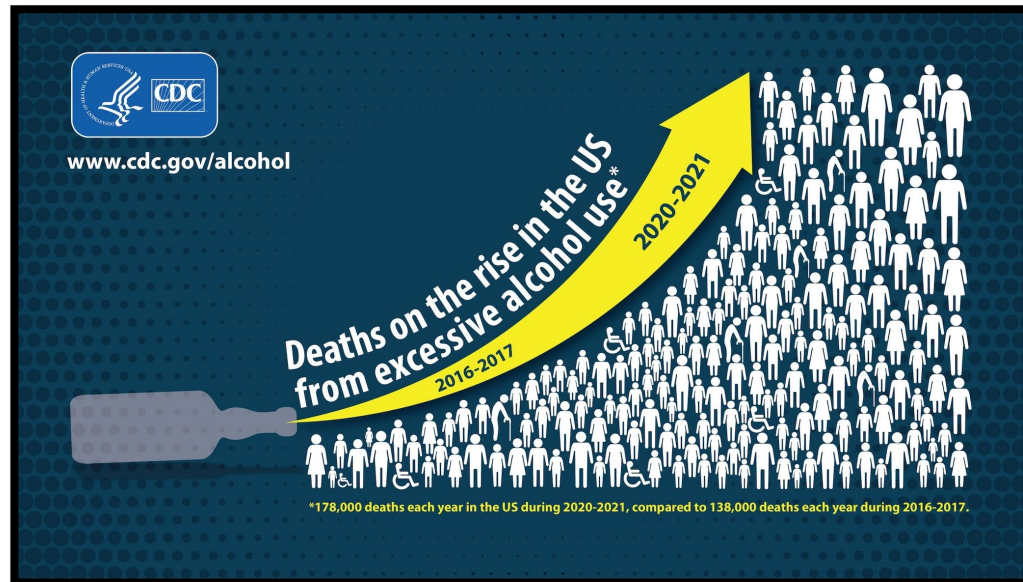
Opioids, Stimulants and Beyond: The Rise of Multi-Drug Overdose Deaths

- Overdose deaths involving multiple substances have become more common across the United States, with significant increases in deaths involving combinations of opioids, stimulants and other drugs.



Beyond Overdose: The Overlooked Crisis of Alcohol-Related Mortality

- While much attention is given to drug overdoses, alcohol-related deaths are increasing, highlighting the broader public health crisis of substance-related mortality.



What are Alcohol-Attributable Deaths?



Directly Attributable

100%

Deaths that are **entirely caused** by alcohol consumption. These conditions wouldn't exist without alcohol use.

Examples:

- Alcoholic liver disease
- Alcoholic cardiomyopathy
- Fetal alcohol syndrome
- Alcohol poisoning
- Alcohol use disorder



Partially Attributable

Variable %

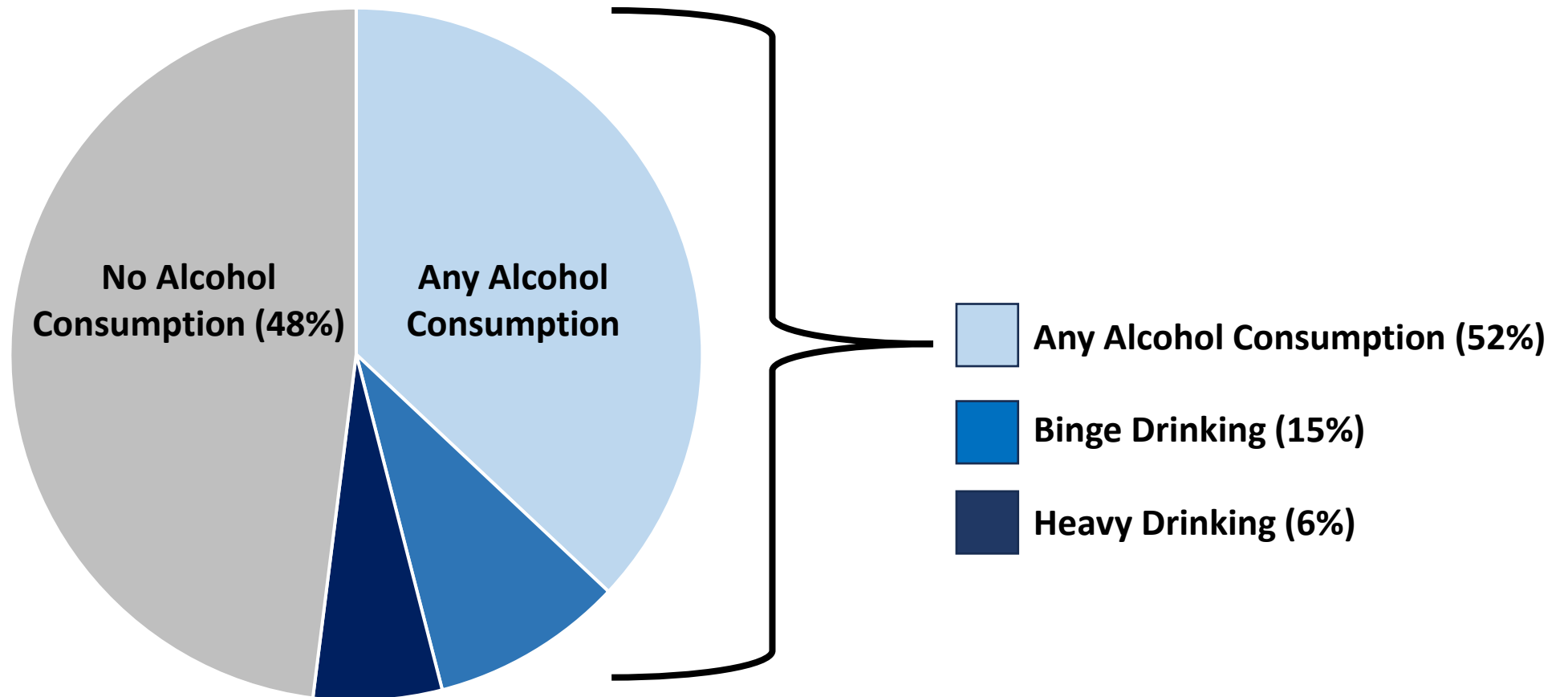
Deaths where alcohol **increases the risk** but isn't the sole cause. Calculated using statistical methods and research data.

Examples:

- Motor vehicle crashes
- Falls and injuries
- Homicides
- Some cancers
- Cardiovascular disease

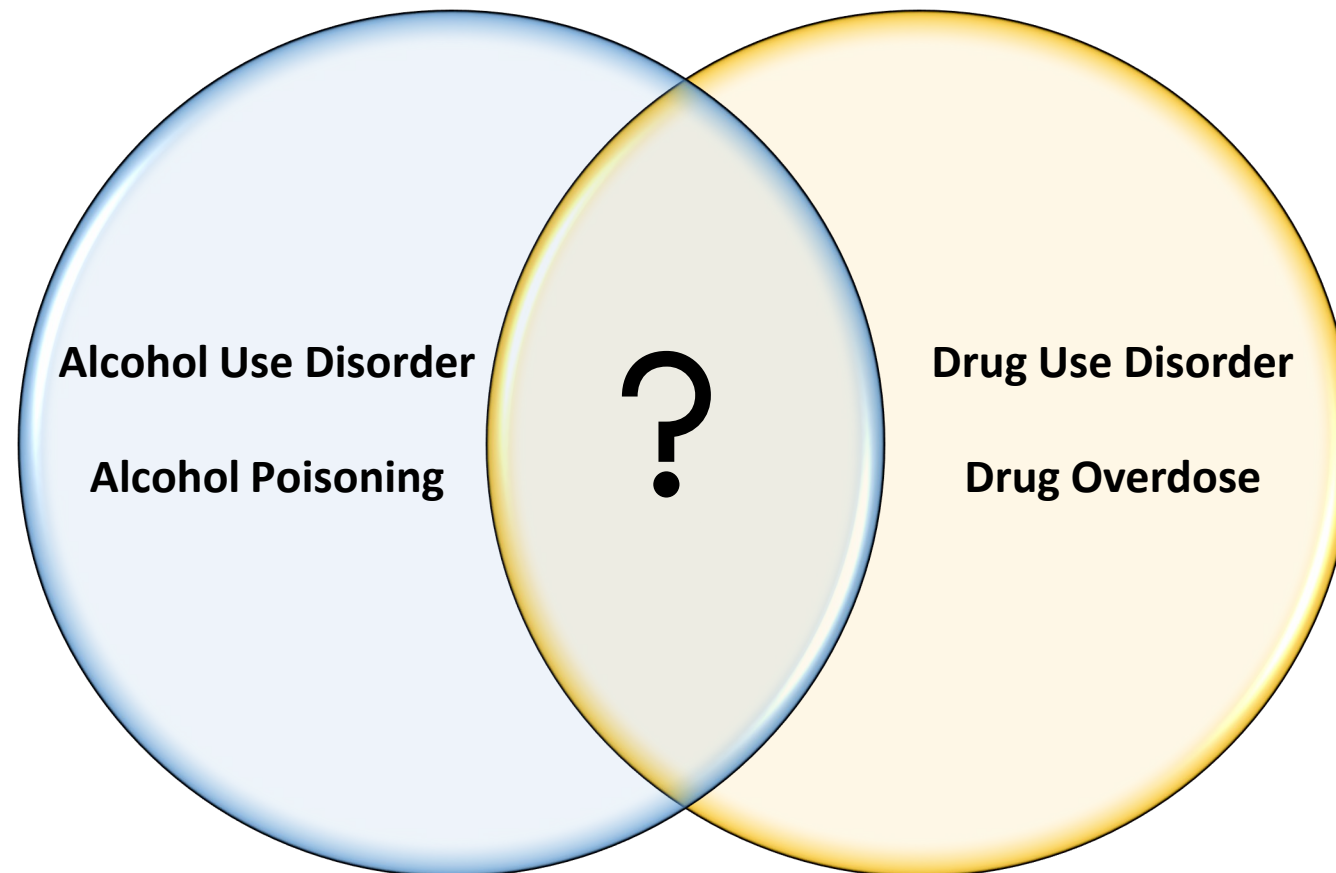
Alcohol Consumption Patterns in Michigan

In the Past Month, Michiganders reported:



Purpose Statement

Characterize the overlap between alcohol and drug-related overdose deaths.



Data Sources

Two complementary datasets to examine alcohol-involved overdose deaths.



Death Certificate Data

Mortality records for Michigan residents (1999-2023).

- ✓ Identifiable information.
- ✓ Place of death.
- ✓ **Cause of death:** medical condition or injury leading to death (natural, accidental, suicide, homicide).



SUDORS

State Unintentional Drug Overdose Reporting System supplements official death records (2019-2022).

- ✓ Injury and death circumstances.
- ✓ **Toxicology reports.**
- ✓ **Decedent's social, mental and physical health history.**

Case Definition for Alcohol-Involved Overdose Deaths

Underlying Cause of Death

Overdose ICD-10 Codes:

- ☐ X40-X45 (unintentional)
- ☐ X60-X65 (intentional)
- ☐ Y10-Y15 (undetermined)

+

Contributing Cause of Death

Alcohol ICD-10 Code:

- ☐ T51: Toxic Effects of Alcohol

=

Alcohol-Involved Overdose Death

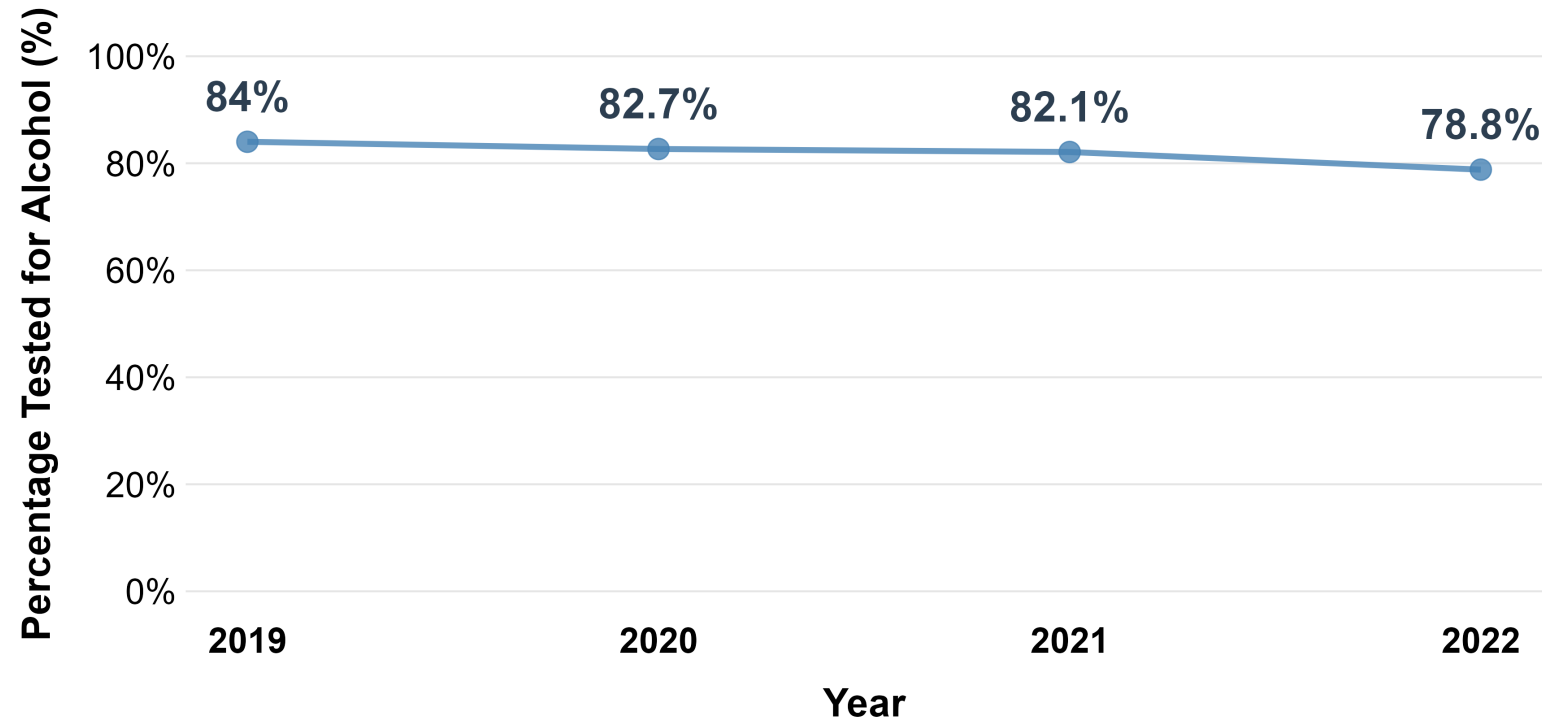
Cases where **drug overdose** was the underlying cause **AND alcohol toxicity** was a contributing factor.

Note: About 25% of **unintentional or undetermined** drug or alcohol poisoning deaths involve poisoning by and exposure to alcohol as the underlying cause of death. >99% of these cases also have a multiple cause of death code for the toxic effects of alcohol. No **intentional** drug overdose deaths involved poisoning by and exposure to alcohol as the underlying cause of death.

Trends in Postmortem Alcohol Testing: 2019-2022

Percentage of Unintentional Overdose Deaths Tested for Alcohol in Postmortem Toxicology Michigan Residents, 2019-2022

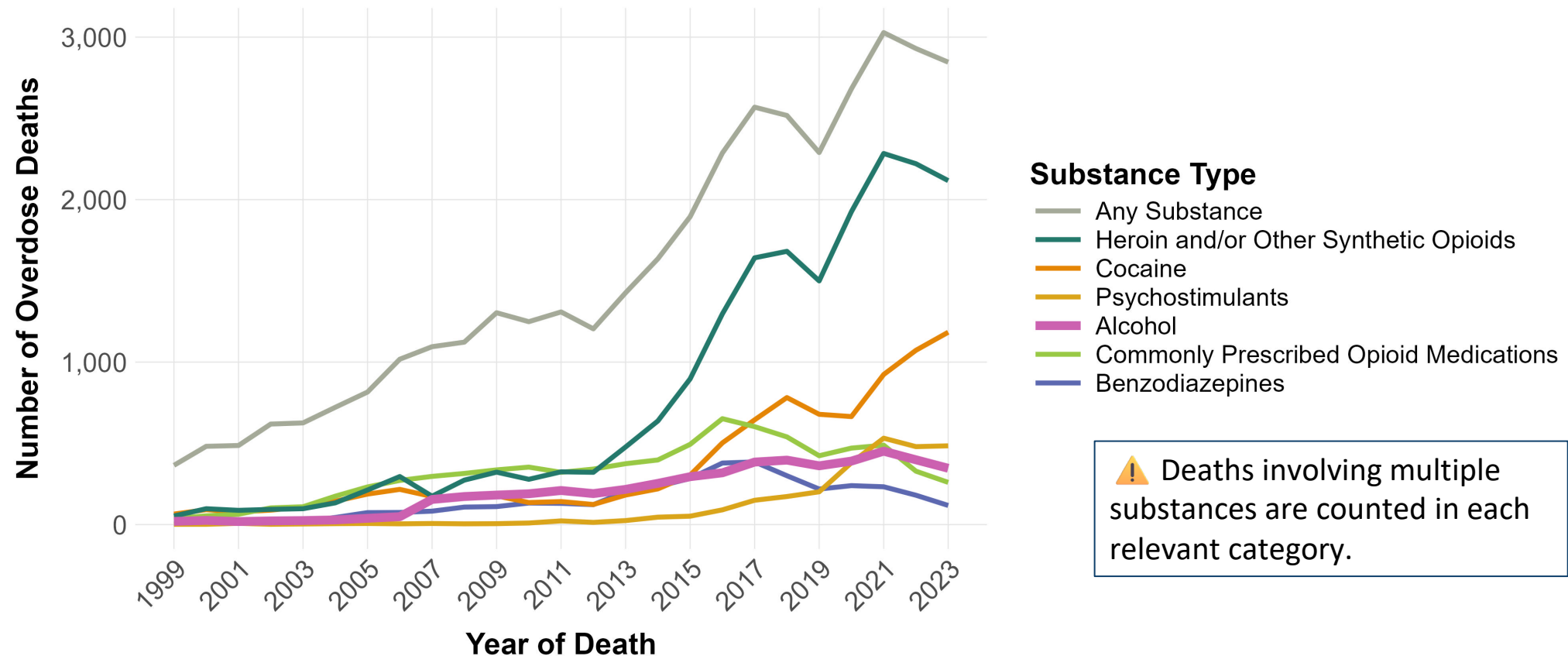
Mann-Kendall Test: No significant trend ($\tau = -1.000$, $p = 0.089$)



Source: Michigan SUDORS Data, 2019-2022

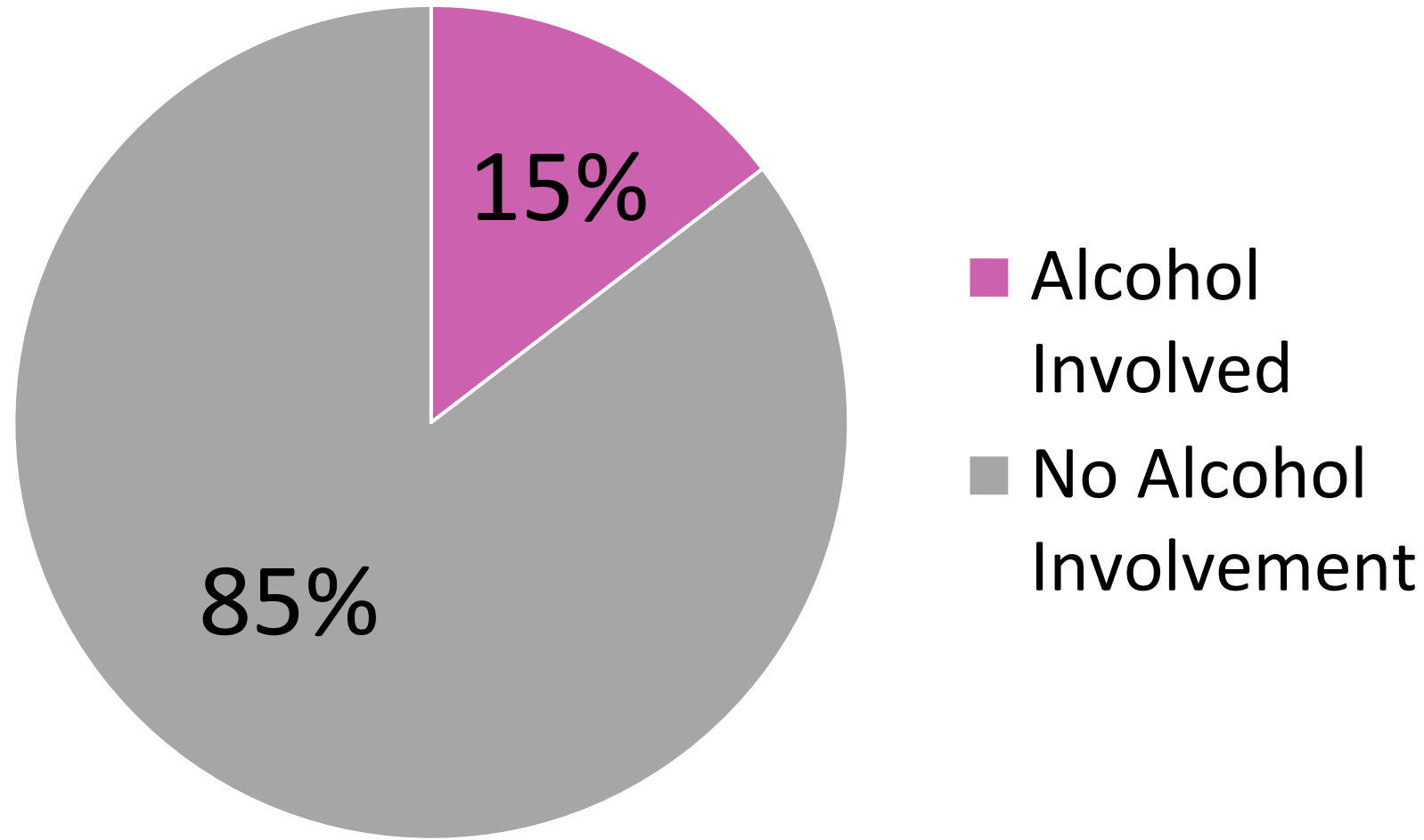
Drug and Alcohol Overdose Deaths in Michigan: 1999–2023

Substances^a Contributing to Unintentional Medication, Drug, and Alcohol Poisoning Deaths, Michigan Residents, 1999-2023



^aIncludes any unintentional or undetermined medication, drug, alcohol poisoning: X40-X45 and Y10-Y15, with any mention of specific T-codes by drug type. These counts are not mutually exclusive. Deaths involving multiple substances are counted on multiple lines.

About 1 in 7 Overdose Deaths in Michigan Involve Alcohol



Includes only unintentional and undetermined medication, drug and alcohol poisoning deaths (ICD-10: X40-X45, Y10-Y15).

Why Alcohol-Involved Overdose Deaths May Be Underestimated

1. Metabolism of alcohol varies among individuals.

Genetics, age, sex, body weight and composition, liver health, tolerance, medications, co-occurring health conditions, drinking patterns.

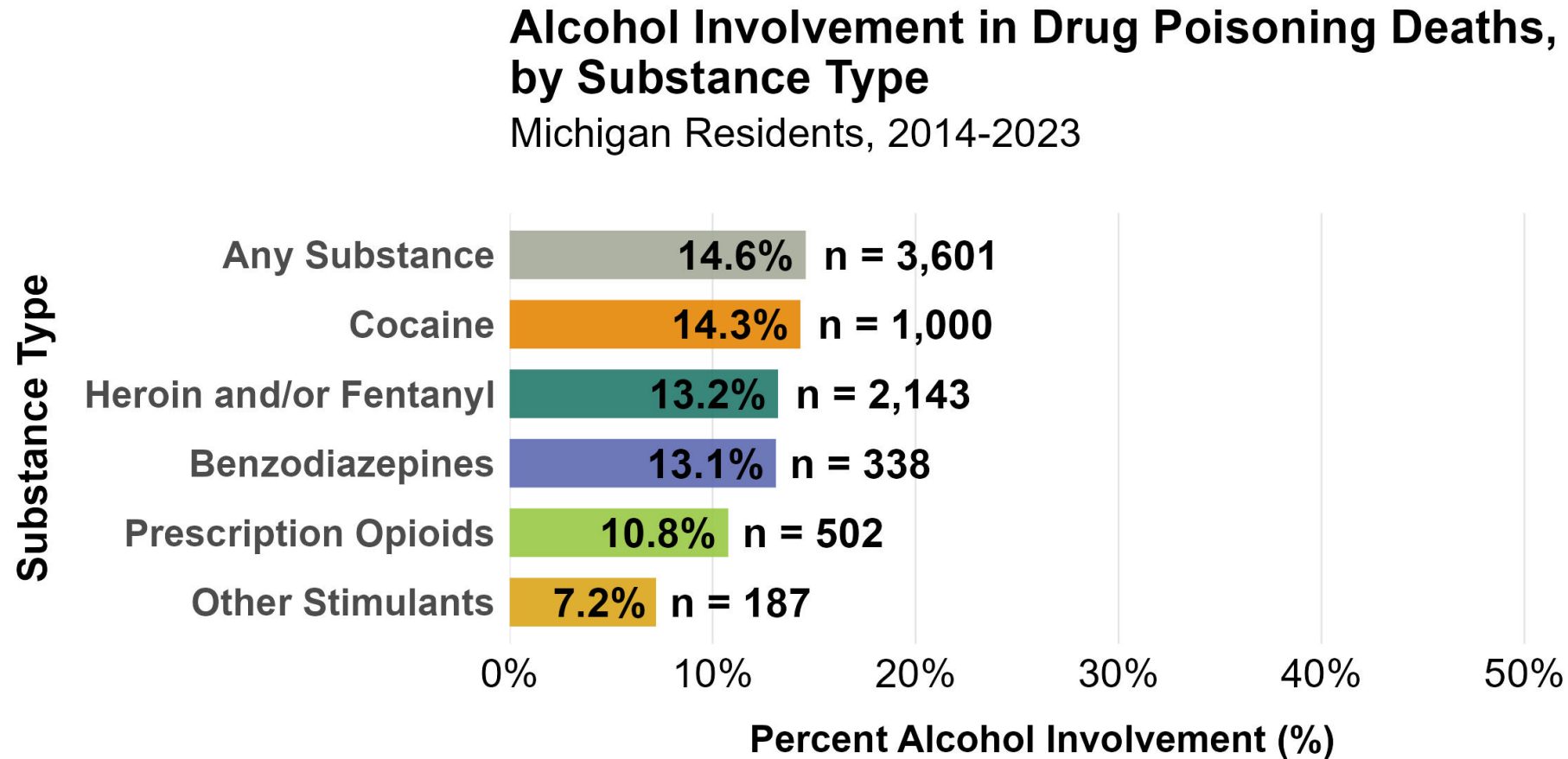
2. Alcohol may not be detected in blood tests or may change.

Postmortem redistribution, evaporation, decomposition, improper storage, delayed sampling, other environmental factors.

3. Testing and Reporting – Medical Examiners.

Primary cause of death, case relevance, resources, workload, time and costs constraints, guidelines and protocols.

Alcohol Involvement in Fatal Overdoses Varies by Substance Type



Includes unintentional and undetermined medication, drug and alcohol poisoning deaths (ICD-10: X40-X45, Y10-Y15). These counts are not mutually exclusive - deaths involving multiple substances are counted in multiple categories.

Alcohol Involvement in Fatal Overdoses by Race/Ethnicity and Sex

Unintentional or Undetermined Overdose Deaths, Michigan Residents, 2014-2023				
Race/Ethnicity-Sex Groups by Alcohol Involvement among Drug Overdose Deaths				
Race/Ethnicity-Sex	Total Deaths (n)	% of all Drug Overdose Deaths	Alcohol Involved (n)	% with Alcohol Involvement
American Indian or Alaska Native, Male	123	0.5%	36	29.3%
Other, Male	152	0.6%	39	25.7%
Hispanic, Male	756	3.2%	147	19.4%
Black NH, Male	3,744	15.7%	659	17.6%
White NH, Male	11,074	46.5%	1,688	15.2%
Black NH, Female	1,719	7.2%	231	13.4%
Hispanic, Female	312	1.3%	35	11.2%
White NH, Female	5,676	23.8%	592	10.4%

Male populations have the highest prevalence of alcohol-involvement among overdose deaths.

Alcohol-involved overdoses are the most prevalent among non-White male populations.

Note: Top groups by alcohol involvement rate among those representing $\geq 0.5\%$ of total overdose deaths.

Blue bars show percentage of all overdose deaths; orange bars show percentage with alcohol involvement.

Unknown/Missing race/ethnicity excluded from analysis.

Alcohol Involvement in Fatal **Stimulant** Overdoses by Race/Ethnicity and Sex

Unintentional or Undetermined Stimulant Overdose Deaths, Michigan Residents, 2014-2023				
Race/Ethnicity-Sex Groups by Alcohol Involvement among Stimulant Overdose Deaths				
Race/Ethnicity-Sex	Total Stimulant Deaths (n)	% of all Stimulant Overdose Deaths	Alcohol Involved (n)	% with Alcohol Involvement
Other, Male	57	0.7%	17	29.8%
Black NH, Male	1,789	20.5%	318	17.8%
Hispanic, Male	320	3.7%	49	15.3%
Black NH, Female	817	9.3%	120	14.7%
White NH, Male	3,790	43.3%	406	10.7%
Hispanic, Female	113	1.3%	11	9.7%
White NH, Female	1,745	20%	156	8.9%

Note: Top groups by alcohol involvement rate among those representing $\geq 0.5\%$ of total stimulant overdose deaths.

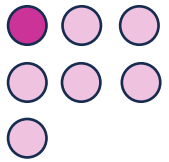
Blue bars show percentage of all stimulant overdose deaths; pink bars show percentage with alcohol involvement.

Unknown/Missing race/ethnicity excluded from analysis.

Among stimulant-related overdose deaths, Non-White males show 40-180% higher alcohol co-involvement than White males.

Among stimulant-related overdose deaths, Black NH females show ~65% higher alcohol co-involvement than White females.

Key Findings: Alcohol's Hidden Role in Michigan's Overdose Crisis



14.6% of Michigan overdose deaths involve alcohol, representing a significant but often overlooked component of the crisis.



Alcohol co-involvement varies by substance type, with **cocaine and heroin/fentanyl** overdoses more likely to involve alcohol.



Overall, overdoses involving alcohol disproportionately **impact older male populations** aged 45-64.



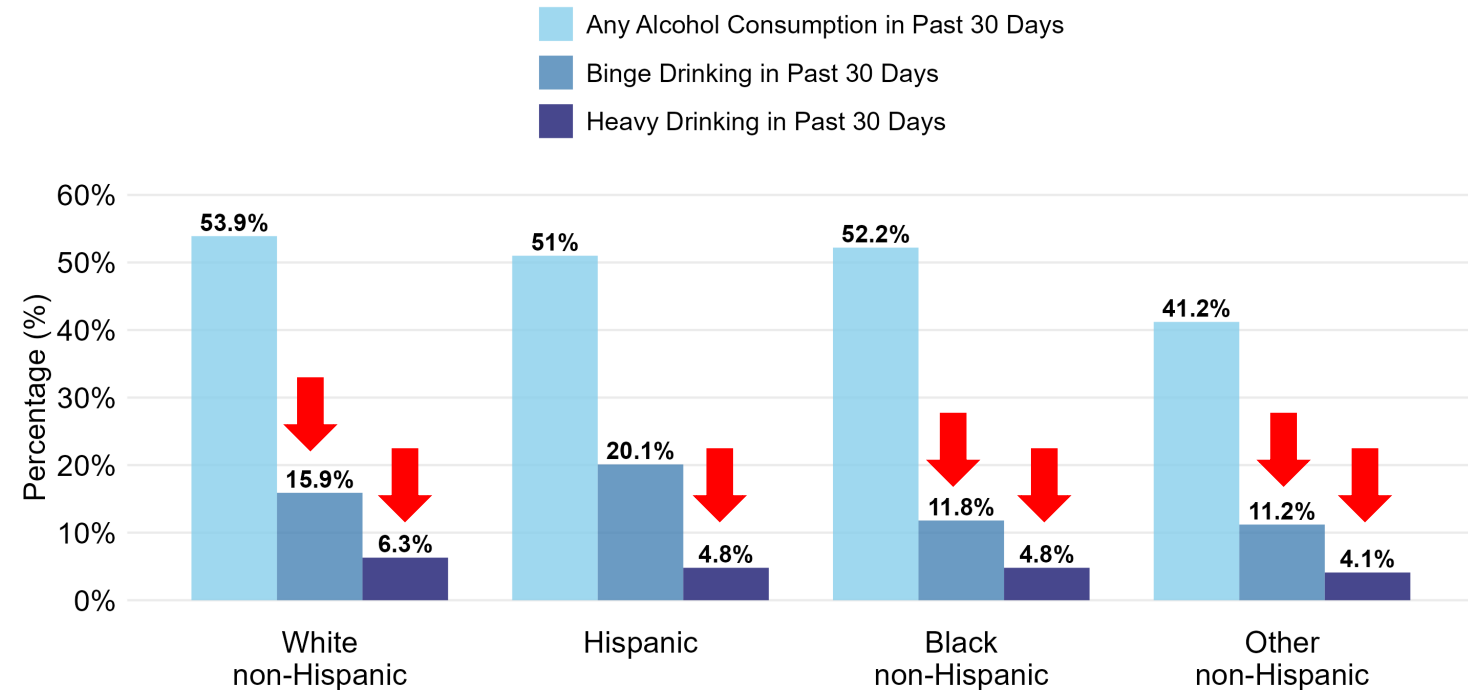
Overdoses involving alcohol disproportionately impact **non-white populations**.

Understanding Disparities: The Alcohol-Harm Paradox

“Individuals from lower socioeconomic status (SES) or disadvantaged groups experience higher rates of alcohol-related harms than those from higher SES groups, despite consuming the same or even lower amounts of alcohol on average.”

Reference: Boyd, J., Sexton, O., Angus, C., Meier, P., Purshouse, R., & Holmes, J. (2021). Causal mechanisms proposed for the alcohol harm paradox—a systematic review. *Addiction* (Abingdon, England), 117, 33 - 56. <https://doi.org/10.1111/add.15567>.

**Prevalence of Alcohol Consumption (%) by Race/Ethnicity
Michigan Residents Aged 18+ (2023)**



Source: Michigan Behavioral Risk Factor Survey 2023

Implications for Policy and Practice

Alcohol-involved overdose deaths highlight the need for integrated prevention, treatment and policy interventions targeting both alcohol and other substance use.

- Alcohol prevention strategies (e.g., increasing alcohol taxes or regulating alcohol outlet density) could reduce the risk of drug overdose death.
- Increase identification of at-risk individuals and improved access to integrated treatment for both alcohol and other substance use in healthcare settings.
- Strengthen harm reduction and treatment strategies tailored to polysubstance use.

Questions?

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