

# Emerging Trend: Xylazine in Michigan

2019-2022 Year-to-Date

## Highlights

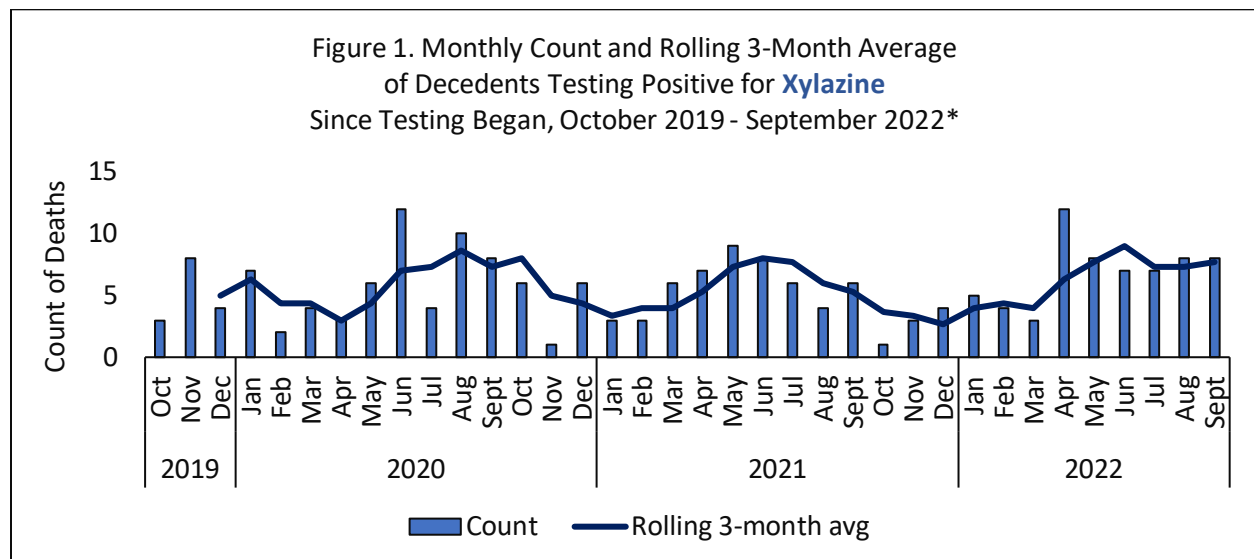
Xylazine is a potent veterinary tranquilizer/sedative; never approved for human use but increasingly found in the illicit drug supply and frequently used along with fentanyl.<sup>1</sup> Xylazine causes sedation and anesthesia, respiratory depression, slow heart rate, muscle relaxation and potentiates pain relief; in humans, it also causes significant slowing of the heart rate and low blood pressure.<sup>1</sup>

[A September 2021 CDC MMWR report<sup>2</sup>](#) suggested **xylazine might be underreported in overdose deaths** because routine postmortem toxicology tests may not include it. In April 2022, [another CDC MMWR report<sup>3</sup>](#) reported an increase in xylazine-related deaths in Cook County, Illinois. Both reports noted fentanyl/fentanyl analogs were found in 99% of xylazine-involved deaths, and recommended increased public awareness, routine testing and preparedness among health care providers. **Michigan is also seeing Xylazine-involved fatalities.** This brief uses data from postmortem toxicology testing conducted by the Swift Toxicology of Overdose-Related Mortalities (STORM) program. STORM began in September 2017 to improve postmortem toxicological testing in Michigan and started testing for xylazine in October 2019. As of September 2022, STORM has detected 206 xylazine-positive decedents, of which **100% also tested positive for fentanyl.**

According to the [Michigan Poison and Drug Information Center \(MiPDC\)<sup>4</sup>](#), “fentanyl detection in deaths related to xylazine is very concerning,” as “both xylazine and fentanyl can place users at increased risk of toxicity and even death due to their combined effects on the respiratory system and central nervous system. Cardiovascular and respiratory support are recommended in overdoses involving xylazine, as well as naloxone; **although naloxone is not an antidote to xylazine, xylazine is frequently used with opioids, which are reversed with naloxone.**”

## Detailed Findings

There have been 62 xylazine-positive decedents in the first nine months of 2022. If trends continue, STORM will see 83 such decedents by the end of 2022, a 38% relative increase from 60 such decedents in 2021.

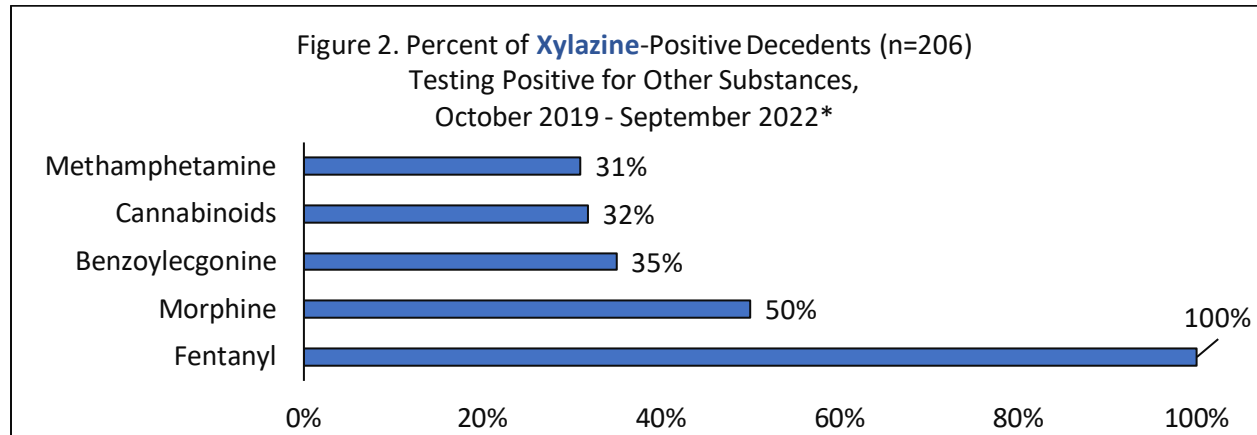


\*2019-2022 The Swift Toxicology of Overdose-Related Mortalities (STORM) Program at Western Michigan University Homer Stryker MD School of Medicine (WMed)

Of decedents testing positive for xylazine, commonly co-occurring substances included:

- Fentanyl, 100% (206/206);
- Morphine, 50% (102/206); and
- Benzoyllecgonine, a metabolite of cocaine, 35% (73/206).

The drug combination of xylazine, fentanyl and benzoyllecgonine has increased from 21 decedents in 2021 to a projected 36 decedents in 2022, a 71% relative increase.



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Of decedents testing positive for xylazine in STORM:

- 27% were female, 70% were male;
- 20% were Black/African American, 77% were white; and
- 62% were between ages 25-44.

Sixty-one of 83 Michigan counties have submitted at least one death for STORM testing since the program began. Since October 2019, xylazine-positive deaths have occurred in 24 Michigan counties with most occurring in: Ingham (37 deaths), Calhoun (33), Genesee (33), Kalamazoo (21), and Muskegon (20), representing 70% of all xylazine deaths. Comparing 2022 year-to-date with 2021, **Berrien County had the largest increase in xylazine-positive decedents, from one in 2021 to six through September 2022.**

## How You Can Act

**Get the message out.** Xylazine is a non-opioid veterinary tranquilizer/sedative, not approved for human use and increasingly found in the illicit drug supply in Michigan. Using xylazine and opioids, like fentanyl, can cause a fatal overdose.

Central nervous system (CNS) stimulants like cocaine and CNS depressants like xylazine and fentanyl, when used together, can be a lethal combination, masking the effect of a single drug and leading to overdose. For example, if the stimulant is faster-acting and wears off first, the full effects of the opiate and/or xylazine can cause a person to stop breathing.

There are currently no readily accessible devices in Michigan for detecting xylazine in illicit drugs. Color, texture, taste or smell do not reliably indicate the presence of xylazine, fentanyl or other adulterants. It

is reasonable and safer to assume that all illicit drugs are contaminated with other substances and act accordingly.

**Educate about dangers of xylazine, the signs of opioid overdose and how to use naloxone to reverse an opioid overdose.** Train bystanders to use naloxone and, in cases where naloxone is not available or is not working yet, to use CPR, rescue breathing and/or chest compressions to sustain life until EMS arrives.

“Naloxone administration might not be as effective at fully reversing overdose-related signs and symptoms when xylazine and highly potent opioids such as fentanyl are present, although **naloxone should always be administered**. No pharmaceutical antidote is specific to xylazine, and immediate supportive care, especially respiratory and cardiovascular support, is critical in the event of an overdose when the presence of xylazine is suspected” ([MMWR](#)<sup>2</sup>).

**Distribute naloxone.** Organizations can [request free naloxone from MDHHS](#) to increase capacity. Connect individuals with more ways to access naloxone: order online at [nextdistro.org/Michigan](#) and have it delivered at no cost; get it at a pharmacy ([Naloxone Standing Order](#), no prescription required); or contact a [Syringe Service Program](#) for naloxone, fentanyl test strips, sterile needles, testing for HIV and Hepatitis C and other life-saving resources.

**Promote harm reduction messages.** “Assume overdose risk no matter what drug you are using, and practice as much harm reduction as possible, as consistently as possible: Go slow. Use less. Test your product. If you are using alone, double down on other strategies. Have someone check on you. Smoke or snort instead of injecting. If you are using in a group, stagger your use so someone is always alert. Know the signs of an overdose. Carry naloxone and know how to use it. Look out for each other!” ([Fentanyl Use and Overdose Prevention Tips - National Harm Reduction Coalition](#)<sup>5</sup>).

## Technical Notes

**Data Source:** STORM Project Dataset (2017-2022), updated by WMed, October 11, 2022.

**Limitations:** Since the number of counties participating in STORM and the number of substances being tested can change, caution should be exercised when interpreting this data. This data cannot definitively state the burden of any particular substance in Michigan or any specific county. Due to limited death information, it is impossible to determine whether a positive drug result in STORM is indicative of drug toxicity or was a contributing cause of death.

## References

1. Michigan Poison Control Center, Wayne State University. Fact Sheet: Xylazine. 2020. [poison.med.wayne.edu/updates-content/fact-sheet-xylazine?rq=xylazine](#)
2. Kariisa M, Patel P, Smith H, Biting J. Notes from the Field: Xylazine Detection and Involvement in Drug Overdose Deaths — United States, 2019. *MMWR Morb Mortal Wkly Rep* 2021;70:1300–1302. DOI: [http://dx.doi.org/10.15585/mmwr.mm7037a4](#)
3. Chhabra N, Mir M, Hua MJ, et al. Notes From the Field: Xylazine-Related Deaths — Cook County, Illinois, 2017–2021. *MMWR Morb Mortal Wkly Rep* 2022;71:503–504. DOI: [dx.doi.org/10.15585/mmwr.mm7113a3](#)
4. University, W. S. (2020, November 2). *Michigan Poison Center issues warning related to xylazine abuse*. School of Medicine News. Retrieved September 29, 2022, from [today.wayne.edu/michigan-poison-center-issues-warning-related-to-xylazine-abuse](#)

5. The DOPE Project. Fentanyl Use and Overdose Prevention Tips. National Harm Reduction Council. Accessed August 18, 2022. [Fentanyl Use and Overdose Prevention Tips - National Harm Reduction Coalition](#)

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