

Soaring misuse of horse tranquilizer xylazine is worsening opioid crisis

July 3 2023, by Dennis Thompson



Drug overdose deaths involving a powerful horse tranquilizer called

xylazine have skyrocketed in the United States, rising 35-fold in just a handful of years, federal health researchers say.

The number of xylazine-involved OD deaths nationwide rose from just 102 in 2018 to 3,468 in 2021, according to a new study released Friday from the U.S. Centers for Disease Control and Prevention.

The findings come a day after another CDC study, which found that by June 2022 xylazine was involved in nearly 11% of all fatal fentanyl overdoses. That's a nearly fourfold increase from January 2019, when it was present in almost 3% of such cases.

The drug not only increases OD risk, but also causes severe, hard-to-treat [skin wounds](#) in users, experts stressed.

Xylazine is "used in small, medium and large animal surgeries for veterinary anesthesia," said [Dr. Kimberly Sue](#), an addiction medicine doctor at Yale Medicine in New Haven, Conn. "It's not approved for use in humans by the Food and Drug Administration."

Drug dealers are cutting the relatively cheap xylazine, known under the street name "tranq" or "tranq dope," into more expensive or powerful street drugs, said [Dr. Ian Wittman](#), chief of service for the Emergency Department at NYU Langone Hospital—Brooklyn.

Xylazine is most commonly found in fentanyl, cocaine, methamphetamine and heroin, the CDC study found.

A kilogram of xylazine powder can be purchased online from Chinese suppliers at prices ranging from \$6 to \$20, according to the U.S. Drug Enforcement Agency. By comparison, the chemicals used to produce fentanyl can cost \$75 or more per kilogram.

"Increasingly, it is being found in the illicit drug supply," Wittman said. "Poisoning deaths from xylazine are rapidly rising and this is a major public health threat."

There likely are some people who are specifically seeking out xylazine for illicit use on its own, Sue said.

"But I would say for the majority of people, they don't know they're using it and they don't intend to be using it," she added.

[Pat Aussem](#), vice president of consumer clinical content development at the Partnership to End Addiction, noted that xylazine is a depressant that slows brain activity and causes extreme drowsiness.

"It can result in slowed breathing and [heart rate](#) in people who use it, as well as dangerously low blood pressure," she said. "The risk of overdose is amplified when combined with other substances like fentanyl."

Xylazine further increases a person's risk of fatal overdose because it does not respond to the OD rescue drug naloxone, experts said.

Naloxone should still be given at any sign of drug overdose, because it will counteract any opioid with which xylazine has been cut and increase a person's chances of survival, Sue said.

Unfortunately, the stricken user will continue to experience the effects of the xylazine until it wears off.

"Due to the sedating effects of xylazine a person may resume breathing, but not be alert or awake," Aussem said. "Rescue breathing may be necessary and, if possible, monitoring of blood oxygen levels."

Sue noted that a person might be unresponsive for three to four hours,

"which can be very scary."

Some people exposed to xylazine-laced drugs also develop hideous wounds at the injection site, she said.

"I have many patients who have unusual skin wounds that can be hard to treat," Sue said. "They look and they act a lot like burns, but they can be quite painful, and they can get quite large and difficult to care for."

Aussem said that xylazine appears to narrow blood vessels, which can decrease the amount of blood that reaches tissues, though more research is needed.

"Prolonged use can prevent wounds from healing and result in infections, sometimes requiring amputation," she added. "These wounds are said to closely resemble necrotizing fasciitis, which is a kind of bacterial infection that spreads rapidly and can be deadly."

The White House Office of Drug Control Policy designated xylazine an "emerging threat" in April.

Unfortunately, xylazine-related OD fatalities are difficult to track because medical codes used to report causes of death to the National Vital Statistics System don't cite specific drugs, the CDC researchers said.

But over the past decade, the CDC's National Center for Health Statistics has developed software that can scour the full text of death certificates to identify mentions of specific drugs and other substances.

Using this method, the CDC researchers found that the rate of xylazine-implicated OD deaths shot up to 1.06 per 100,000 people in 2021, compared with 0.03 per 100,000 in 2018.

Drug overdose deaths steadily rose during that period—102 in 2018, 627 in 2019, 1,499 in 2020, and 3,468 in 2021.

Males had a much higher rate of xylazine-related OD deaths in 2021, 1.55 per 100,000 compared with 0.57 per 100,000 for women.

"Rates of [drug overdose deaths](#) involving xylazine for males were at least double the rates for females over the 2018–2021 period," the researchers wrote in their study, which appears in the latest *Vital Statistics Surveillance Report*.

Rates of xylazine-related OD deaths increased for all U.S. racial and ethnic groups, the CDC report says.

Black Americans had the highest rates in 2021 with 1.82 deaths per 100,000 people, up from 0.68 deaths per 100,000 in 2020.

White Americans were next highest with a 2021 rate of 1.21 deaths per 100,000, up from 0.58 per 100,000 the previous year.

Xylazine-related OD deaths were highest in the Northeast, particularly in the region that encompasses Delaware, Maryland, Pennsylvania, Virginia, West Virginia and Washington, D.C.

That region had 4.05 xylazine-related OD deaths per 100,000, compared with the overall U.S. rate of 1.06 per 100,000.

"The emergence of xylazine across the United States appears to be following the same path as fentanyl, beginning with white powder heroin markets in the Northeast before spreading to the South, and then working its way into [drug](#) markets westward," an October 2022 report from the DEA says.

Because xylazine is a relatively new phenomenon, more education is needed to alert [health care professionals](#) and substance users about the risk it poses, Aussem said.

"Test strips have just been introduced so people who use substances can check to see if xylazine is present," she said.

People who have used xylazine also have reported a strong gasoline smell and a feeling of dry mouth, the Partnership to End Addiction notes. It can be dyed pink or purple, but it also can be the same brown or white color as fentanyl.

Drug users also need to respond quickly to any wounds caused by a xylazine injection, Aussem said.

"Wound care is needed as soon as a wound is visible—keeping it clean, moist and covered. Vaseline on a clean T-shirt can work in a pinch," she said. "Medical attention may be required if the wound is red, swollen and extremely painful, or if a person has a fever or chills."

More information: The Partnership to End Addiction has more about [xylazine](#). The U.S. Drug Enforcement Agency has an [intelligence report on xylazine](#).

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Citation: Soaring misuse of horse tranquilizer xylazine is worsening opioid crisis (2023, July 3) retrieved 28 April 2024 from <https://medicalxpress.com/news/2023-07-soaring-misuse-horse-tranquilizer-xylazine.html>

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