Philly health officials detect a veterinary sedative more powerful than xylazine in drug samples

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The animal tranquilizer xylazine's spread into Philadelphia's illicit opioid supply has introduced new hazards to an already dangerous drug crisis,

sending people in addiction into intense blackouts and leaving them with severe skin wounds.

Now, another veterinary sedative more potent than xylazine has emerged. The discovery of the drug, known as medetomidine, in drug samples in the city is another sign of increasing toxicity in the Philadelphia region's illicit drugs.

Yet another emerging danger recently showed up in Montgomery County, where a person who died of an overdose showed signs of having another powerful additive in their system: a nitazene analog. Part of a class of synthetic opioids more powerful than fentanyl, nitazene analogs have already been found in several overdoses in Philadelphia.

Health officials say the public and physicians need to know about these new dangers — and the unknown threat posed by medetomidine. The Philadelphia health department issued a warning in the last week to share all it knows with physicians and alert them to look out for patients with unusual symptoms.

"We don't really know the effect on humans," said Daniel Teixeira da Silva, the medical director of the Division of Substance Use Prevention and Harm Reduction at Philadelphia's health department.

"Our health alert is really to inform clinicians about this new drug in the drug supply, and how to be aware of some of the symptoms they might expect and how to manage it."

Medetomidine is a veterinary sedative like xylazine. It's not approved for human use, and research on its effects in humans is scant. The drug has also been found in Maryland, Ohio, Florida, and Canada.

The health department regularly tests drug samples purchased in

Philadelphia, especially those connected to overdoses. In late April and early May, two samples tested positive for medetomidine, Teixeira da Silva said.

That testing took place about the same time that patients visited Philadelphia hospitals with "prolonged sedation," a low heart rate, and [low blood pressure](link) — all symptoms that could suggest they had taken medetomidine.

With little research on its effects in humans, it's difficult to connect the drug to specific symptoms.

Xylazine, also known as "tranq," began turning up in Philadelphia about four years ago. Health officials believe it may have initially been added to fentanyl to deliver a longer-lasting high. Fentanyl is more powerful than heroin, which it has largely replaced in the city, but its effects wear off quickly, sometimes within a few hours.

Xylazine's sedative effects can cause blackouts and overdoses that are more difficult to treat than ones solely involving fentanyl. Naloxone, a medication used to treat opioid overdoses, can reverse the effects of fentanyl but not xylazine; victims might need supplemental oxygen in addition to naloxone to be revived.

Xylazine can cause skin sores that are quick to open and slow to heal. These wounds are not limited to the sites of injection, as is typical with other injection drug use.

It's unclear whether medetomidine causes similar effects, although it can narrow blood vessels, which could result in wounds, Teixeira da Silva said. Among drugs approved for humans, however, medetomidine is most similar to a drug called dexmedetomidine, a painkiller used as a sedative during operations, which does not produce those symptoms.

Xylazine was recently categorized as a "schedule III" drug in Pennsylvania, which increased restrictions on its sale and usage. Health officials are watching for new threats in the drug supply as regulations change and dealers and distributors react.

"That's the reality of illicit substances," Teixeira da Silva said. "Those pressures [in the drug market] cause changes: Prohibiting xylazine causes changes. It's an expected change that really requires ongoing surveillance."

The emergence of nitazenes, a class of synthetic opioids up to 40 times more potent than fentanyl, is also a sign of a shifting drug market in the region. The [federal government](link) has banned some nitazene analogs, which have never been approved for human use.

Several weeks ago, McDonald said, a local lab identified a nitazene analog in the toxicology results of a person who died of an overdose in Montgomery County—the first nitazene-related death the county has seen, said Greg McDonald, the chief forensic pathologist at the Montgomery County coroner's office.

Philadelphia reported at least five nitazene-related overdose deaths in the last two years, and suspects that the drugs contributed to a dozen more overdose deaths.

Experts in the area say that illicit drug distributors may be producing nitazene analogs to get around law enforcement crackdowns on fentanyl.

"Nitazenes are relatively cheap to make, and they're very high potency," said McDonald. "Law enforcement has to play catch-up and make a new designer drug illegal."

Many medical examiner's offices are not yet testing for nitazene analogs,

so it's difficult to assess their spread in the region, [health officials](#) say. And toxicology experts may not be testing for all of the drugs classified as nitazenes.

"Now that it's on their radar, they're testing for some of the more common ones," McDonald said. "The problem is, tomorrow there may be a whole new set of analogs out there they haven't been able to test for."

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