

**PENNSYLVANIA DEPARTMENT OF HEALTH**  
**2024 – PAHAN – 762 – 08 – 1- ADV**

**Medetomidine, a Potent Non-opioid Veterinary Sedative, Has Been Detected in the Illicit Drug Supply**

<b>DATE:</b>	August 1, 2024
<b>TO:</b>	Health Alert Network
<b>FROM:</b>	Debra L. Bogen, M.D., FAAP, Secretary of Health
<b>SUBJECT:</b>	<b>Medetomidine, a Potent Non-opioid Veterinary Sedative, Has Been Detected in the Illicit Drug Supply</b>
<b>DISTRIBUTION:</b>	Statewide
<b>LOCATION:</b>	Statewide
<b>STREET ADDRESS:</b>	N/A
<b>COUNTY:</b>	N/A
<b>MUNICIPALITY:</b>	N/A
<b>ZIP CODE:</b>	N/A

**This transmission is a “Health Advisory” that provides important information for a specific incident or situation; may not require immediate action.**

**HOSPITALS:** PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL; **EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

**Summary**

- Medetomidine, a veterinary alpha-2 agonist that is more potent than xylazine, has been detected in the drug supply in Philadelphia. This was followed by detection in Pittsburgh.
- Medetomidine is not approved for use in humans.
- Medetomidine overdose in humans can cause extreme sleepiness, very low blood pressure, slow heart rate, trouble breathing and even coma or death.
- Healthcare providers should be aware of the increased prevalence of medetomidine and other adulterants in the volatile drug supply and be prepared to deploy harm reduction practices such as disseminating harm reduction supplies, conducting overdose response, and caring for xylazine-associated wounds.
- Use naloxone to respond to any suspected overdose.
- If you have any questions, please call DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department.
- For consultation related to potential exposures and/or overdoses, please contact the Poison Control Center at 1-800-222-1222.

**Background**

In May 2024, the Philadelphia Department of Public Health (PDPH) reported the [first-ever detection of medetomidine](#) in the Pennsylvania drug supply. Reports of [medetomidine in Pittsburgh](#) followed. Medetomidine has previously been detected in [Maryland, Ohio, Florida, and Canada](#). PDPH

reported patients presenting to hospitals with [symptoms](#) including prolonged sedation, bradycardia, and hypotension. These symptoms are consistent with the [expected clinical effects](#) of medetomidine.

Medetomidine is a [synthetic alpha-2 adrenoreceptor agonist](#) sedative used in veterinary medicine. It is not approved for use in humans. In human medicine, medetomidine is [most similar to dexmedetomidine and clonidine](#). In veterinary literature, the effects of medetomidine include sedation, analgesia, muscle relaxation and anxiolysis (i.e., anti-anxiety). Medetomidine is [more potent than xylazine](#) and produces deeper and longer sedation.

## **Recommendations**

Given all drug samples that contained medetomidine [also contained xylazine and fentanyl](#)., PA DOH recommends the following:

### **1. Use naloxone to respond to any suspected overdose.**

- As is the case with xylazine, there is no documented effective antidote for the effects of medetomidine. However, naloxone should always be administered for all suspected overdoses as medetomidine is most often utilized in combination with opioids, such as fentanyl, and naloxone will reverse the effects of any opioids that are present.
- Medetomidine in combination with opioids can produce compounded effects including bradycardia, prolonged sedation, and hypotension. Due to these effects, it may appear that the person is not responding to naloxone as they may not regain consciousness.
- Considerations on [administering multiple doses](#) of naloxone:
  - If the person does not start breathing after 2-3 minutes (and after providing rescue breaths), administer an additional dose of naloxone and continue rescue breaths.
  - If there is still no response and additional doses are available, administer additional doses every 2-3 minutes and continue rescue breaths until emergency medical assistance arrives or the person begins breathing.
  - If the person stops breathing during recovery, give a second dose of naloxone immediately.
  - The goal is to get the person breathing on their own even if they do not wake up.
- As with xylazine, the extreme sedation caused by medetomidine emphasizes the need for rescue breathing and/or oxygen administration. In addition to respiratory support, recommended supportive care includes glucose management and cardiovascular support.
- Please note that a person who has been revived may be in discomfort and agitated. If they do not wish to participate in further healthcare services, naloxone and other harm reduction supplies should be provided to them for future use.

### **2. Follow [evidence-based practices](#) for xylazine-associated wound care.**

- While it is not clear that medetomidine causes the types of serious, recalcitrant wounds associated with xylazine, individuals ingesting medetomidine may present with such wounds as xylazine has been found in the drug samples containing medetomidine.
- Avoid rubbing alcohol and hydrogen peroxide treatment; cover wounds with nonadherent dressings, changed daily; regularly cleanse wounds with soap and water; and refer patients to a wound care specialist for debridement pain management.

### 3. Be prepared to manage opioid, xylazine, and/or medetomidine withdrawal symptoms in presenting patients.

- Withdrawal is a physiological response to the sudden quitting or slowing of use of a substance upon which the body has grown dependent. Withdrawal symptoms can be life-threatening.
- Patients using illicit substances may not know if their substance contained medetomidine, xylazine, fentanyl, or other drugs.
- [Updated protocols for xylazine and opioid withdrawal](#) include replacement therapy with alpha-2-adrenergic agonists, alcohol-free and peroxide-free wound care, pain management, and insomnia and anxiety management.
- The opioid withdrawal should be treated with use of agonist medications (such as benzodiazepines) to [mitigate any discomfort that could exacerbate the xylazine withdrawal](#).
- For patients on opioid agonist therapy, split dosing can increase the analgesic effect and enhance pain management.
- Medetomidine withdrawal has not been well described but is likely similar to [dexmedetomidine withdrawal](#) that has been well described in the pediatric critical care literature and includes hypertension, tachycardia, and agitation.

Medetomidine and other emerging substances may be found in combination with other common substances or may be implicated in overdoses when common substances are not found. Expanding the scope of toxicological testing and drug testing programs may aid in the detection of emerging substances circulating in the drug supply in Pennsylvania and help determine the most effective overdose intervention.

If you have any questions, please call DOH at 1-877-PA-HEALTH (1-877-724-3258) or your local health department.

#### **Additional Information**

- [Toxic Adulterant Alert: Medetomidine/Dexmedetomidine.](#)
- [Another Potent Sedative, Medetomidine, Now Appearing in the Illicit Drug Supply.](#)
- [PA Groundhogs Drug Checking.](#)
- [Naloxone \(pa.gov\)](#)
- [PA Overdose Prevention Program](#) (POPP): POPP offers multiple formulations of naloxone as well as drug checking strips designed to detect xylazine and fentanyl at no cost to organizations across Pennsylvania.
- [PA DOH Interactive Data Reports](#)
- [Educational Modules for Implementing MOUD in Emergency Departments](#)

**Individuals interested in receiving further PA-HANs are encouraged to register at [HAN Notification Registration \(mir3.com\)](#)**

Categories of Health Alert messages:

**Health Alert:** conveys the highest level of importance; warrants immediate action or attention.

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action.

**Health Update:** provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of August 1, 2024 but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.