



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
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Commissioner

2024 Health Advisory #20: Carfentanil and Medetomidine in the NYC Drug Supply

- [Carfentanil](#), a potent synthetic opioid that is estimated to be up to 100 times stronger than fentanyl, has been identified in New York City multiple recent samples sold as opioids. Similarly, [medetomidine](#), a non-opioid anesthetic similar to [xylazine](#), has also been identified in the NYC drug supply, specifically in the Bronx, for the first time.
- Between March and June 2024, the NYC Health Department's drug-checking program has identified trace and small amounts of carfentanil in eight samples sold as opioids. All samples containing carfentanil also contained fentanyl.
 - Carfentanil was not detected via point-of-care drug-checking technologies (e.g., Fourier transform infrared spectrometry and fentanyl test strips) due to the technologies' limitations. Carfentanil in these samples was detected through secondary laboratory testing.
 - Although carfentanil was only identified in trace and small amounts, two of the eight samples were associated with adverse reactions, including overdose.
- According to data from the NYC Health Department's Bureau of Vital Statistics and NYC Office of the Chief Medical Examiner, carfentanil was also involved in at least seven unintentional drug overdose deaths between January and June 2024, an increase from at least three unintentional drug overdose deaths in 2023. These data are provisional and subject to change.
- The New York State Department of Health Community Drug-Checking Program identified medetomidine in an opioid sample collected in the Bronx. Although naloxone cannot reverse the effects of medetomidine, this substance has most often been found with opioids. Consequently, it is important to use naloxone even in the case of a suspected medetomidine-involved overdose.
- Contact the NYC Health Department immediately if you observe or learn of unusual overdoses or other adverse events, including those with symptoms consistent with the novel substances described above.

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Dear Colleagues,

The New York City Department of Health and Mental Hygiene (NYC Health Department) operates a multi-site drug-checking program in partnership with five syringe service programs. Over the past four months, eight opioid samples collected in the Bronx, Brooklyn, and Manhattan and sent for secondary laboratory testing were found to contain trace or small amounts of carfentanil. All samples found to contain carfentanil also contained fentanyl, which was detected by NYC Health Department drug-checking technicians through Fourier transform infrared spectrometry (FTIR) or fentanyl test strips (FTS). Of the eight samples identified to contain carfentanil via secondary testing, two were associated with adverse reactions, including overdose. Both of these samples contained fentanyl and xylazine.

Carfentanil is a potent synthetic opioid that is estimated to be up to 100 times stronger than fentanyl. Due to its potency, substances containing even small amounts of carfentanil can cause immediate and severe

adverse reactions including overdose, especially for individuals with low opioid tolerance. Like other opioids, the effects of carfentanil can be reversed with the administration of naloxone. Although multiple doses of naloxone may be needed, the NYC Health Department [discourages the use of 8mg naloxone](#) among lay-persons and first-responders, as it has not been found to be more effective than 4mg naloxone and can increase the risk of precipitated opioid withdrawal.

Providers should educate individuals who use drugs about the presence of carfentanil in the unregulated opioid supply in NYC, and caution that [carfentanil may not be reliably detected through FTS](#) or FTIR testing alone. Nevertheless, as carfentanil has only been found in combination with fentanyl, providers should continue to encourage individuals to test their drugs using FTS or drug-checking services and take further steps to reduce their risk of overdose.

Medetomidine has also been identified for the first time in the NYC drug supply. An opioid sample collected from the Bronx by the New York State Department of Health Community Drug Checking program in late June 2024 was found to contain medetomidine via secondary laboratory testing. This sample was also found to contain fentanyl. Adverse reactions associated with this specific sample are not known.

Medetomidine is a non-opioid anesthetic that is FDA-approved for veterinary use. It is similar to xylazine, but is more potent and causes longer-lasting effects. At this time, medetomidine cannot be differentiated from dexmedetomidine (Precedex)—a sedative which is FDA-approved for human use—through secondary laboratory testing.

As medetomidine/dexmedetomidine are not opioids, naloxone cannot reverse the effects of these substances. However, since medetomidine/dexmedetomidine have most often been found with fentanyl and other potent opioids, it is important to use naloxone even in the case of a suspected medetomidine/dexmedetomidine-involved overdose. Individuals may still be sedated after naloxone reversal of opioid-induced respiratory depression. For this reason, it is important to administer rescue breathing, place individuals in a rescue position to protect their airways, and continue to monitor their breathing with a pulse oximeter. Call emergency services to facilitate access to further monitoring and administration of supplemental oxygen.

Clinical Information on Carfentanil:

- Carfentanil is a synthetic opioid which is estimated to be up to 100 times stronger than fentanyl.
- Symptoms of a carfentanil- or fentanyl-involved overdose are characterized by central nervous system and respiratory depression: lethargy, slowed or shallow breathing, pinpoint pupils, change in consciousness, seizure, and/or coma.
- Treatment is the same as for other opioid overdoses; however, if there is no return of spontaneous breathing, [additional naloxone doses may be required](#) to reverse the opioid effects.
- Due to the presence of xylazine in the unregulated opioid supply, individuals may still be sedated after naloxone reversal of opioid-induced respiratory depression. In cases of stopped or irregular breathing, rescue breathing should be administered in addition to naloxone.

Clinical Information on Medetomidine/Dexmedetomidine:

- Similar to xylazine, [medetomidine](#) is a synthetic alpha-2 adrenoreceptor agonist sedative used in veterinary medicine. Medetomidine is used for [sedation, analgesia, muscle relaxation and anxiolysis](#) (i.e., anti-anxiety).
- The effects of medetomidine intoxication may include: extreme sedation, slower than usual heart rate (reportedly as low as 40 beats per minute), low blood pressure, and central nervous system depression. Someone experiencing medetomidine intoxication may be unresponsive to verbal commands or physical stimuli even though they may still be breathing.

- Medetomidine is not an opioid, so the effects of medetomidine cannot be reversed with the administration of naloxone.
- Since medetomidine has most often been found with fentanyl and other opioids, naloxone should be administered in all suspected overdoses involving medetomidine. Rescue breathing or supplemental oxygen should be administered in cases of stopped or irregular breathing.

Recommendations

- **Contact the NYC Health Department immediately** if you observe or learn of unusual overdoses or other adverse events, including those with symptoms consistent with the novel substances described above.
 - If possible, consider saving small amounts (at least half of a grain of rice) of substances associated with reported adverse events to submit to the NYC Health Department. The NYC Health Department drug-checking team can send samples to our partner laboratory for testing and timely identification of substances.
 - The NYC Health Department drug-checking team can be reached at drugchecking@health.nyc.gov.
 - For drug-checking services and inquiries outside of New York City, the NYS Department of Health drug-checking team can be reached at drug.checking@health.ny.gov.
- Consider potential xylazine or medetomidine exposure for patients who present with suspected overdoses and who continue to experience prolonged sedation following naloxone administration.
- **Provide person-centered, trauma-informed care to patients who use drugs, including wound care and withdrawal management, even if they are not ready to stop using.**
 - For trainings on addressing substance use stigma in health care settings and other provider resources, click [here](#).
- Counsel patients who use drugs about overdose risk reduction strategies including avoiding using drugs alone and avoiding mixing drugs (including alcohol).
 - **Recommend that patients who are planning to use drugs alone call the “Never Use Alone” hotline at 877-696-1996.**
 - Click [here](#) for more overdose prevention resources for providers, including tools to talk to your patients about how to reduce their risk of overdose.
- **Talk to patients who use drugs about naloxone.** Provide patients with a prescription for naloxone or direct them to where they can access naloxone at no cost.
 - Click [here](#) for information and resources related to naloxone.
- Encourage patients to check their drugs.
 - Talk to your patients about FTS. Click [here](#) or [here](#) for more information on how to get FTS.
 - Recommend that individuals who use drugs connect with drug-checking services. Locations and hours of availability are below.
 - OnPoint NYC East Harlem (Manhattan): Tues (10:30 AM – 5 PM)
 - VOCAL-NY (Brooklyn): Wed (10 AM – 4 PM)
 - BOOM!Health (Bronx): Thurs (10 AM – 4 PM)
 - Housing Works Cylar House (Manhattan): Thurs (11 AM – 5 PM)
 - OnPoint NYC Washington Heights (Manhattan): Fri (10 AM – 4 PM)
 - St. Ann's Corner of Harm Reduction (Bronx): Contact drug.checking@health.ny.gov for hours of operation
 - For locations outside of NYC, click [here](#)

- **Familiarize yourself with a local harm reduction organization so you can connect patients who may benefit from these services. Click [here](#) for a list of NYC's syringe service programs.**
- Prescribe medications including methadone or buprenorphine for people with opioid use disorder, or facilitate a referral to providers who can prescribe these medications, to prevent overdose.
 - Treatment locators are available [here](#) and [here](#).
- Ensure patients who are being treated for an opioid use disorder with methadone or buprenorphine maintain uninterrupted access to their medication.
- Patients seeking support to stop using drugs and other resources can call or text 988 or chat at nyc.gov/988. Counselors are available 24/7 in more than 200 languages.

Additional Resources

- [New York State Department of Health Issues Public Health Alert for Carfentanil Detected In Drug Samples From Central New York](#)
- [New York State Department of Health Issues Public Health Alert for Medetomidine Detected In Drug Samples In Schenectady and Syracuse](#)
- [CFSRE Toxic Adulterant Alert on Medetomidine/Dexmedetomidine](#)
- [Medetomidine in Chicago's Drug Supply](#)
- [New York State Office of Addiction Services and Supports Advisory: Another Potent Sedative, Medetomidine, Now Appearing in Illicit Drug Supply](#)
- [Philadelphia Health Alert on Medetomidine](#)

Sincerely,

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