



2022 Advisory #33
Xylazine and Fentanyl in the New York City (NYC) Drug Supply

- **High concentrations of fentanyl in the unregulated drug supply identified through NYC Health Department’s drug-checking initiative**
 - **Drug samples with high concentrations of fentanyl have been directly linked to adverse events requiring staff intervention at OnPoint NYC’s Overdose Prevention Centers (OPCs)**
 - **Fentanyl continues to drive overdose mortality and was involved in 80% of overdose deaths in NYC in 2021**
 - **Substantial inequities exist, with Black New Yorkers, residents of the Bronx, and residents of high-poverty neighborhoods bearing the greatest burden of overdose death in NYC**
- **NYC Health Department’s drug-checking initiative also has indicated the presence of xylazine in the drug supply. Xylazine is a non-opioid central nervous system depressant approved only for veterinary use**
- **Xylazine use may result in heavy sedation and increased overdose risk**
 - **In NYC, xylazine is typically present with other opioids, particularly fentanyl**
 - **Xylazine does not respond to naloxone and may complicate overdose response due to its sedative effects**
 - **Xylazine use has been associated with wounds even in the absence of drug injection**
- **Toxicology testing at the Office of the Chief Medical Examiner has determined that some deaths involving opioids also involved xylazine**

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The New York City Department of Health and Mental Hygiene (NYC Health Department) has a multi-site drug checking program. Drug samples collected at one of the sites, OnPoint NYC, and analyzed by a drug checking technician using Fourier Transform Infrared (FTIR) spectrometry have indicated high concentrations of fentanyl in some drugs sold such as heroin. Preliminary data suggest fentanyl quantification ranging from non-detectable by FTIR (i.e., < 5%) to > 20% of drug sample tested. Observations from the OPC suggest that as concentrations of fentanyl increase, so do adverse events including overdose. Higher doses of naloxone may be necessary to reverse these overdose events.

Drug checking also has indicated the presence of xylazine in the NYC drug supply. A non-opioid veterinary sedative, xylazine has been identified exclusively in drug samples that also contain fentanyl. Xylazine is a central nervous system depressant that can increase the risk of overdose due to its deeply sedative effect. In NYC, in 2021, 19% of opioid-involved overdose deaths also involved xylazine.

Since xylazine is not an opioid, naloxone does not work to reverse its effects. However, since xylazine is nearly always found in conjunction with opioids, suspected overdoses should be treated with naloxone. If the person experiencing an overdose resumes breathing but is still sedated, they may not need more naloxone.¹ Continue to monitor their breathing with a pulse oximeter or facilitate access to a setting that can provide further monitoring.

The NYC Health Department is alerting medical personnel that: (1) due to high concentrations of fentanyl, a higher dose or multiple doses of naloxone may be required to reverse some opioid-involved overdoses;^{2,3} (2) patients presenting to emergency departments with symptoms indicating opioid

intoxication may have also ingested xylazine which could result in continued heavy sedation even after naloxone has been administered; (3) oversedation as a result of xylazine ingestion could result in damage to muscles, nerves, and kidneys if blood flow has been restricted for an extended period.

Clinical information:

- Fentanyl is an opioid analgesic. The biological effects of fentanyl are indistinguishable from those of heroin.
- Symptoms of fentanyl overdose are characteristic of central nervous system depression: lethargy, respiratory depression, 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.
- Xylazine is a non-opioid veterinary sedative that can result in unresponsiveness, low blood pressure, slowed heart rate, and reduced breathing.
- Since Xylazine is not an opioid, naloxone will not work to reverse its effects.
- Xylazine also has been associated with wounds that may appear on the body, even in the absence of injection drug use or at non-injection sites.
- People with wounds and ulcers should be encouraged to clean their skin regularly and instructed to seek emergency medical care if the wound becomes infected or if they show signs of sepsis.

Community members can bring their drugs to be tested with an FTIR spectrometer and receive information about the contents of their drugs alongside risk reduction counseling. This is currently the only method available to detect the presence of xylazine within drug samples in NYC. Services are currently available in East Harlem (OnPoint NYC), the South Bronx (St Ann's Corner of Harm Reduction), and the Lower East Side (Housing Works). For additional information please email naloxone@health.nyc.gov.

Provider recommendations:

- Consider potential xylazine exposure for patients who present with suspected overdose and who 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.**
- 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 1-800-484-3731.**
- Encourage patients who use drugs and are not ready for treatment to connect with drug-checking services. For additional information on times and locations, please email naloxone@health.nyc.gov.
- **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 at: www.oasas.ny.gov or www.buprenorphine.samhsa.gov.
- Ensure patients who are being treated for an opioid use disorder with methadone or buprenorphine maintain uninterrupted access to their medication if their illness limits their ability to visit their provider.
- **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.**
- Patients seeking support or treatment for substance use issues for themselves or their loved ones can contact NYC WELL. Call 1-888-NYC-WELL, text “WELL” to 65173 or go to nyc.gov/nycwell.

Please share this with any providers you know working with people who use drugs in New York City.

Sincerely,

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¹ Rubin R. Warning About Xylazine, a Veterinary Sedative Found in Illicit Drugs. JAMA. 2022;328(23):2296.
doi:10.1001/jama.2022.20045

² Centers for Disease Control and Prevention. Notes from the field: Acetyl fentanyl overdose fatalities - Rhode Island, March-May 2013. MMWR: Morbidity & Mortality Weekly Report [serial online]. August 30, 2013; 62(34):703-704.
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6234a5.htm>

³ Centers for Disease Control and Prevention. Recommendations for Laboratory testing for Acetyl Fentanyl and Patient Evaluation and Treatment for Overdose for Synthetic Opioids. HAN Health Advisory. June 20, 2013.
<http://stacks.cdc.gov/view/cdc/25259>