



NEW YORK CITY DEPARTMENT OF HEALTH
AND MENTAL HYGIENE
Michelle Morse, MD, MPH
Acting Health Commissioner

2025 Health Advisory #12

Poisoning by Medetomidine and Bromazepam in Suspected Opioid Overdose

Please distribute to all clinical staff in primary care, family medicine, internal medicine, psychiatry, pharmacy and emergency medicine.

- Medetomidine and bromazepam have been found in samples of drugs circulating in NYC.
- Medetomidine has only been found with opioids, and bromazepam has largely been found with opioids.
- Naloxone is unlikely to reverse the clinical effects of either medetomidine or bromazepam but should be administered to anyone with respiratory depression and concern for opioid overdose.
- Please contact the NYC Poison Center at 212-764-7667 if you know or suspect a person has been exposed to medetomidine or bromazepam.

June 4, 2025

Dear Colleagues,

The New York City (NYC) Poison Center has received multiple reports of people presenting to NYC Emergency Departments with suspected opioid overdose, but who are minimally responsive to naloxone. Serum and urine specimens obtained during hospitalization of five people in November 2024 were analyzed by a third-party laboratory and, in addition to fentanyl, medetomidine and bromazepam were detected in all specimens. The NYC Department of Health and Mental Hygiene (the Health Department), which operates a [drug checking program](#) and works with several syringe service program sites in the Bronx, Brooklyn, and Manhattan has also found the presence of medetomidine in drug samples. We suspect these are adulterants in the unregulated opioid supply, resulting in unintentional overdose in exposed people.

Medetomidine findings, symptoms and management

Medetomidine is a sedative with a similar mechanism of action to clonidine and xylazine, with alpha-2 adrenergic receptor agonism. People poisoned by medetomidine may demonstrate central nervous system depression, bradycardia, and initial hypertension followed by late hypotension. People suspected of this exposure should be monitored closely for respiratory depression and hemodynamic instability. If there is concern for suspected end-organ injury due to hypertension, administration of a short-acting anti-hypertensive medication may be appropriate.

The Health Department's drug checking program reported on the presence of medetomidine in a [July 2024 health advisory](#). Through February 2025, medetomidine has been identified in a total of 51 opioid drug samples. Detection of medetomidine has also been reported in unregulated opioid samples from California, Colorado, Maryland, Missouri, and Pennsylvania.

Bromazepam findings symptoms and management

Bromazolam is a benzodiazepine that is not approved for human use in the United States. It has previously been detected in unregulated opioid samples as well as counterfeit benzodiazepine samples. The NYC Health Department's drug checking program identified bromazolam in 59 opioid drug samples between November 2021 and February 2025. People poisoned by bromazolam may demonstrate severe central nervous system depression. In cases of people with prolonged sedation, we recommend monitoring for respiratory depression and considering administration of flumazenil in consultation with the NYC Poison Center or a Medical Toxicologist.

Medetomidine has, to date, only been found in combination with opioids, and bromazolam has largely been found in combination with opioids. Naloxone should be administered to anyone with respiratory depression resulting from opioid overdose. However, naloxone is not expected to reverse the clinical effects of either medetomidine or bromazolam. People with initial respiratory depression that is reversed by naloxone and who demonstrate ongoing sedation may not require additional naloxone doses unless respiratory depression recurs. People who demonstrate adverse effects of medetomidine or bromazolam who do not respond to naloxone are unlikely to benefit from additional doses.

Currently, specialized testing is required for the detection of exposure to these substances, and analyses cannot be performed in a fast enough time frame to guide clinical management. Reporting of poisoning by drugs or other agents is mandated by the [New York City Health Code Section 11.03\(a\)](#). Reporting also increases the understanding and improved treatment of poisonings. The public can call the Poison Center directly with any questions.

We encourage providers to recommend that people who use drugs connect with drug checking services. Members of the public can visit one of the [NYC Health Department's drug checking service locations](#) to have their drugs tested in real time with immunoassay test strips as well as a Fourier transform infrared (FTIR) spectrometer and receive information about the contents of their drugs alongside tailored risk reduction education. Providers should also counsel people who use drugs about overdose risk reduction strategies and provide information about harm reduction and treatment resources including naloxone, fentanyl test strips, syringe service programs, the 'Never Use Alone' hotline at 877-696-1996, [Overdose Prevention Centers](#), [public health vending machines](#), and [medications for opioid use disorder](#). More information on these resources can be found [here](#).

Sincerely,

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