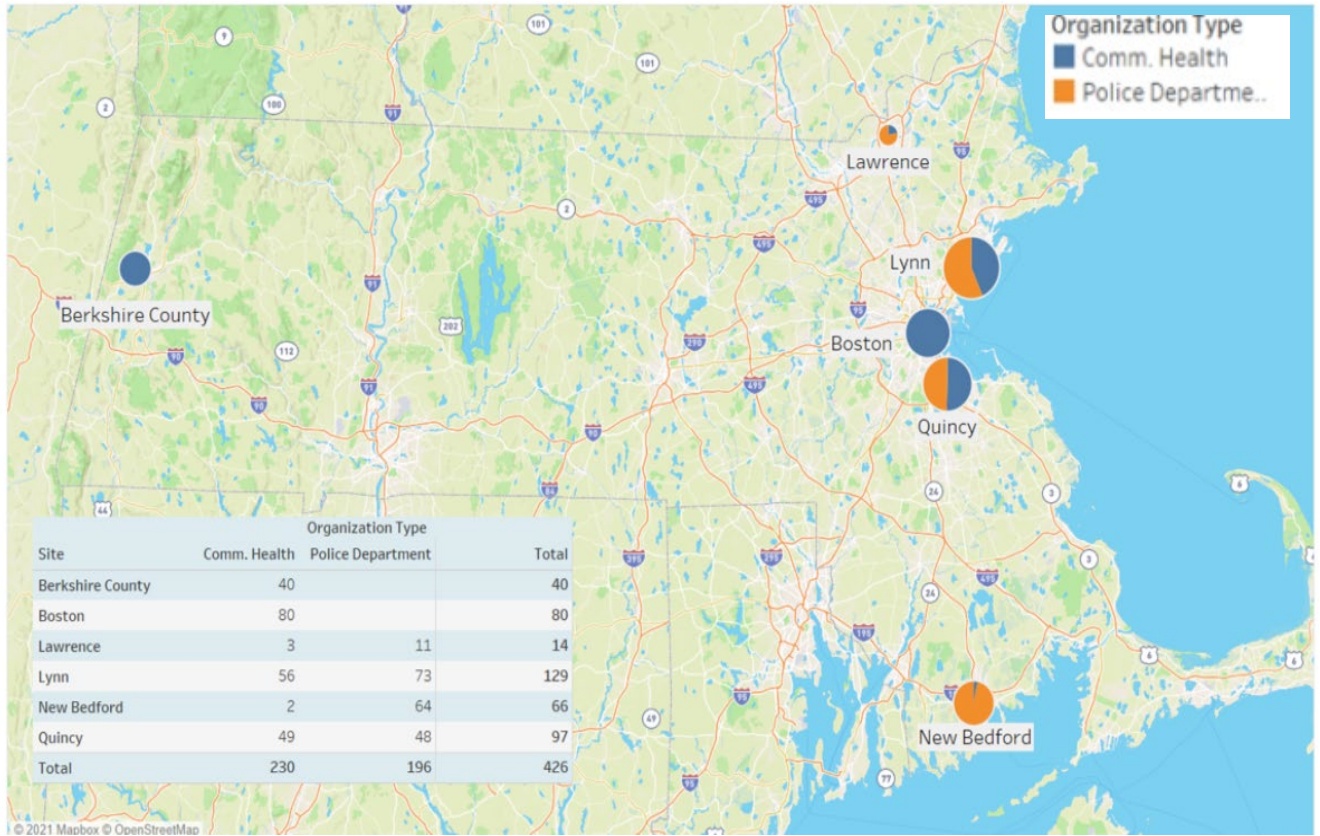
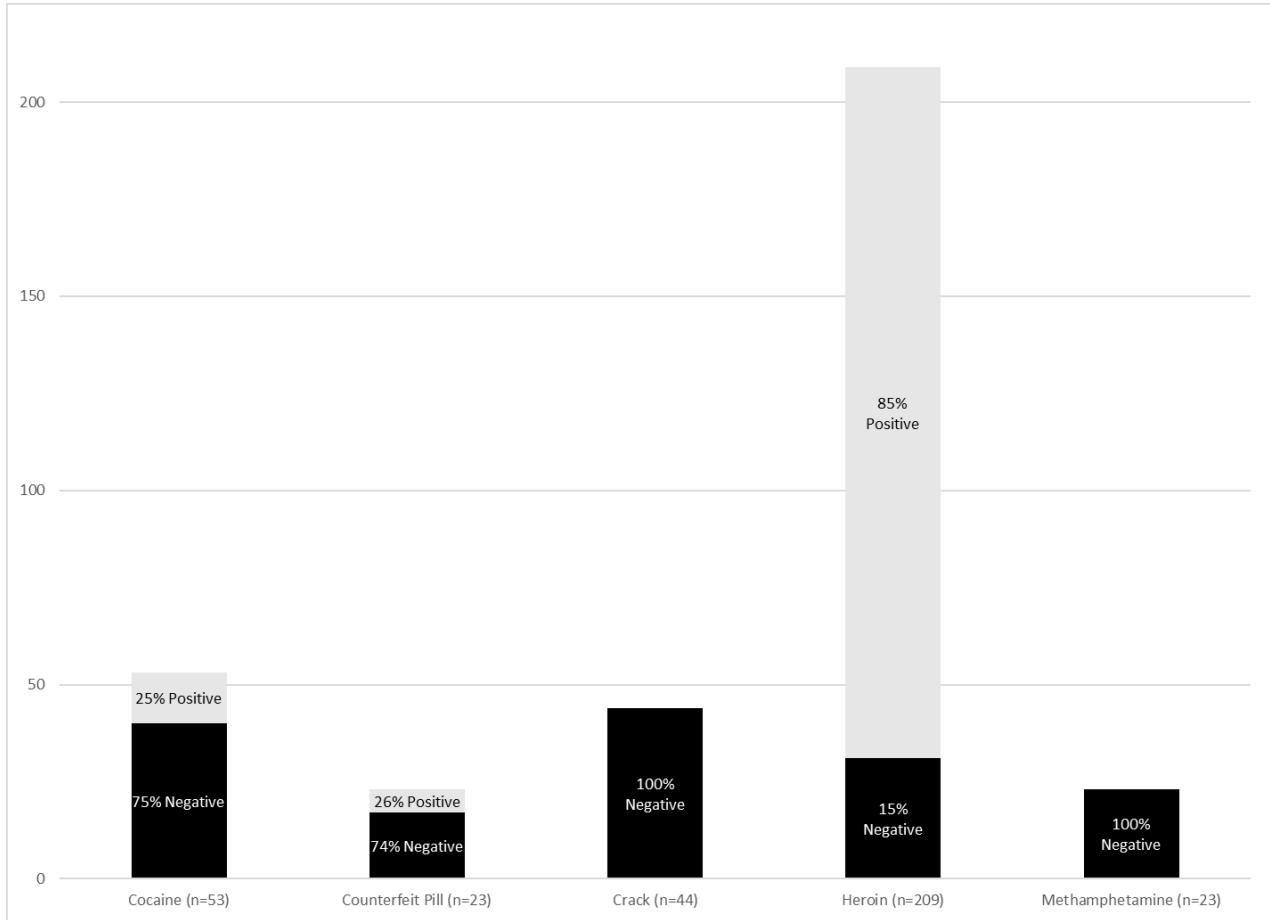


Figure 1: Massachusetts Drug Supply Data Stream locations and number of samples tested by partnering organization type, 2020



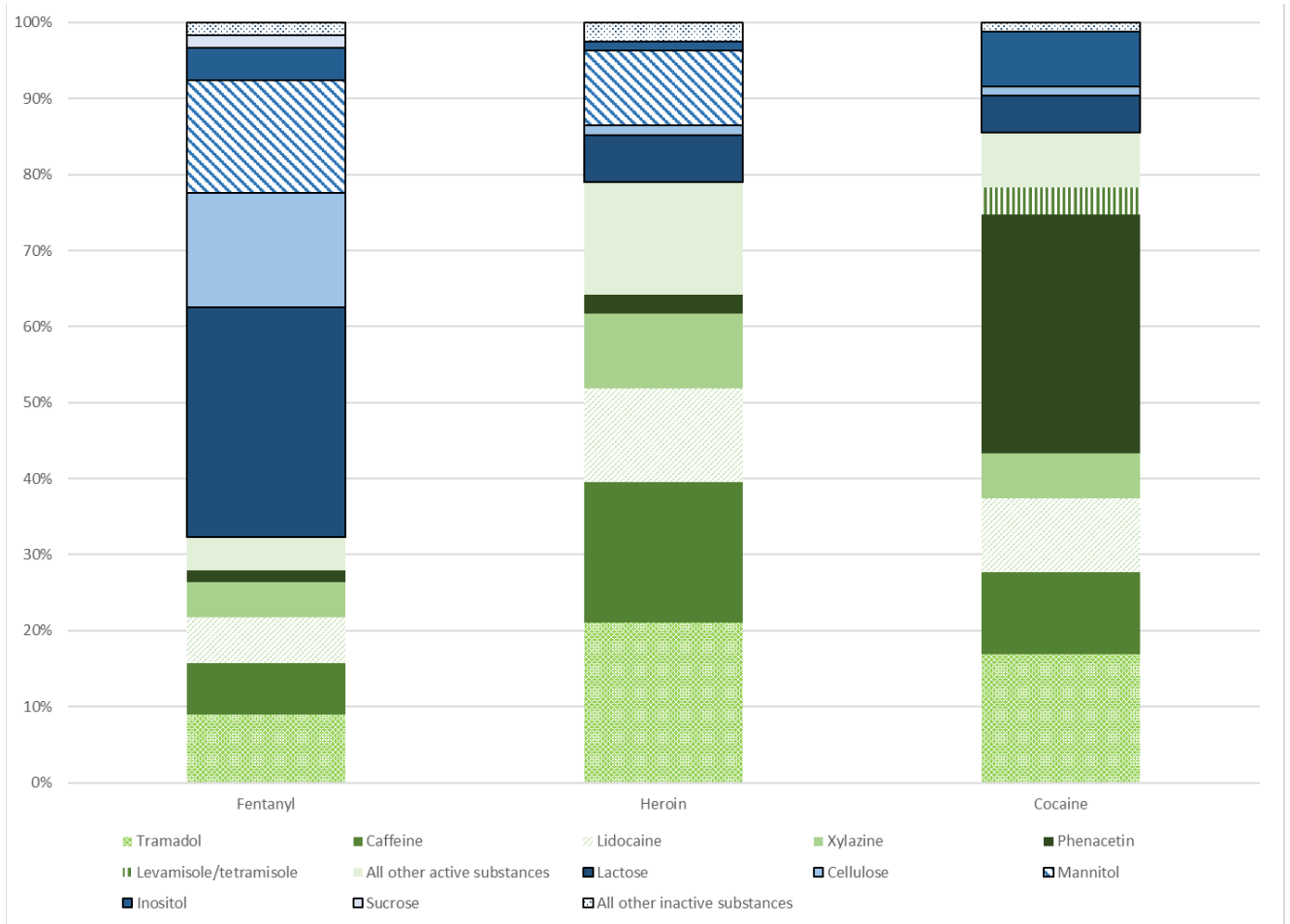
Blue=Community Harm Reduction Agency Partner, Orange=Police Department Partner

Figure 2 Fentanyl presence in MADDs samples tested, by suspected substance and GC/MS confirmed sample results, 2020.



Note: Only samples submitted as powder, pill, or other drug form were included in this analysis (i.e., excluded all submitted and tested cookers, cottons, containers or other materials that may have been reused).

Figure 3. Active and inactive cuts of fentanyl, heroin*, and cocaine* samples tested by MADDs for drug checking, 2020.



Note: Only samples submitted as powder, pill, or other drug form were included in this analysis (i.e., excluded all submitted and tested cookers, cottons, containers or other materials that may have been reused).

*Fentanyl is not reported as an active cut in either cocaine or heroin samples tested because it is captured separately in Figure 2.

Massachusetts Drug Supply Data Stream (MADDS)

Public Health Bulletin

Synthetic Cannabinoid “MDMB-4en-PINACA” Detected in Heroin/Fentanyl/Dope

- Multiple samples sold as fentanyl (n=6), heroin (n=1), and heroin/fentanyl/dope with cocaine (i.e., speedball, n=1) have been confirmed to contain MDMB-4en-PINACA. Samples were detected across four cities and towns in MA (Boston, Lynn, Pittsfield, North Adams) from February 2020 to January 2021.
- MDMB-4-en-PINACA is a synthetic cannabinoid receptor agonist first identified in 2017. MDMB-4en-PINACA was found in powdered samples and in the residue of cookers and cottons used for injecting drugs. All samples were collected in collaboration with local harm reduction agencies or were acquired as found property by police departments and submitted for MADDS testing.
- From user experience reports, the MDMB-4en-PINACA presence was not suspected, intended, or desired. Consumers did not report knowing about its presence until after use. All cases were associated with a negative experience and/or concerning health effects, such as: “‘bad reaction’; ‘out of body experience’; ‘really strong, something feels wrong about it’; ‘overdosed’; ‘speedy’; ‘jittery’; ‘lost control of my arms.’”

How to Identify the Drug

- While difficult to identify without analytical testing, MDMB-4en-PINACA appears as a white, beige, or yellowish powder and blends into other available powder street drugs. All samples detected in MA were in powder form and prepared for use by injection or insufflation.
- Media and poison control center reports indicate that MDMB-4en-PINACA is usually sprayed onto plant material and smoked, and it can also be vaped, injected or consumed orally. There are reports of e-liquids containing MDMB-4en-PINACA, which is then vaped using an e-cigarette. MDMB-4-en-PINACA can be impregnated onto blotter paper and smoked. None of these forms were reported in the MA samples.
- If you have suspicions about the makeup of your drugs, contact MADDS about drug checking.

[Click for more information and resources](#) or scan:



Health Effects

- Cardiovascular effects (such as elevated blood pressure, fast heart rate, heart attack, and stroke), rapid loss of consciousness, unresponsiveness, seizures, vomiting, delirium, psychosis, aggressive and violent behavior, and sudden death have all been reported related to MDMB-4-en-PINACA exposure.
- MDMB-4-en-PINACA has caused severe poisoning and/or death in multiple cases. In most of the deaths it was mixed in with other substances.
- Understanding of the pharmacology and mechanism of toxicity is poor for MDMB-4-en-PINACA as data are limited. The toxic and lethal dose of MDMB-4en-PINACA is unknown. Chronic exposure could pose risk of dependence and a withdrawal syndrome on cessation of use. Because this is a synthetic drug made in a laboratory, there is a risk that dosing can be different, even within the same batch. A bad reaction or an overdose with MDMB-4en-PINACA may be more likely because of these inconsistencies.

Harm Reduction

- Always use with a friend, keep Narcan nearby, and call 911 immediately if any health effects noted above arise.
- Drink plenty of water to keep hydrated and take care of your body by going for regular check-ups with your doctor and taking any prescribed medications.
- If you are concerned about what is in drugs, please contact a local harm reduction community organization to get additional advice on safe use and availability of drug checking with MADDS.

MADDS is a state-funded collaboration between Brandeis University researchers, the Massachusetts Department of Public Health, various town police departments and local harm reduction agencies. Contact us at maddsbrandeis@gmail.com

Massachusetts Drug Supply Data Stream (MADDS)

STREET NARCOTICS UPDATE



Synthetic Cannabinoid “MDMB-4en-PINACA” detected in Heroin/Fentanyl/Dope

Samples of this potent substance were detected across jurisdictions in Massachusetts (Boston, Lynn, Pittsfield & North Adams) from February 2020 to January 2021. This drug is synthesized by different illicit laboratories so dosing may vary, even within the same batch. If you have suspicions about the content of a drug, contact the MADDS project for possible testing.

How to Identify synthetic cannabinoids

- Synthetic cannabinoids appear as a yellowish powder and blend in to other illicit powdered street drugs.
- Samples have been found both in powdered form and in the residue of cookers and cottons used for preparing drugs for consumption.
- Media and poison control reports indicate that synthetic cannabinoids are usually sprayed onto plant material and smoked. They can also be vaped, injected or consumed orally.



Health Effects

- These symptoms have been reported from synthetic cannabinoid exposure: cardiovascular effects (elevated blood pressure, fast heart rate, heart attack, or stroke), rapid loss of consciousness, unresponsiveness, seizures, vomiting, delirium, psychosis, and aggressive and violent behavior.
- Severe poisoning is more common with synthetic cannabinoids and can cause death. In most of the reported deaths, it was mixed in with other substances, such as fentanyl, heroin, and other opioids.

How to Respond

Summon medical attention. Administer Narcan if symptoms present as possible polysubstance/opioid overdose.

For more info and resources scan:



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Massachusetts Drug Supply Data Stream (MADDS)

Community Drug Supply Bulletin: Two Active Cuts

Xylazine in Fentanyl & Heroin

- Multiple samples sold as fentanyl and heroin have been confirmed to contain the veterinary sedative xylazine *in addition to fentanyl, heroin, or tramadol*.
- From June 2020 to February 2021, MADDS detected xylazine in 35 samples statewide. Samples contained an increasing ratio of xylazine as an active cut: xylazine increased from a rarely present, low-ratio substance to a high-ratio active drug component for substances sold as dope/heroin/fentanyl.
- Samples containing xylazine included powdered residue in bags and cookers or cottons used for injection.
- Xylazine is a long acting and **sedating medication**, but it is not an opioid. Most user experiences were not provided or were unremarkable. 5 of 35 samples containing xylazine were associated with a fatal or nonfatal overdose that also involved fentanyl.

Health Effects

- Xylazine can cause decreased level of consciousness/unresponsiveness, low blood pressure, a slow heart rate, and decreased breathing. Because it is often combined with other sedating drugs like opioids, there is an increased risk for overdose or death.
- Narcan has not been documented to reverse xylazine's sedating effects but will stop an opioid overdose if the substance used also contained fentanyl, heroin or another opioid. When responding to a xylazine-involved overdose with Narcan, the person's breathing may return but they may still appear sedated. Seek medical assistance if you suspect a xylazine-involved overdose.
- Injecting xylazine may increase risk of **skin ulcers**.

Active cuts are additives that **affect the user experience**. Inactive cuts are additives that do not affect the user experience. Active cuts, like xylazine and phenacetin, can have important adverse health effects which is why it is important to learn about additives.

How to Identify the Substances

- Both phenacetin and xylazine appear as a white crystalline solid and easily blend into powdered street drugs. They are difficult to identify without analytical testing.
- All samples were provided by harm reduction programs or donated by police departments for MADDS testing. If you have suspicions about the makeup of a drug, contact MADDS about drug checking.

Harm Reduction and Overdose Prevention

- The drug supply is unpredictable. It is safer to use when other people are present or can check on you frequently. People using together should take turns to prevent simultaneous overdose. Administer Narcan and call for help in case of overdose, prolonged sedation, or other adverse reaction. You can get Narcan at [harm reduction programs](#) and [retail pharmacies](#) without a prescription.
- Use a sterile syringe for every injection to prevent infection.
- Contact a local harm reduction program for help with abscess or wound care, more advice on safer use, and availability of drug checking with MADDS.

Rising Phenacetin in Cocaine

- From June 2020 to February 2021, 29 samples sold as cocaine have been confirmed to contain phenacetin in addition to cocaine statewide.
- Phenacetin is a common active cut for cocaine due to its similar appearance to cocaine. It is also a pain reliever, similar to acetaminophen (Tylenol).
- While not a new additive, phenacetin has become the most prevalent active cut for cocaine in Massachusetts during the pandemic. Phenacetin occurs in a higher ratio to cocaine in these drug samples.
- Samples containing phenacetin were found as powdered residue in bags, rock crystals, and in cookers or cottons used for injection.

Health Effects

- Phenacetin is a pain medication/fever reducer that was removed from the US and European medications market due to kidney damage and urothelial cancer risk. Prolonged use of phenacetin, especially among people with **kidney or liver problems**, can cause serious organ damage. Ingestion of a high concentration of phenacetin in drug samples may accelerate these health concerns.
- Healthcare providers caring for people who use cocaine should consider increased monitoring of kidney and liver function.

Click [for more info](#) and [resources](#) or scan:



Massachusetts Drug Supply Data Stream (MADDS)

Community Drug Supply Alert

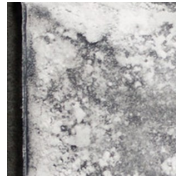
4-Fluorofentanyl & Despropionyl 4-Fluorofentanyl Detected in Heroin/Fentanyl

- From November 2020 to January 2021, multiple samples sold as fentanyl and heroin have been confirmed to contain 4-Fluorofentanyl and Despropionyl 4-Fluorofentanyl, in addition to fentanyl and heroin (n=4). Samples were detected in 5 communities in MA (Lynn, Quincy, Pittsfield, Springfield, Boston). Of 11 samples, 4 (36%) were associated with an overdose and 2 were associated with injection site reactions. All samples were collected in collaboration with local harm reduction programs or donated by police departments and submitted for MADDS testing.
- 4-Fluorofentanyl is an analog that was developed in the 1960s; Despropionyl 4-Fluorofentanyl is an intermediary in fentanyl analog production that can also cause harmful effects. Both analogs were first seen in the US illicit drug supply in 2017. In MA, the substances have been found in powdered samples and in the residue of cookers and cottons used for injection.
- User experience reports from the samples associated with negative health effects noted the following: 'overdosed'; 'nodded out but didn't get high, friend used from the same batch and OD'd by sniffing it'; '6 Narcan used'; and '8 mg Narcan administered to revive'. **Narcan will work on these fentanyl analogs.**
- Multiple different cuts were found in the 11 samples, with a range of reported tastes: some were sweet and cut with lactose or mannitol. Others were bitter ('smells like aspirin', 'children's Tylenol smell') and cut with quinine, tramadol, or calcium carbonate, an ingredient in household products like toothpaste powder. Two of the bitter samples reported irritation at the injection site: 'numbs when injected' and 'red, blotchy at injection site'.

How to Identify the Drug

- 4-Fluorofentanyl and Despropionyl 4-Fluorofentanyl are difficult to identify without analytic testing. They appear as a white crystalline solid and blend into other available powder street drugs.
- If you have suspicions about the makeup of your drugs, contact MADDS about drug checking.

Click [for more information](#) and [resources](#) or scan:



Health Effects

- Similar to fentanyl, health effects can include profound respiratory depression, slowed heart rate, low blood pressure, chest wall rigidity ("wooden chest") and unresponsiveness.
- What is different about 4-Fluorofentanyl is that it has a higher toxicity risk than fentanyl. Small amounts of 4-Fluorofentanyl and Despropionyl 4-Fluorofentanyl may cause harm and overdose. Time from consumption to sedating effects and life-threatening overdose is short - seconds to minutes. Because of the potency and toxicity of this drug, its inconsistent manufacture, and blending into the consumed product which often already includes fentanyl, overdose risk is even higher.

Harm Reduction and Overdose Prevention

- The drug supply is unpredictable. It is safer to use when other people are present or can check on you frequently. People using together should take turns to prevent simultaneous overdose. Administer Narcan and call for help in case of overdose or other adverse reaction. You can get Narcan at [harm reduction programs](#) and [retail pharmacies](#) without a prescription.
- If you are concerned about what is in a drug sample, please contact a local harm reduction community organization to get additional advice on safer use and availability of drug checking with MADDS.

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