Massachusetts Drug Supply Data Stream (MADDS)

A Partnership between the Massachusetts Department of Public Health and Brandeis University

A Community-Public Health-Public Safety Collaboration

The goal of the Massachusetts Drug Supply Data Stream (MADDS) is to learn more about the local illicit drug supply to better inform public health and public safety responses. MADDS is a state-funded collaboration between Brandeis University researchers, the Massachusetts Department of Public Health, various town police departments and local community partners. Piloted in 2019 in Boston and New Bedford, MADDS currently partners with New Bedford, Quincy, Lynn, Boston, Greenfield, and Berkshire County communities, with new sites coming on board across the state. MADDS is part of the state's responses that align with the Harm Reduction Commission's recommendations.

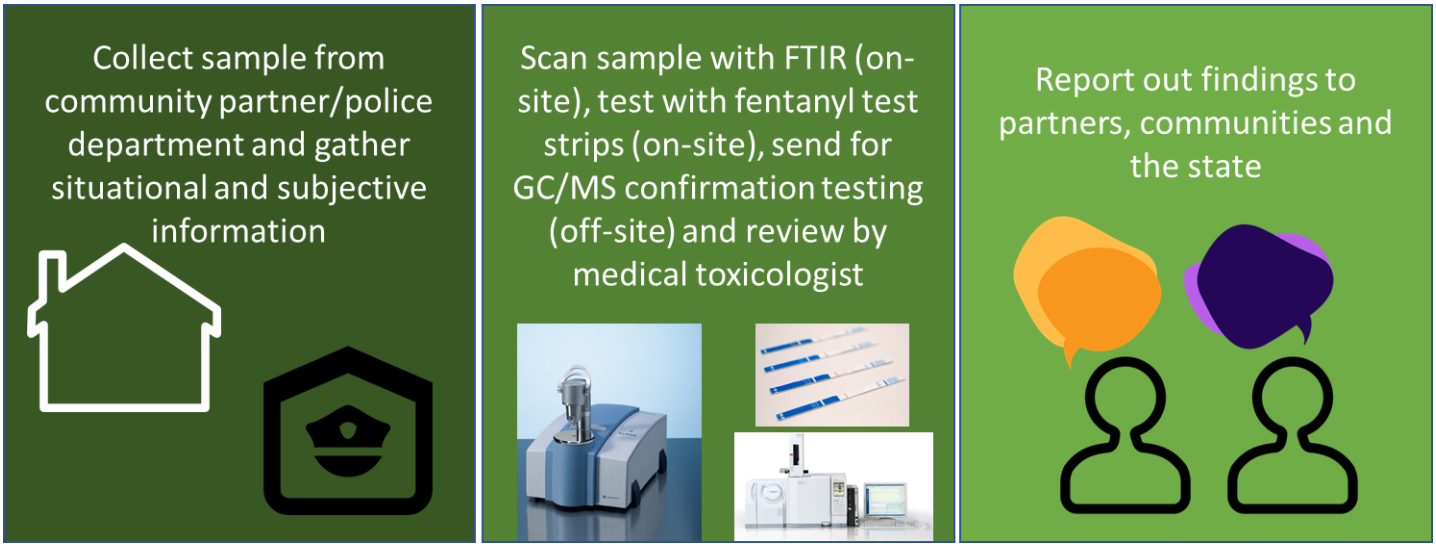
Filling a Gap in Current Public Health Surveillance

The introduction of illicitly manufactured fentanyl, fentanyl analogs and other novel synthetics into the drug supply has led to tremendous increases in overdose deaths in the state and across the country. It also revealed ***blindspots*** in our current overdose surveillance systems. Existing data streams can detect supply-related harms at arrest, hospitalization, or death, but this is long after they have taken an enormous human toll, and falls outside of a preventive, actionable timeframe. Other possible sources of information rely upon drugs seized for criminal prosecution, which provide a small, selective view of the drug supply that overlooks information that may be useful for consumers and public health. For instance, some additives and adulterants to drugs generate little or no effect, while others can be very harmful or produce unexpected effects when consumed by people who use drugs, yet their presence is rarely reported.

A Consumer Safety Approach to the Illicit Drug Supply

More timely and extensive data about the drug supply are critical, and so too is sharing this information with people who use drugs, the providers who care for them, law enforcement partners, and public health stakeholders. ***When shared, data about the drug supply can save lives:*** studies indicate that people who use drugs alter their consumption behaviors and take more preventive actions when they know what their drugs may contain. Sharing drug supply data also improves the quality and safety of the drug supply, better targets interventions like provision of naloxone or fentanyl test strips, and quickens detection and notification of harmful supply-based problems.

How it works: Drug Supply Informatics



Data Snapshot: Shifts in Drugs During COVID-19, Continued Vigilance Indicated

- 290 samples collected May-Oct 2020: 109 from police departments, 181 from community partners.
- Fentanyl is detected in >50% of samples, including drugs thought to be heroin, fentanyl, methamphetamine, benzodiazepines, pain medications, and cocaine. This is similar to 2019 patterns.

The illicit drug supply during COVID-19 appears less potent than one year ago.

- Compared to the same time period last year, we observed more and different fentanyl precursors (ingredients used to make fentanyl) in the fentanyl/heroin supply. This could indicate a weaker but more inconsistent fentanyl supply, more sources of production, and/or low-quality fentanyl synthesis.
- During COVID-19, we observed more adulterants in the fentanyl/heroin supply such as the veterinary sedative xylazine, and the pain reliever tramadol. This also suggests a weaker fentanyl supply, may lead to lack of relief of withdrawal symptoms, and can cause heavy sedation but not necessarily respiratory depression.
- Cocaine samples are also heavily cut during COVID-19, and adulterated with similar non-illicit substances. A concerning trend is the amount of phenacetin, an FDA-banned medication, found in the cocaine and several instances of the smoking cessation and depression medication bupropion being sold as crack cocaine.

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