Implementation of the Massachusetts Drug Supply Data Stream (MADDS)

A state-wide public health-public safety partnership community drug checking program

Brandeis UNIVERSITY

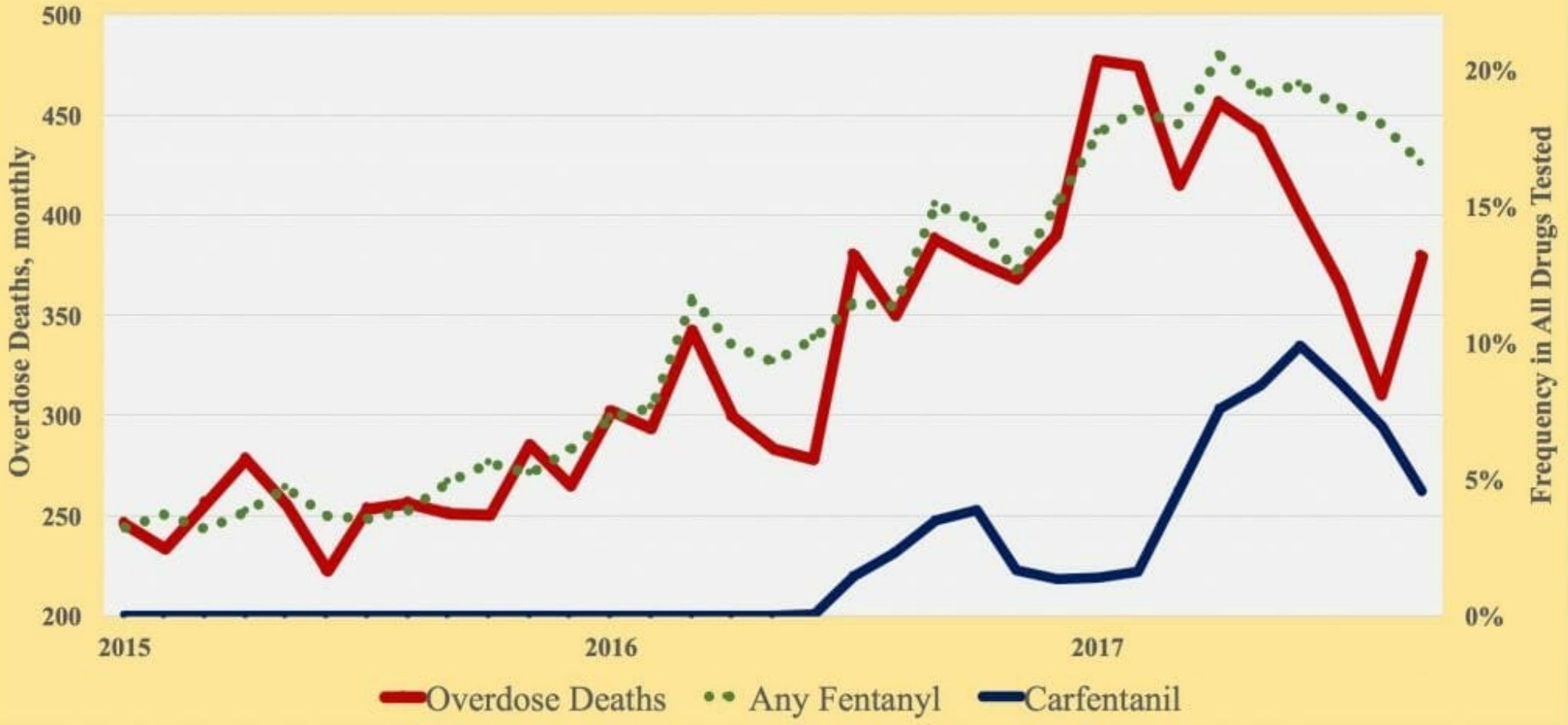
Who are we?

- Becca Olson
- Cole Jarczyk
- Traci Green

Ohio Monthly Overdose Deaths

vs.

Lab Tests on Confiscated Drugs



HarmReductionOhio.org

Drug Supply

?

- ✓Drug supply is a major determinant of drug related death
- ✓Knowing a drug's content informs public health and public safety responses
- ✓Only known after a death, hospitalization, arrest, and often way too late to be informative
- ✓A strategy that boosts samples to toxicology and forensic labs risks overwhelming and delaying an already taxed and critical structural lab system
- ✓**Field-based tools exist and people can be trained to use them**

Ethical Considerations

If harms related to drug contaminants to people who use drugs are known and prevalent, why don’t crime labs/law enforcement focus on them (in addition to the controlled substance)?

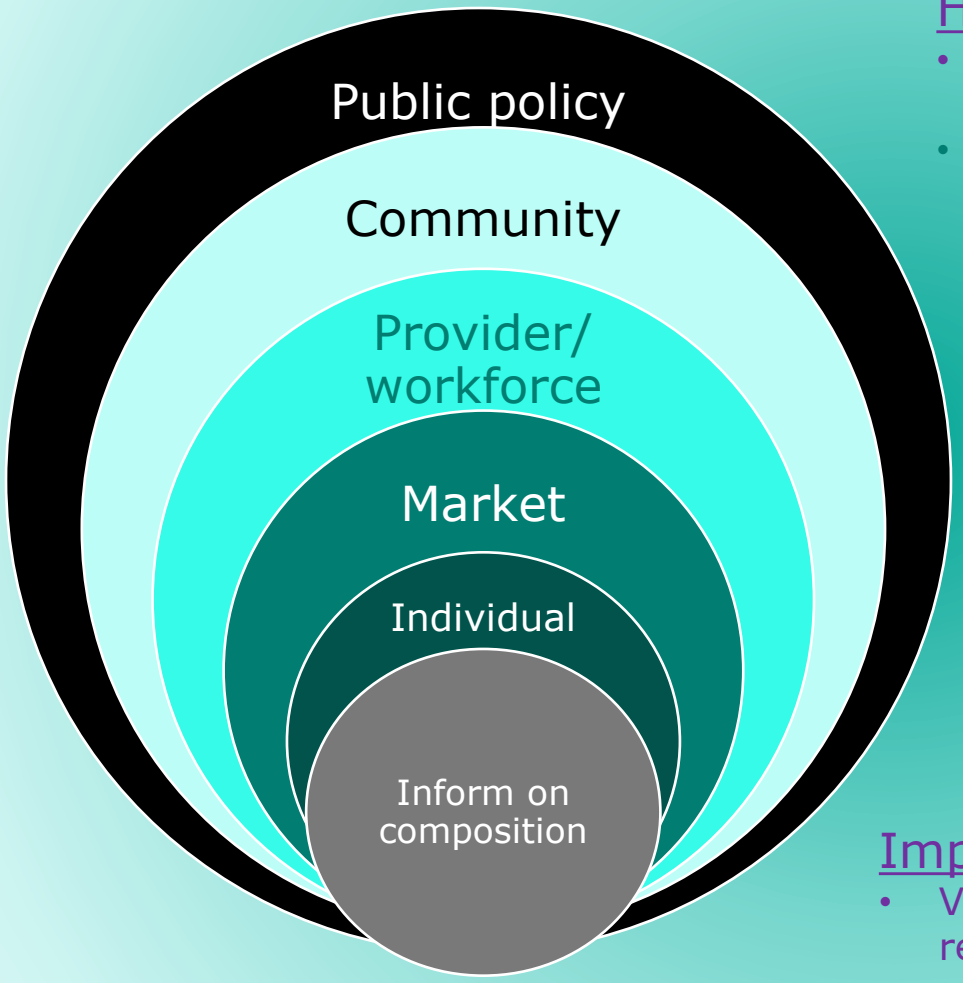
When detected, why don’t crime labs/law enforcement share this information with the public or with public health leadership?

If real-time detection of these problems is possible, why delay reporting by months to years?

If tools to detect controlled substances, diluents and adulterants are available, why don’t we use them more broadly?

If information about the drug supply can help provide better prevention, treatment and resources to people who use drugs, why aren’t we using this approach?

Socio-ecological framework for community drug checking impacts, adapted from Wallace et al., 2021



Mediate policies around substance use

- Mitigate harms from criminalization; regulation of substances
- Safer housing, reduce policing, refine public health responses

Help create healthy environments

- Shift attitudes; engage people with lived experience; reduce stigma, trauma
- Build community cohesion; reduce violence

Sustain a harm reduction workforce

- Mainstream service; standardization of practices; employ and support people with lived experience in workforce; tailor messaging and local harm reduction strategies

Increase quality control

- Increase power and accountability; improve supply
- Shift to less toxic cuts; less fentanyl contamination; change routes of administration

Improve health and wellbeing of PWUD

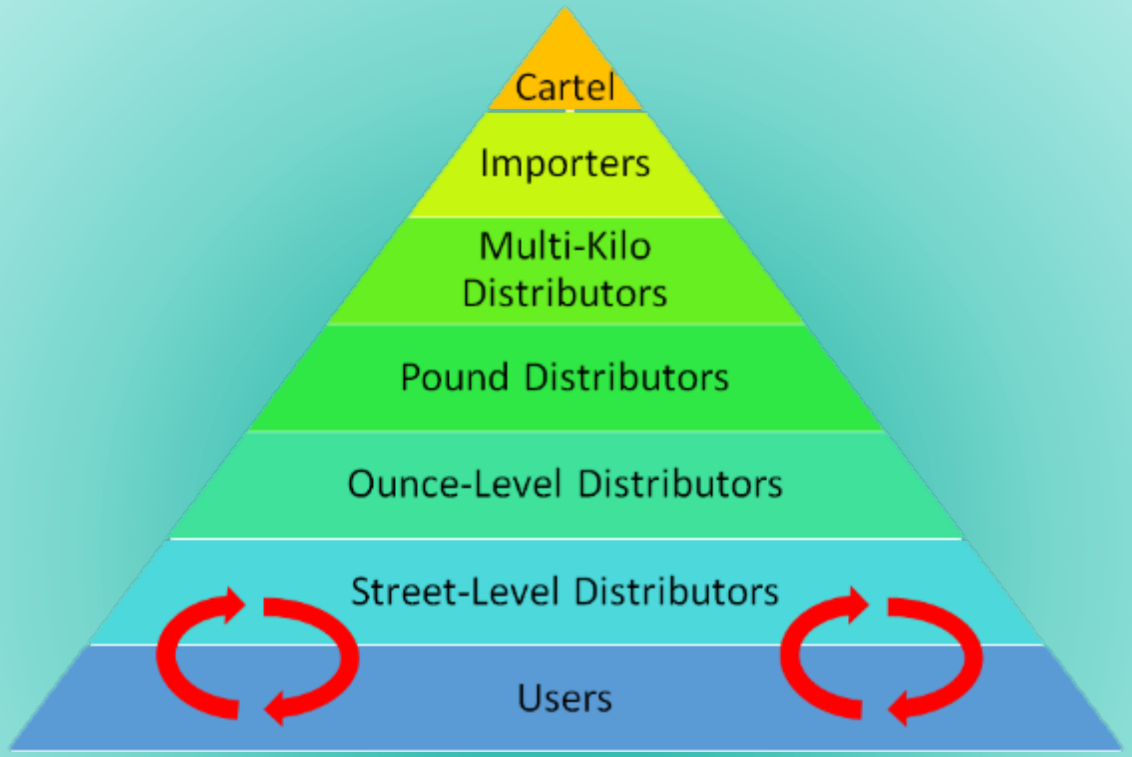
- Verify substances; assess safety; inform on harm reduction strategies; reduce adverse effects, overdose, death, trauma, stigma; increase control/self efficacy
- Improve quality of life, treatment experience, housing stays

Why do Drug Checking?

Improves safety of the drug supply (Evidence: European, darknet studies)	Decreases violence in drug transactions Improves consumer knowledge and confidence Increases safety of supply (fewer unsafe adulterants/cuts, increases purity) Stabilizes market
Provides an opportunity for empowerment, health promotion, and consumer behavior change (Evidence: Fentanyl Test Strip studies)	Promotes health and dignity of people who use drugs With knowledge and interaction with harm reduction staff, people change behaviors
Engagement tool for new, hard to reach populations (Evidence: Olson et al., RIZE MA evaluation, Peiper et al.)	Increases in program utilization, patient navigator contacts when coupling drug checking at outreach with existing medical and harm reduction services

Community Drug Checking

- ✓Monitoring the illicit drug supply is **feasible**
- ✓Trends detected through illicit drug supply monitoring are **meaningful** for public health and public safety, and may be important for clinical practice
- ✓Disseminate results/detected trends ***more quickly*** to consumers, communities, and other stakeholders
- ✓Triangulate and **validate** trends and alarms with existing systems: syndromic surveillance (hospitals/EDs), drug seizures, medical examiner, media mentions



Community drug checking focuses on supply effects for people using drugs

Brandeis Community Drug Checking Team

- Who we are:
  - Traci Green, Principal Investigator
  - Becca Olson, Project Manager
  - Cole Jarczyk, Analytical Chemist
  - Rachel Wightman, Medical Toxicologist
  - Brandon del Pozo, First Responder Communications advisor
- What is MADDS?
  - MA Department of Public Health funded
  - Piloted in 2019 in Boston and New Bedford
  - Current sites:

    MADDS
    - Massachusetts: New Bedford, Quincy, Lynn, Lawrence, Greenfield, Berkshire County, Boston AHOPE, Brockton, Northampton, Fall River, Gloucester

    I-91 Project
    - Vermont: Brattleboro
    - Connecticut: Hartford, New Haven, Bridgeport, New London

Current Community drug checking program sites*

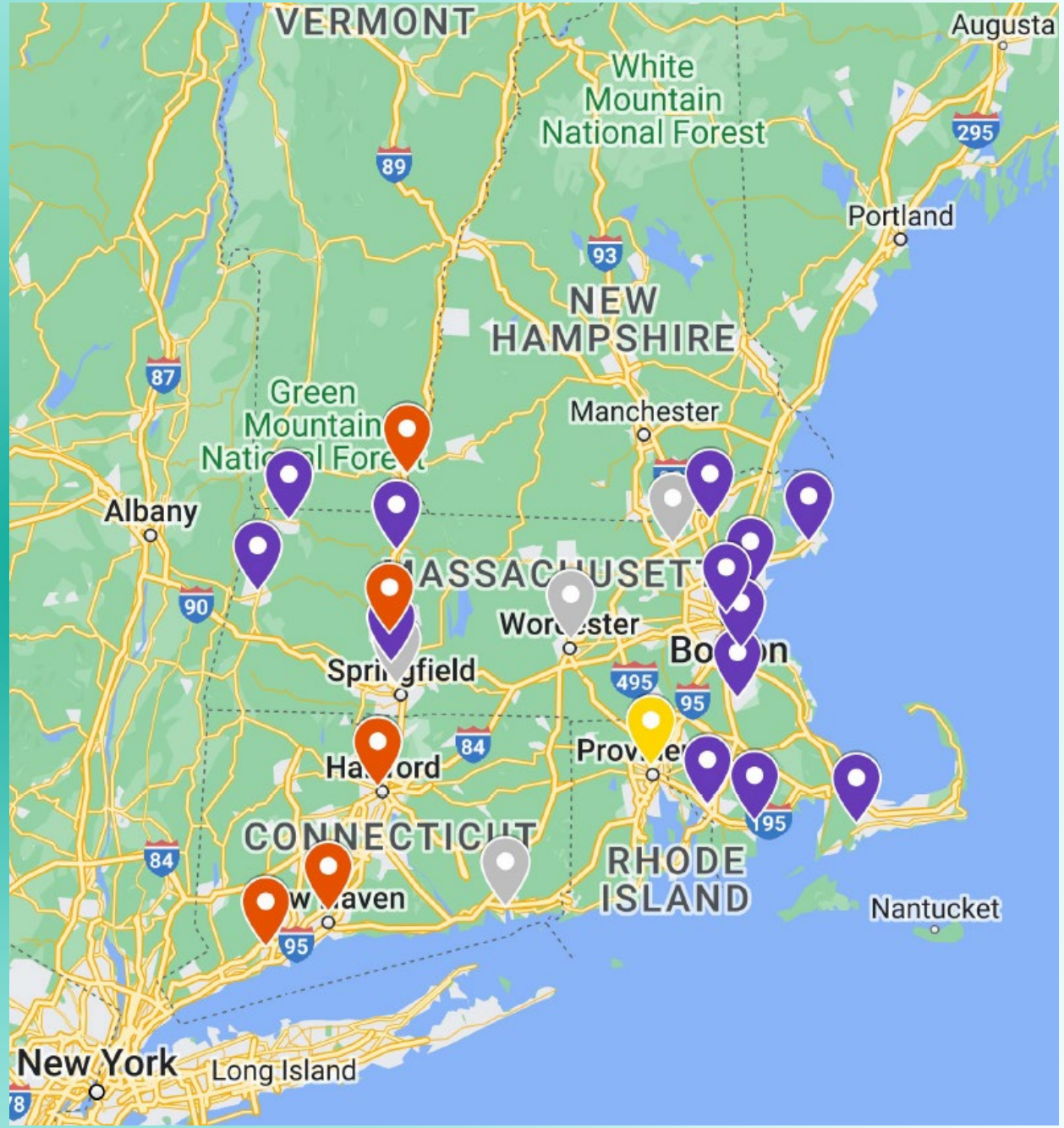
RED=I-91 project (Overdose Response Strategy, ONDCP/CDC Foundation)

PURPLE=MADDS, Massachusetts Public Health Dept

GREY=MADDS and I-91 project sites in progress

YELLOW= NIH- and FORE-funded research projects

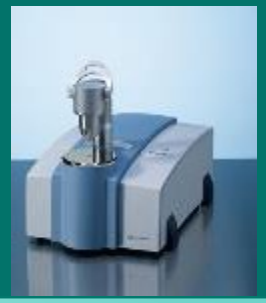
*Data from all sites pooled on Streetcheck for transparency and sharing



Community Drug Checking Program Overview

Collect sample from community partner/police department and gather situational and subjective information

Scan sample with FTIR (on-site), test with fentanyl test strips (on-site), send for GC/MS confirmation testing (off-site) and review by medical toxicologist

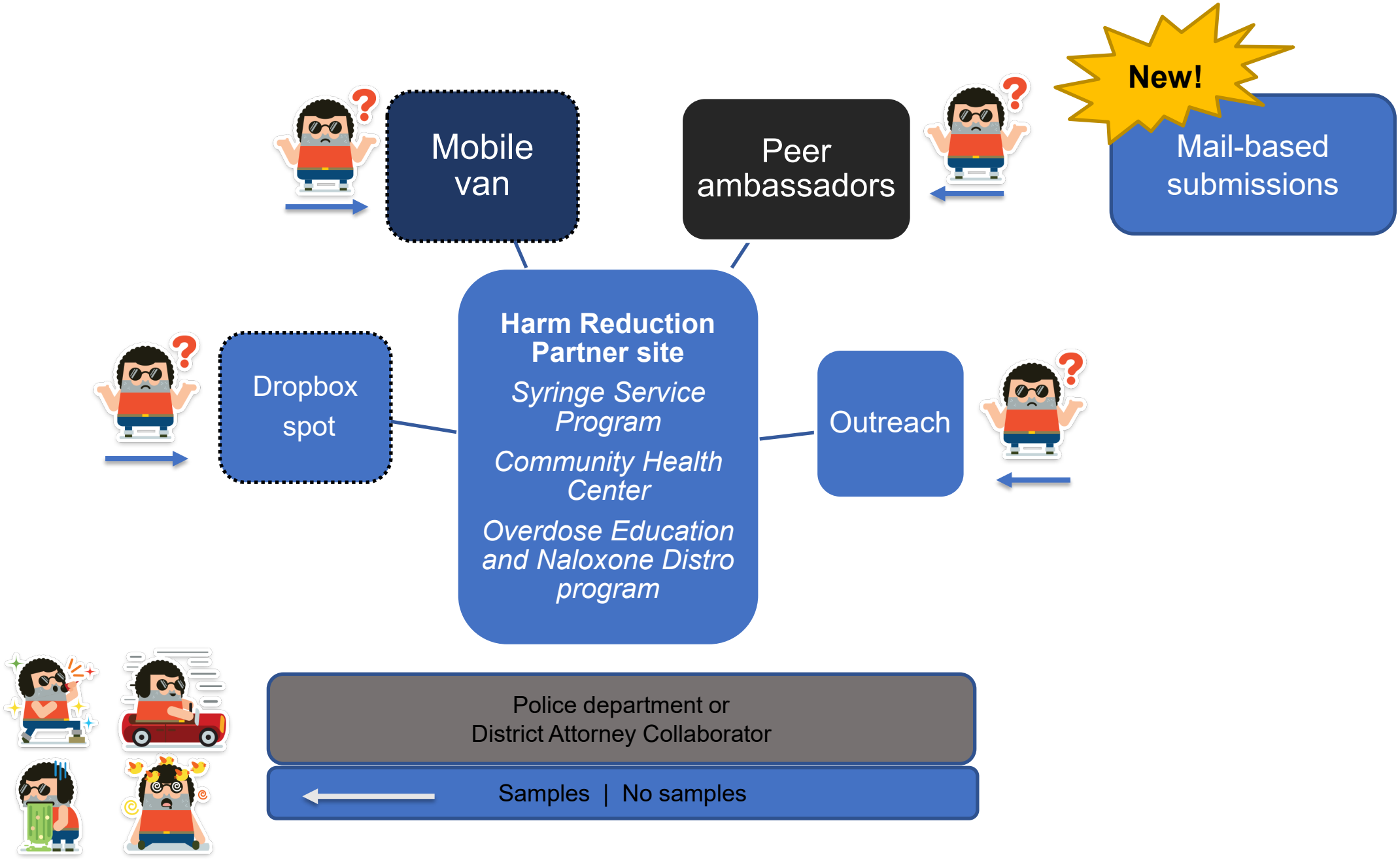


Report out findings to partners, communities and the state

Drug Checking Models

MADDS Massachusetts Drug Supply Data Stream

MDPH funded program: CDC/SAMHSA/ Commonwealth of Massachusetts



Community Partner Leads, Public Safety Supports

- Community partner responsibilities
  - Harm reduction community partner
  - Brandeis scans on site in some cases
  - If site has FTIR, they do their own scanning and sends out for confirmatory testing, receives Brandeis team Technical Assistance
  - Brandeis team analyzes trends, community partner disseminates info
- Public Safety responsibilities
  - MOU/memo reflecting support of program in community
  - Review reports and disseminate to internally, other first responders, to stakeholders
  - <u>Optional</u> opportunity to provide "for destruction" samples for testing

Securing Permissions: Sufficient Until We Change the Law

Memo-style

Holyoke Police Department
138 Appleton Street
Holyoke, Massachusetts 01040-5706

JOSHUA A. GARCIA
Mayor

DAVID PRATT
Chief of Police

August 1, 2022

Cheryl Zoll
Tapestry Health Systems, Inc.
1985 Main St. 2nd Floor, Ste. 202
Springfield, MA 01103

CF 0149-22

Dear Ms. Zoll,

We at the Holyoke Police Department recognize that fatal opioid overdoses have risen 450% in Massachusetts since 2000, and we understand the rapidly changing epidemic from the viewpoint of active drug users would add greatly to the understanding of the fentanyl crisis and opportunities for prevention and response. We also understand that the New England High Intensity Drug Trafficking Area ("NEHIDTA") is funding and supporting the "I-91 Drug Checking Project (I91DC)", which is an expansion of the Massachusetts Drug Supply Datastream and related efforts referred to more broadly as the Streetcheck Drug Supply Datastream.

We understand and support that Brandeis University Research Staff, Tapestry Health program staff and/or other program staff will be collecting, cataloging, scanning, and sending for confirmatory testing via authorized routes and disposing of remnant drug and packaging detritus at the Tapestry Health site in the City of Holyoke pursuant to appropriate Brandeis University and Drug Enforcement Agency protocols, policies and procedures. We also understand that this project will involve the collection of remnant drug trash (e.g. once used cottons and cookers, residue in wax bags) and that clients will go to Tapestry for the purpose of donating remnant drug trash to participate in the program.

Good luck with the project and we support these efforts for the safety and wellbeing of all in our community.

Please let me know if you have any questions.

Memorandum of Understanding-style

MEMORANDUM OF UNDERSTANDING

BETWEEN

BRANDEIS UNIVERSITY

AND

BERKSHIRE DISTRICT ATTORNEY'S OFFICE

The Berkshire District Attorney's Office and Brandeis University, a Massachusetts not for profit corporation with an address of 415 South Street, Waltham, MA enter into this Agreement as of August 5, 2020 (the "Effective Date").

WHEREAS, fatal opioid overdoses have risen 450% in Massachusetts since 2000, and understanding the rapidly changing epidemic from the viewpoint of active drug users would add greatly to the understanding of the fentanyl crisis and opportunities for prevention and response;

WHEREAS, the Centers for Disease Control and Prevention ("CDC") is funding and supporting the continuation of the "Rapid Assessment of Consumer Knowledge Project" (the "RACK" Study);

WHEREAS, Brandeis is participating in a component of the RACK Study by conducting surveillance of packaging detritus (trash) and other donated and discarded materials used by people who use drugs to determine the presence and composition of any remnant substance;

WHEREAS, this approach conducts public health surveillance of the discarded detritus of the opioid epidemic relying upon materials found in public places, abandoned spaces, and otherwise donated or intended for public disposal (i.e, to a transfer station or other disposal facility);

WHEREAS, Brandeis University, led by Traci C. Green, PhD, MSc, is cataloging this detritus as part of the RACK Study;

WHEREAS, Dr. Green and her team (the "Brandeis Research Team") will obtain, catalogue the detritus, test it, and dispose of it as originally intended;

WHEREAS, Berkshire county police departments, as designated and agreed upon, and other community partners in Berkshire obtain detritus that may be useful to the RACK Study and wishes to provide the detritus to Dr. Green and her team of researchers for use in the RACK Study; and

WHEREAS, Brandeis University and the Berkshire District Attorney's Office (the "Parties") wish to memorialize their understanding of how they will work together to support the RACK Study.

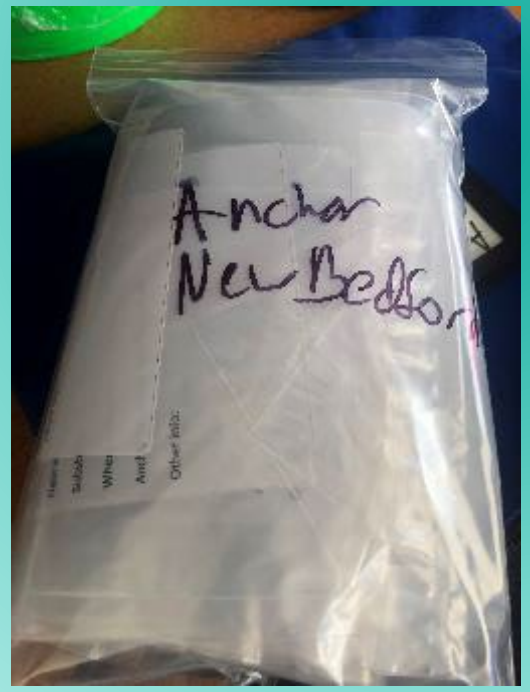
NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter expressed, the sufficiency and receipt of which is hereby acknowledged, the Parties hereto, intending to be legally bound, agree as follows:

1. The Berkshire District Attorney's Office (BDAO) will support the RACK Study by:

Community partner sample collection “kit”

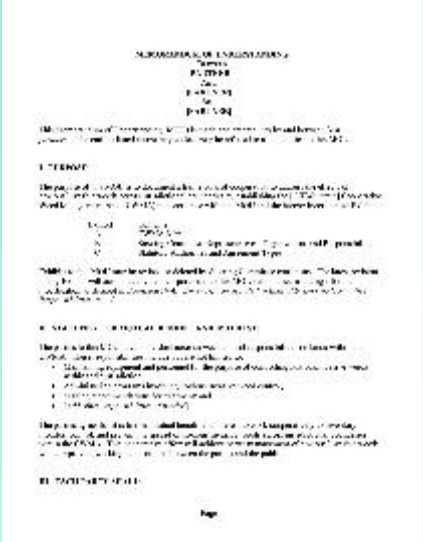
Locking sample bag

Labeled sample baggies



Flyers

MOU



Process

- **Collect sample** from participants/police departments

Once-used cookers

Once-used Cottons

Baggies

Wax folds/stamps

Parts of pills

Pipes

- How much sample? *About the amount of a grain of rice*
- For Police Department samples, eligible samples are *Non-criminal cases only*!
  - Controlled buy, found property, non/fatal overdose, one baggie/stamp bag = personal quantities

Talk to the donor/review the case file to learn more!

What was it like? Tell us more!

Information from people who use drugs or from the case file can help us get better and quicker results. We ask:

- What was the sample bought as?
- Route of consumption? (injected, sniffed, etc.)
- Expected OR unexpected reactions (how "normal" was it)?
- Did you like it/was is harmful?
- Scene or context information
- Anything else you/they think is important

Community partner sample collection

Storage

- Put sample in locking bag provided and store them in the locked location set out by your organization. Make sure you are familiar with these specific instructions and follow the safety protocols!

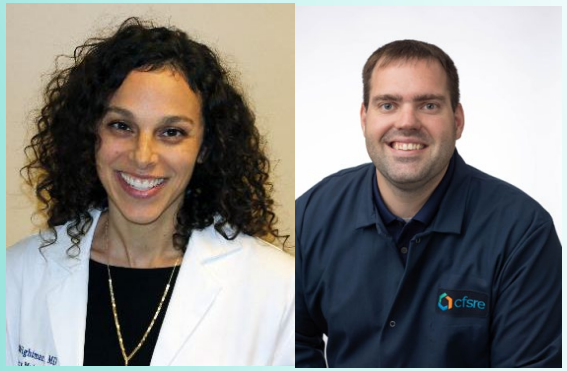
Test on-demand, on-site

- Once samples are collected, programs call or text the Brandeis team to arrange for them to come for testing

Bruker Alpha FTIR

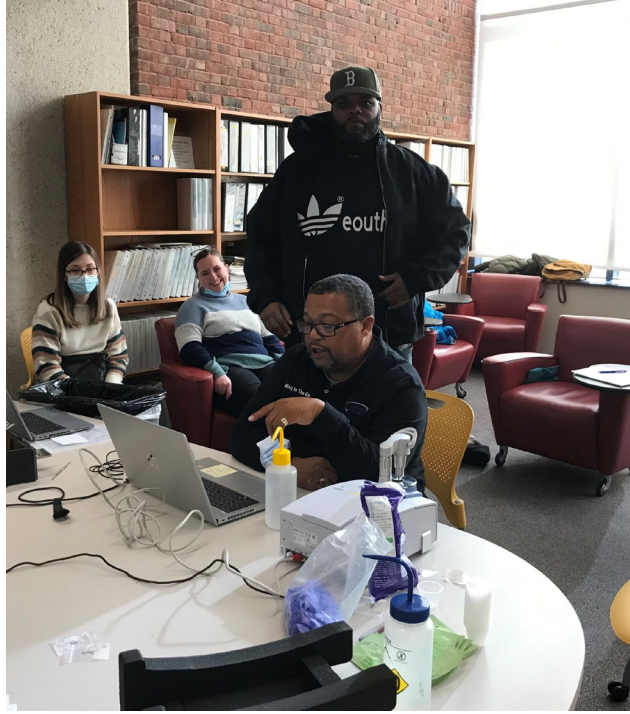
BTNX Fentanyl Test Strips

GCMS from Center for Forensic Science Research & Education and drugsdata.org



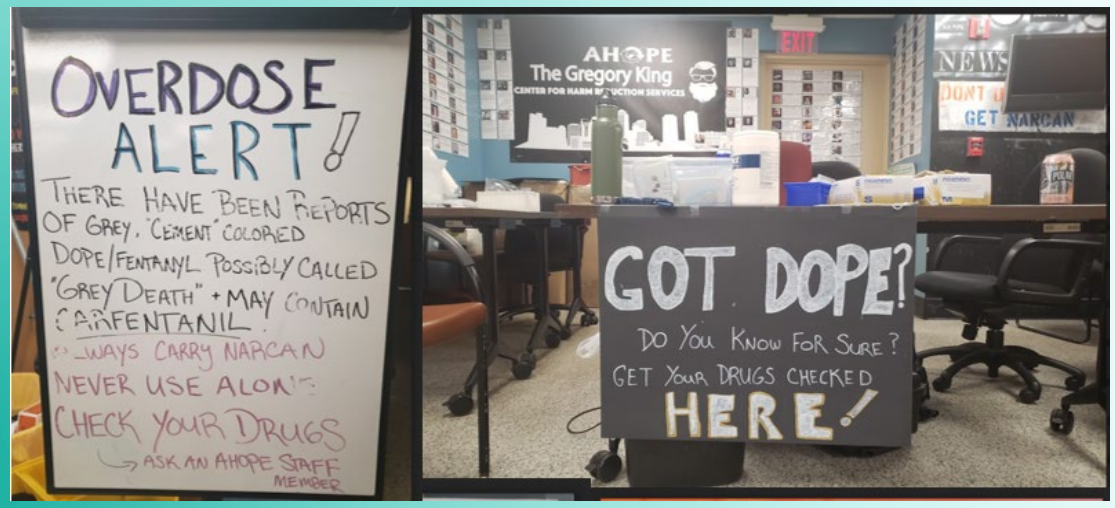
Medical Toxicology Consultation

Test with tools, interpret with care



In-person Trainings: Essential!

- **Hands-on**
- **Interactive**
- **Tips, tricks, process**
- **Creating a cohort**
- **Ongoing supports, touch-base**
- **Refreshers, re-trainings**



Mobile and Stationery Site Partners

Brockton Neighborhood Health Center

AHOPE Boston

Stages of Community Drug Checking Implementation

Early-on (We want to get it!)

Picking the instrument and parallel testing approach

Determine level of uncertainty and reporting delay you are comfortable with

Budgeting: machine, operator, libraries, maintenance, immunoassays (e.g., FTS, benzo strips), confirmatory lab, materials, mailing/mileage

Determining operator, location, space and power sources

Legal considerations, site liabilities

Data storage, safety and access

Evolving (We've got it, now what?!)

Secure permissions/plans

Storing, transporting

Training and retention of operators

ANALYZING

Determining processes and friends to check what is seen

Timing and flow of collection, reporting

Recording data, retrieving data

When to send out for confirmatory testing

Getting the word out in the community about drug checking service availability

Data storage, safety and access

Advancing (Got results, now what do we do with them?)

Managing expectations

Validating findings and process

Communicating results on-demand (who, how, what to provide)

Data storage, safety and access

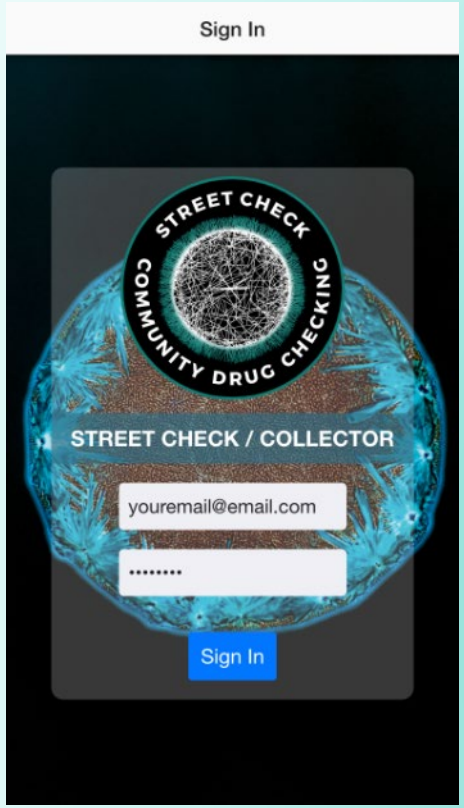
What is actionable? Who do you tell?

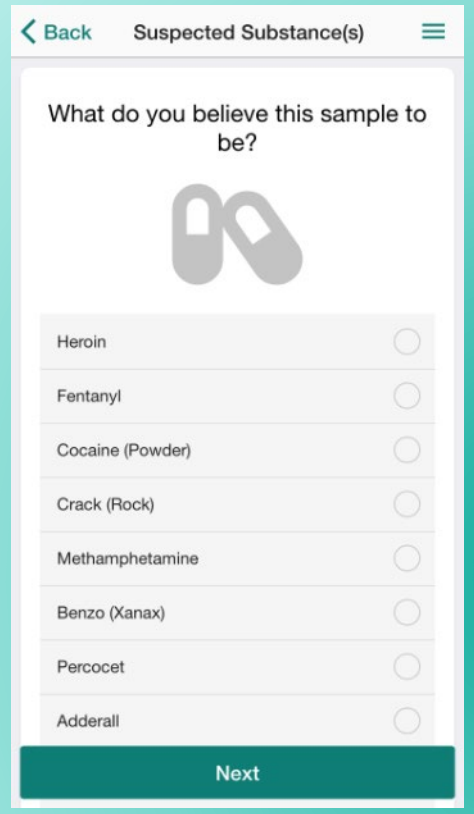
Defining Alerts, Bulletins, and when to notify others

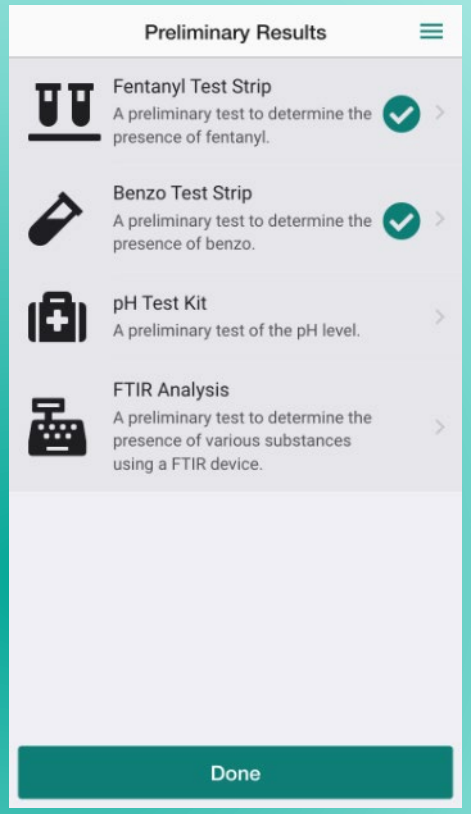
What actions would you consider?

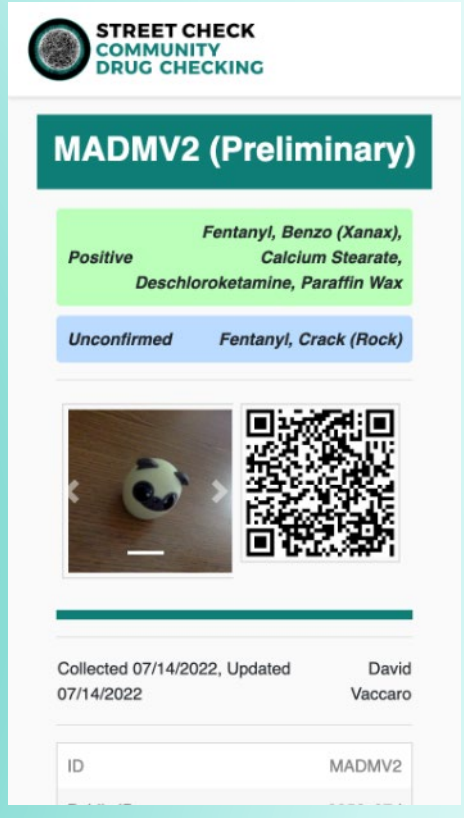
Communicating results: How, where and to whom

"Translating" alerts to key community members/ consumers









Input data, organize, and receive results with the community co-designed Streetcheck application

Community-facing: a) Providers b) Consumers
Alerts (Health/safety concern)
Bulletins (Informative)
English, Spanish, Brazilian Portuguese, Twi, Haitian Creole, Khmer

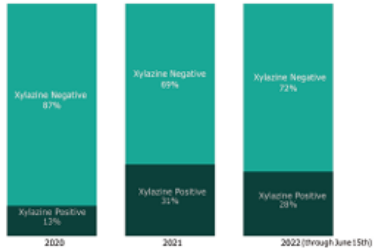
Massachusetts Drug Supply Stream (MADDS)

Community Drug Supply Alert: Xylazine Present in Opioids July 2022

Xylazine is on the rise in fentanyl & heroin

- Since initial reporting by MADDS in March 2021, the veterinary sedative xylazine continues to be detected in a substantial number of samples sold as fentanyl and heroin throughout Massachusetts.* In 2021, 31% of 398 opioid samples tested statewide contained xylazine. As of June 15, xylazine was detected in 28% of 263 opioid samples tested in 2022 (see graph).

Presence of Xylazine in Heroin & Fentanyl Samples



- Most samples with xylazine contained fentanyl and were sold as dope/heroin. The amount of xylazine found in samples sold as dope/heroin varied, but an increasing number have xylazine as a large component.
- Samples tested from January to June 15, 2022 show that xylazine is more often found in drugs sold as heroin/dope/fentanyl in areas of Western Massachusetts than in Eastern Massachusetts (42% vs 21% of opioid samples).
- Samples containing xylazine include counterfeit pain pills, brown and white powder residue in bags, and cookers or cottons used for injection.
- In 2021, 7 of 131 samples found to contain xylazine (5%) were associated with a fatal or nonfatal overdose that also involved fentanyl.

Xylazine is commonly present in opioids. Xylazine can contribute to oversedation alongside opioids. Naloxone WILL NOT reverse the effects of xylazine, but ALWAYS administer naloxone in a suspected overdose. Naloxone will reverse the effects of any opioids present. The person may remain unresponsive if xylazine is involved. Call for help and give rescue breaths to support their breathing.

Xylazine is a health hazard

- Xylazine is a **long-acting, sedating medication, but it is not an opioid**. Use experiences noted "made me sleep weird"; "put me out for 6 hours"; "very strong"; "made me pass out and I woke with vomit on me", "skin on fire, teeth felt like they were going to fall out", and "causing holes (ulcers) where injected".
- Xylazine can cause unresponsiveness or decreased consciousness, low blood sugar, low blood pressure, slowed heart rate, and **reduced breathing**. Because xylazine is often found in combination with other sedating drugs like opioids, there is an increased risk for overdose or death.
- Using xylazine may increase risk of **skin ulcers** at the injection site and around other cuts. Skin ulcers from xylazine may quickly lead to infection or necrosis.
- People may sustain **serious injuries** if oversedated and unresponsive for long periods. Falls; hypothermia or heat-related emergencies if using outside; and damage to muscles, nerves, and kidneys can result if blood flow is restricted to a part of the body for a long time.

Xylazine has been found in powder residue and counterfeit pain pills.

Click or scan for more info.

Harm reduction and risk of overdose

- 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.
- In case of overdose, administer naloxone, give rescue breaths, and monitor until breathing resumes, even if the person remains unresponsive. You can get naloxone at harm reduction programs and retail pharmacies without a prescription. If someone is oversedated, put them in the recovery position, make sure their airway is clear, and monitor their breathing.
- Use a sterile syringe and clean the site with an alcohol swab before every injection to prevent infection. Monitor injection sites and other cuts or scratches, and seek medical attention in case of abscesses or skin ulcers. Rotate injection sites to prevent vein damage and reduce the risk of infection.
- Consider not injecting or switching to sniffing or smoking instead.
- Contact a local harm reduction program for help with abscess or wound care, more advice on safer use, safer use supplies, fentanyl test strips, and drug checking with MADDS.

* All samples were provided by harm reduction programs or donated by police departments for MADDS testing. 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.

Public Safety Oriented
Alerts (Health/occupational safety concern)
Update (Informative)
English and Spanish
Print and roll-call video (2 min)

Massachusetts Drug Supply Stream (MADDS)

Street Narcotics Alert: Xylazine

Active cut alert: Xylazine is on the rise in fentanyl & heroin

- Since initial reporting by MADDS in 2021, the veterinary sedative xylazine has increasingly been detected in opioid samples in Massachusetts statewide as an active cut in fentanyl/heroin. About 1 in 4 heroin/fentanyl samples also contain xylazine.
- Xylazine is a **long-acting sedative**, but **it is not an opioid**. If someone is not responding to naloxone, it is possible that xylazine is contributing.

Xylazine is an active cut in other drugs, primarily opioids, and people may not know that their drugs contain xylazine, which is why it's important to be aware of the harmful effects of xylazine, including oversedation, skin ulcers, infection, and other serious injuries.

Xylazine is a health hazard

- Xylazine can cause **unresponsiveness**, unconsciousness, low blood sugar, low blood pressure, slowed heart rate, and reduced breathing. It is typically found in drugs also containing fentanyl or heroin, and this mixture may increase risk of overdose or death.
- Xylazine increases **risk for skin ulcers** in places on the body where people inject or have cuts. Skin ulcers from xylazine may quickly lead to infection or tissue death.
- If oversedated or unresponsive for long periods, people may have **serious injuries** like damage to muscles, nerves, and kidneys if blood flow is restricted to a part of the body for a long time. If use occurs outside, overdsedation may increase risk for hypothermia or heat-related emergencies.

Examples of xylazine samples collected by MADDS

How to identify xylazine

- Xylazine appears as a brown or white powder and has also been found in counterfeit pain pills (see photos above).

How to respond

- Summon medical attention. Monitor oxygen levels and breathing if a person appears unresponsive. **Give naloxone** (see box at right). Start rescue breathing immediately if breathing stops or the person's oxygen levels get too low.
- If you suspect someone has a **skin ulcer** or a **serious injury** from complications related to xylazine, encourage them to seek care immediately or offer to transport them to the nearest medical facility.
- Talk to providers and community members about the harms of xylazine in the drug supply. When conducting post-overdose or community outreach, offer sterile syringes and wound care kits to help prevent infection.

Xylazine and naloxone: Xylazine can contribute to oversedation alongside opioids. Naloxone WILL NOT reverse the effects of xylazine, but ALWAYS administer naloxone in a suspected overdose. Naloxone will reverse the effects of any opioids present. The person may remain unresponsive if xylazine is present. Give rescue breaths to support their breathing.

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COMMUNITY DRUG CHECKING

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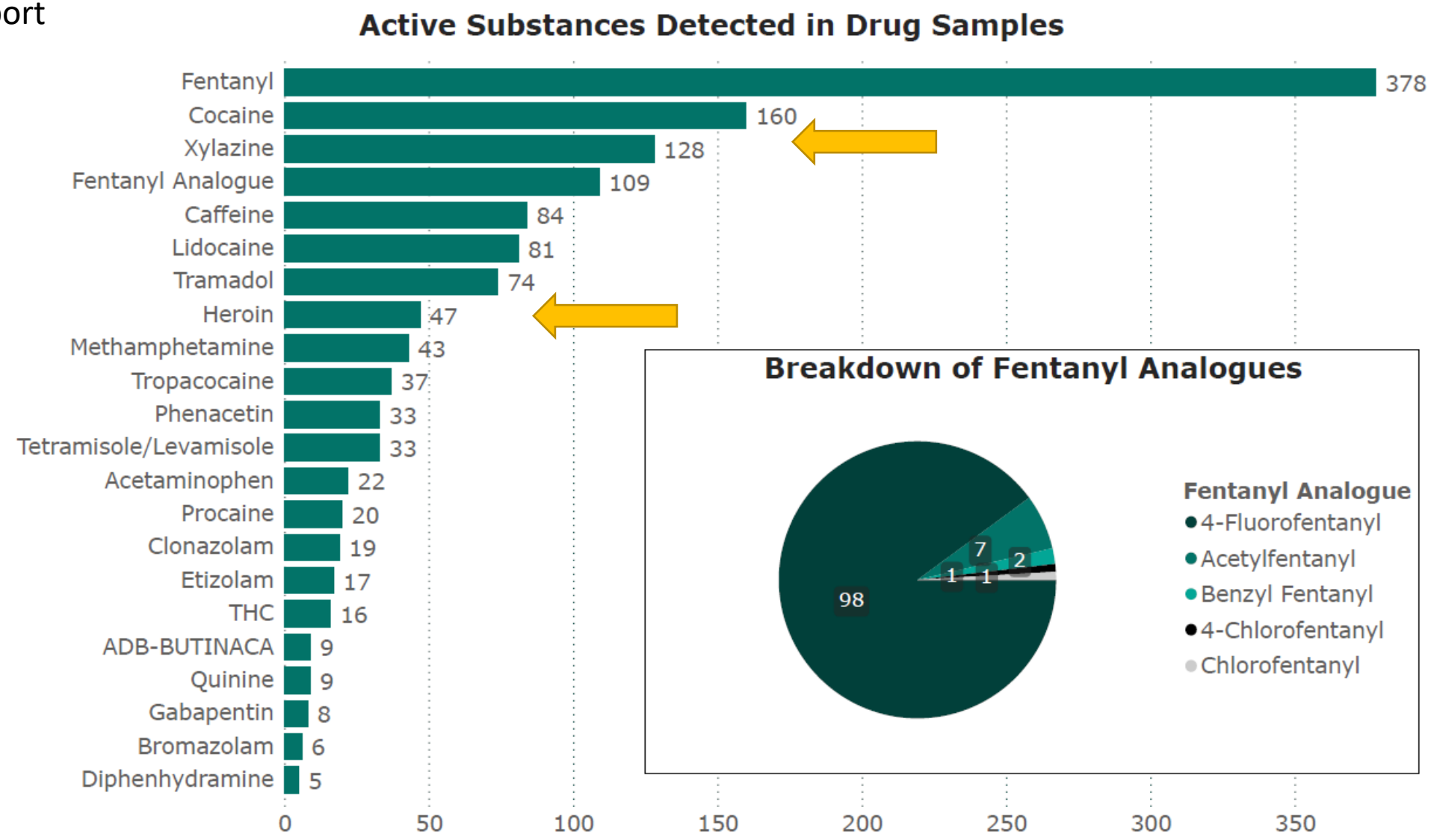
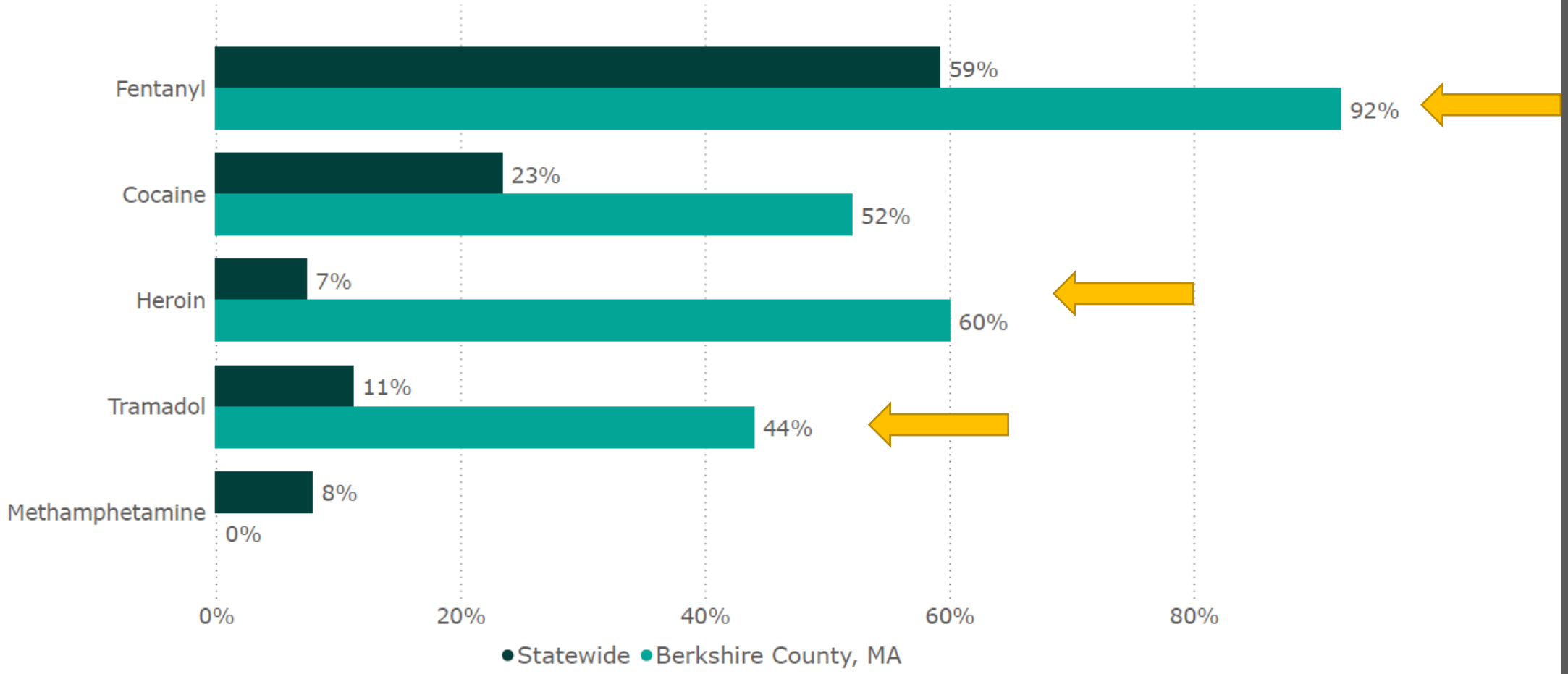
Updates, 2-min roll call videos

2021 report


Active Substances Detected in Drug Samples
Fentanyl 378
Cocaine 160
Xylazine 128
Fentanyl Analogue 109
Caffeine 84
Lidocaine 81
Tramadol 74
Heroin 47
Methamphetamine 43
Tropacocaine 37
Phenacetin 33
Tetramisole/Levamisole 33
Acetaminophen 22
Procaine 20
Clonazolam 19
Etizolam 17
THC 16
ADB-BUTINACA 9
Quinine 9
Gabapentin 8
Bromazolam 6
Diphenhydramine 5
0
50
100
150
200
250
300
350
Breakdown of Fentanyl Analogues
98
7
2
1
1
Fentanyl Analogue
4-Fluorofentanyl
Acetylfentanyl
Benzyl Fentanyl
4-Chlorofentanyl
Chlorofentanyl

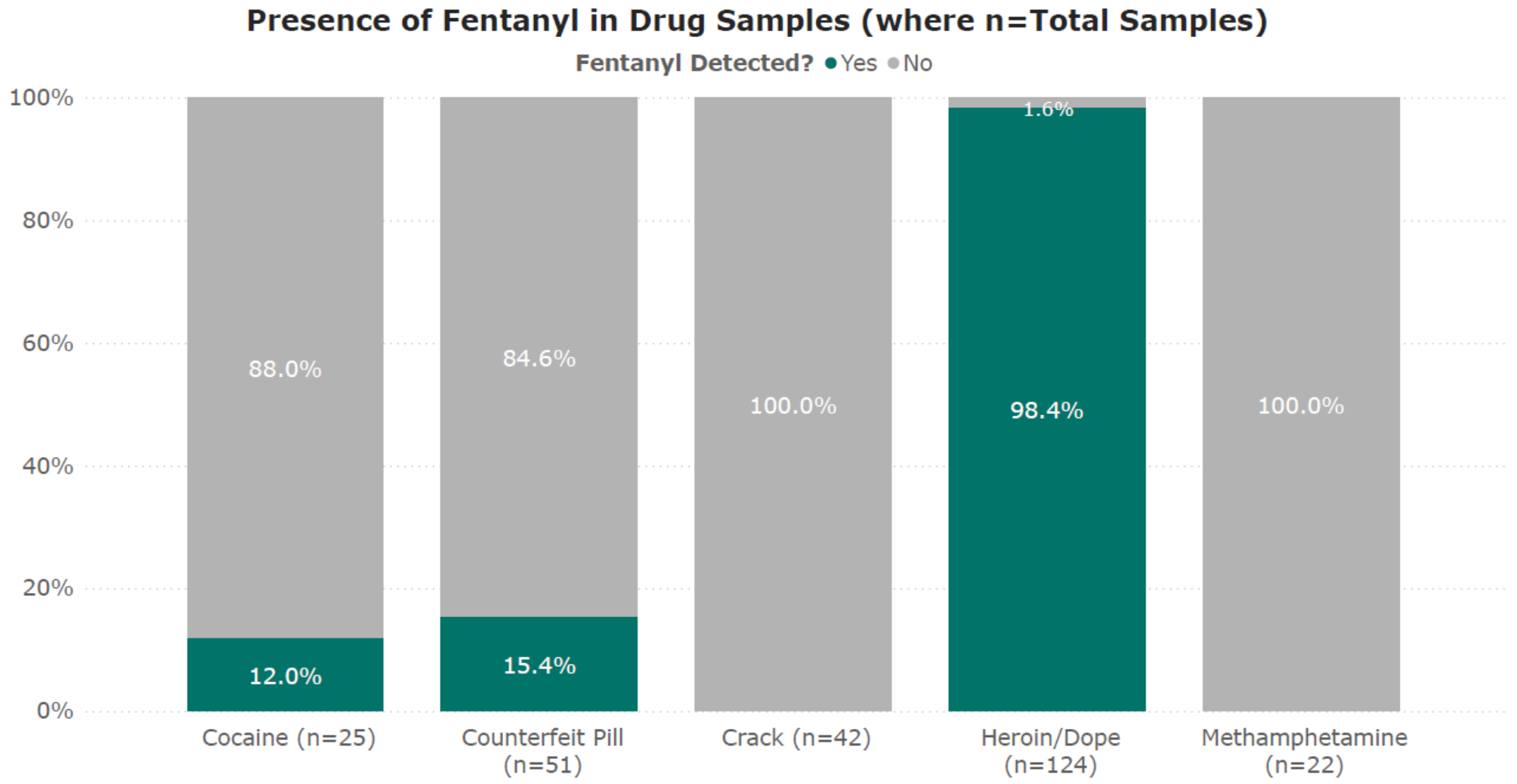
2021

Substance Presence in Drug Samples - Berkshire County vs. State of Massachusetts



**Note: The above visual contains only powders and pills. Samples that were provided in reusable packaging, cookers, and cottons were not included in this visual to minimize the possibility of cross-contamination and skewing of data. The total number of samples from Berkshire County included in this visual is 25, while the statewide total is 385.*

2021



**Note: Samples that were provided in reusable packaging, cookers, and cottons were not included in this visual to minimize the possibility of cross-contamination and skewing of data.*

Concerns around cross contamination

- Contamination appears to be around 15% of stimulant powders, fake pills
- Limited/no evidence of fentanyl *in* crack
- Contamination of crack preparation materials detected, suggesting exposure may be at packaging mix up not in drug itself
- Some ethnographic data collected indicating intentional inclusion of fentanyl in crack but testing is inconclusive
  - Possible exposure through crack “crumble”
- Vaping pen cartridges tested, only nicotine found to date
- However, vigilance is warranted:
  - Lower burning temperature in vape pens should be considered as possible non-injection route of use, possible source of exposure but additions likely intentional (not unwitting)
  - Inhaling (prepped on a foil) does not burn fentanyl and is a viable non-injection route of use but still presents high overdose risk

Massachusetts Drug Trends 2020, during COVID-19

n=426 samples in 2020
>1000 samples annually

More and different fentanyl precursors and byproducts

- Quantities are comparable but less “fentanyl” in drug supply detected in MADDS sites
- More fentanyl sources/signatures, more counterfeit pills
- Incomplete synthesis—danger is inconsistency

Changes to fentanyl/heroin supply (increased presence of active cuts: xylazine, tramadol)

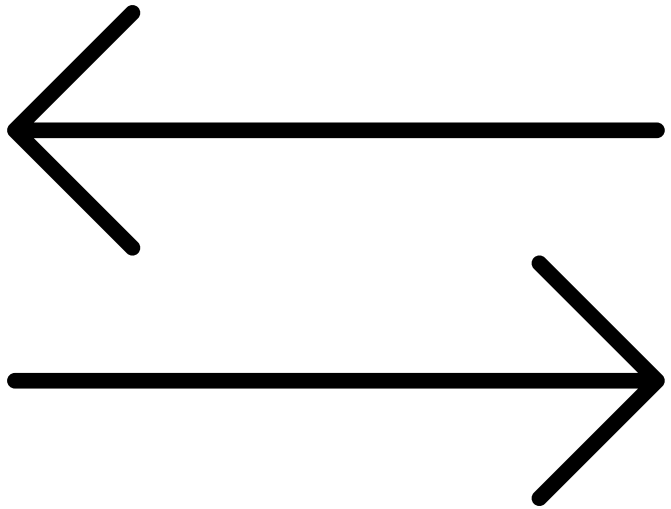
- Responses to weaker fentanyl supply
- Withdrawal symptoms may not be relieved
- Heavy sedation but not necessarily respiratory depression (impression of needing more naloxone to reverse)
- Concerns about abscess, injection site wounds and infection with xylazine

Cocaine heavily cut, even full replacements

- Phenacetin, levamisole

Dominance of 4-fluorofentanyl as fentanyl analog

- 2021: 4-fluorofentanyl/fentanyl analog settles into drug supply
- International supply reduction efforts lead to different precursor choices
- 4-fluorofentanyl has lower LD-50, suggesting a dose can move to toxic at lower dose (implies need to witness use, take turns, monitor, never use alone)
- Fewer samples from Western MA exhibit 4-fluorofentanyl in large components of the opioid



Xylazine

Photo	Sample Name	Active Contents: Substance	Active Contents: Ratio / Amounts	Date Published	Date Tested	Location	Data Source
2021							
	Fentanyl Code: AC2020B321 Sold as: Not Specified	• Xylazine • Fentanyl • 4-ANPP • Metamizole • Phenethyl 4-ANPP • Cocaine	• 20 • 19 • 2 • 1 • 1 • 0.5	Jan 27, 2021	Jan 26, 2021	Lawrence, MA	DrugsData (EcstasyData)
	Fentanyl Code: AC2020B340 Sold as: Not Specified	• Fentanyl • Xylazine	• 1 • 1	Jan 27, 2021	Jan 26, 2021	Quincy, MA	DrugsData (EcstasyData)
	Fentanyl Code: AC2020B298 Sold as: Not Specified	• Xylazine • Fentanyl • 4-ANPP	• 7 • 6 • 1	Jan 25, 2021	Jan 22, 2021	Lynn, MA	DrugsData (EcstasyData)
	Dope Code: AC2020B360A Sold as: Dope	• Xylazine • Fentanyl • 4-ANPP • Acetaminophen	• 10 • 6 • 1 • 1	Jan 21, 2021	Jan 16, 2021	Boston, MA	DrugsData (EcstasyData)
2020							
	4812v Code: AC2020A006 Sold as: Percocet	• Diphenhydramine • Fentanyl • 4-ANPP • Unidentified • Xylazine	• 10 • 5 • 2 • 1 • trace	Oct 22, 2020	Oct 20, 2020	Boston, MA	DrugsData (EcstasyData)
	Tan Powder Code: AC2020B190 Sold as: Not Specified	• Fentanyl • Lidocaine • Tramadol • 4-ANPP • Acetaminophen • Phenethyl 4-ANPP • Procainamide • Xylazine	• 28 • 21 • 7 • 5 • 5 • 2 • 1 • trace	Oct 09, 2020	Oct 04, 2020	Quincy, MA	DrugsData (EcstasyData)

Xylazine trends in MADDS

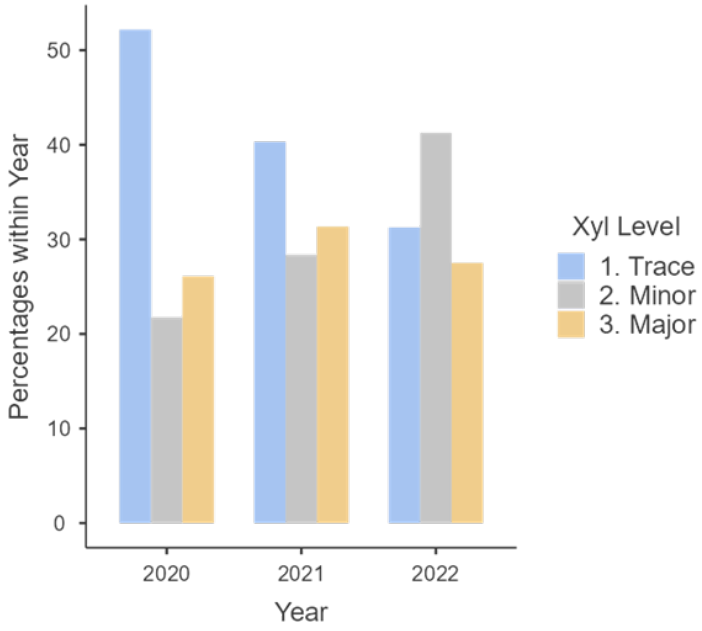
Since initial reporting by MADDS in March 2021, the veterinary sedative xylazine continues to be detected in a substantial number of samples sold as and also containing fentanyl and heroin throughout Massachusetts.

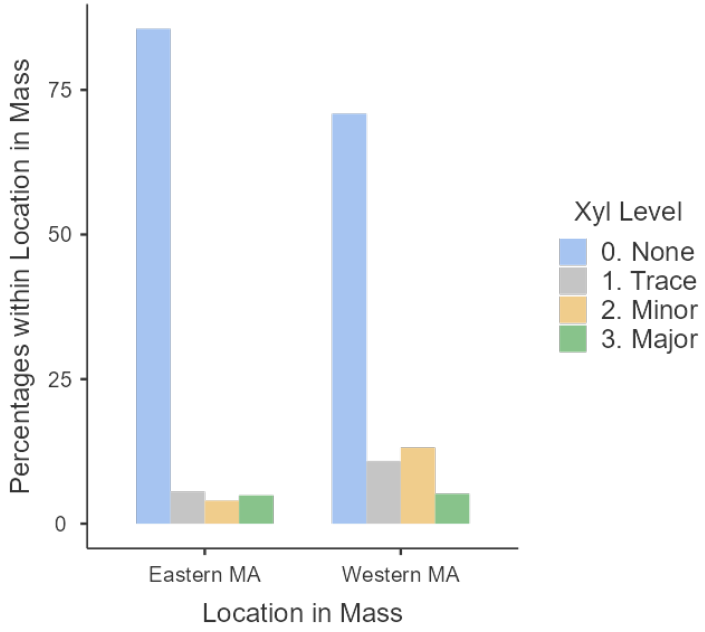
In 2021, 31% of 398 opioid samples tested statewide contained xylazine. As of June 15, xylazine was detected in 28% of 263 opioid samples tested in 2022

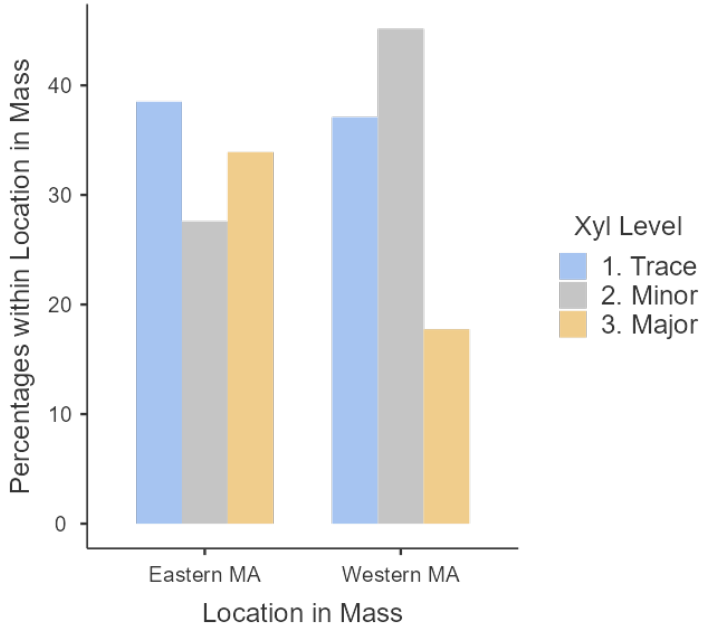
Since 2020, more samples exhibit in xylazine as minor and major components.

Proportionally more samples in Western than in Eastern MA contain xylazine.

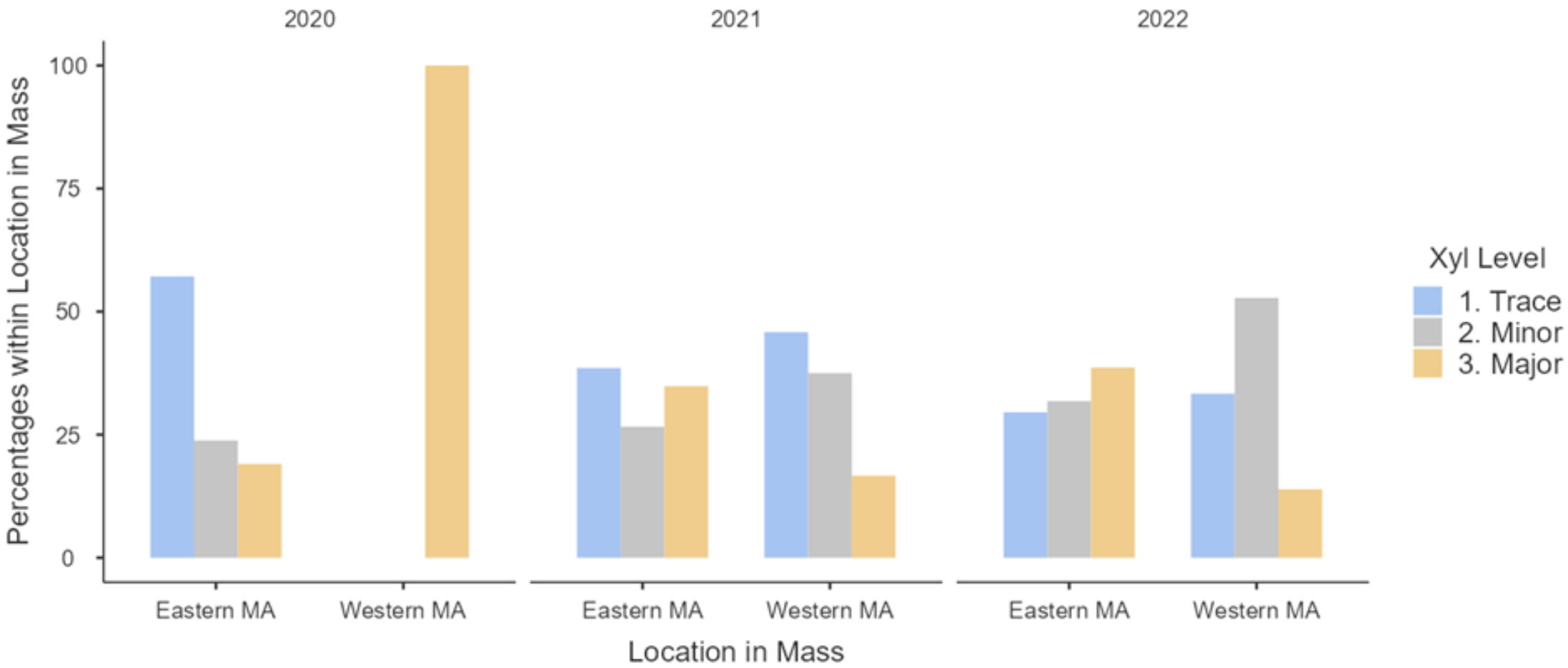
Western MA samples tend to contain xylazine as a minor component.







Component ratios of xylazine-containing samples over time by MA region



*Note, 2020 had few samples from Western MA and should be interpreted with care

Xylazine actions

Bulletin (March 2021)

Alerts (July 2022)

First responder

Community provider

Public/Community (right)

English, Spanish, Brazilian Portuguese, Khmer, Twi, Haitian Kreyole

COMMUNITY DRUG CHECKING

Massachusetts Drug Supply Data Stream (MADDS)

Street Drugs Alert: Xylazine

Xylazine is on the rise in fentanyl & heroin (dope)

- The animal sedative xylazine has been found in dope samples more and more across Massachusetts.*
- **Xylazine is a long-acting tranquilizer, but it is not an opioid.** Some samples had as much xylazine as dope or more xylazine than dope.

Nodding out from xylazine may look like an opioid overdose, but it won't respond to naloxone. If someone is breathing but doesn't respond when you try to wake them, **watch their breathing to make sure they're getting enough oxygen. Give naloxone, start rescue breaths, and call for help** if their breathing is raspy or their skin is ashy or pale.

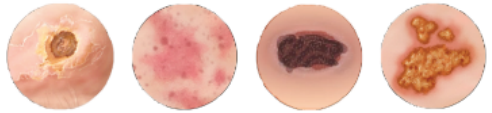
Xylazine is a health hazard

Xylazine may lead to

- **Extreme sleepiness**
- **Nodding out for long periods of time**
- **Slower heart rate**
- **A higher chance of overdose or death** if used with dope and other downers
- **Sores and serious infections**, even in places on your body away from where you inject
- **Serious injury** if you pass out and lay in one position for too long
- **Getting too hot or too cold** if you pass out outside

Some people who submitted samples with xylazine said it "made me sleep weird"; "put me out for 6 hours"; "made me pass out and I woke with vomit on me"; and "skin on fire, teeth felt like they were going to fall out."

How xylazine can affect your skin



Skin ulcers | Rash | Dying skin | Pus

Xylazine has been found in street dope powder and in fake pain pills.

Harm reduction and risk of overdose

- **USE WITH OR AROUND OTHER PEOPLE.** People using together should take turns so they don't overdose at the same time.
- If someone overdoses, **CALL FOR HELP AND GIVE NALOXONE** until they start breathing regularly, even if they're still passed out. If someone has passed out but is still breathing, put them in the recovery position (below) and watch their breathing.

If someone passes out after using, but is still breathing **put them in the recovery position**, as shown here, and **call for help!**

- **USE A STERILE SYRINGE** and clean your skin every time you inject to prevent infection. Keep an eye on injection sites and other sores. Get medical help if the sore gets red/swollen or if you have a fever.

MADDS
Advisory Board

- 6 people, independent of MADDS
- People who use drugs, harm reduction providers, analytic chemist, drug suppliers
- Compensated, confidential, on-call
- Has own charter, coordinator
- Can task MADDS team for further study
- Meets regularly and as needed, reviews data and trends
- Recommends and reviews all alerts, bulletins
- Defines audience
- Points to next steps

Steps toward safer supply/ safer environment

- Unless cooked off, burned directly, substantially diluted, or replaced/substituted by an alternative substance that produces sedation/analgesia/relieves undesirable effects (i.e., withdrawal) or produces tell-tale opioid effects (like itch, cough relief), risk of fentanyl overdose and development of fentanyl use disorder will persist
- New Approaches?

dilute	find or provide less harmful active/inactive cut	distribute sufficient quantity of syringes, cookers, cottons, pipes, stems to avoid reuse	low barrier MOUD to provide safer options	work with distributors to provide cleaning materials/training/tools
incentivize uptake of safer supply as mitigating factor if criminal proceedings	distribute prep mat/surface	distribute FTS and encourage community drug checking *with share-back/feedback mechanism*	access to harm reduction education for suppliers	drug checking messages on safer supply components (safer cut alternatives, etc)

New OPEN ACCESS Publication!

Practice Full Report

OPEN

SDC

Implementation and Uptake of the Massachusetts Drug Supply Data Stream: A Statewide Public Health-Public Safety Partnership Drug Checking Program

Traci C. Green, PhD, MSc; Rebecca Olson, MPH; Cole Jarczyk, BA; Earth Erowid, BA; Fire Erowid, BA; Sylvia Thyssen, BA; Rachel Wightman, MD; Brandon del Pozo, PhD, MPA, MA; Laura Michelson, MSW; Amanda Consigli, MPH; Brittni Reilly, MSW; Sarah Ruiz, MSW, MPH

ABSTRACT

Context: The illicit drug supply is rapidly evolving. Equally important to gathering drug supply data for monitoring is timely sharing of information with people who use drugs, the providers who care for them, law enforcement partners, and public health stakeholders so that efforts to avoid harmful substances, take preventive actions, and better target interventions can occur.

Program: The Massachusetts Drug Supply Data Stream (MADDS) is the country's first statewide community drug checking program. Founded on public health-public safety partnerships, MADDS collects remnant drug packaging and paraphernalia with residue from people who use drugs and noncriminal samples from partnering police departments. MADDS tests samples using simultaneous immunoassay fentanyl test strips, Fourier-transform infrared spectrometry (FTIR), and off-site laboratory testing by gas chromatography-mass spectrometry (GC/MS). Results are accessible to community programs and municipalities, while trend analyses inform public health for cross-site alerts and informational bulletins.

Implementation: MADDS was launched statewide in 2020 and rapidly expanded to a multisite program. Program staff approached communities and met with municipal police and community partners to secure written agreements to host drug checking. Community partners designed sample collection consistent with their pandemic era workflows. Consultations with stakeholders gathered feedback on design and deliverables.

Evaluation: The program tests sample donations on-site from community agencies and police departments, incorporates review by a medical toxicologist for health and safety concerns, crafts stakeholder-specific communications, and disseminates English, Spanish, and Portuguese language materials. For 2020, a total of 427 samples were tested, of which 47.1% were positive for fentanyl. By early 2021, MADDS detected shifts in cocaine purity, alerted communities of a new toxic fentanyl analogue and a synthetic cannabinoid contaminant, and confirmed the increase of xylazine (a veterinary sedative) in Massachusetts.

Discussion: Community drug checking programs can be collaboratively designed with public health and public safety to generate critical health and safety information for people who use drugs and the communities where they live.

KEY WORDS: consumer safety, drug checking, fentanyl, harm reduction, overdose

https://journals.lww.com/jphmp/Fulltext/2022/11001/Implementation_and_Uptake_of_the_Massachusetts.15.aspx

Funding and budgeting

- Possible sources of funding: CDC, SAMHSA, ORS/HIDTA, Opioid settlement funds/litigation funds, private foundations/fundraising
- Ball-park program start up is $50K (machine)+ $2K (supplies)+ staff; $5K annual costs per site (training/retraining, maintenance, libraries, supplies, mailing). Tox/confirmatory is *ongoing* and ~$150/sample. Budget for analysis/epi/med tox review/communications/travel etc.

Free!

TA from MADDS team through free "CDC TAC Hub"

For more info, visit us at: https://heller.brandeis.edu/opioid-policy/community-resources/madds

For questions, contact tracigreen@brandeis.edu or becca.olson@brandeis.edu.

Check the *Community Resources* tab of the Opioid Policy Research Collaborative website for videos, reports, and other helpful info:

heller.brandeis.edu/opioid-policy