Implementation of the Massachusetts Drug Supply Data Stream (MADDS)

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

Public policy

Community

Provider/workforce

Market

Individual

Inform on composition

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
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.
Harm Reduction
Partner site
Syringe Service Program
Community Health Center
Overdose Education and Naloxone Distro program

Mobile van
Peer ambassadors
Outreach

Dropbox spot

Mail-based submissions

New!

Drug Checking Models
MADDS Massachusetts Drug Supply Data Stream
MDPH funded program: CDC/SAMHSA/Commonwealth of Massachusetts

Samples | No samples

Police department or District Attorney Collaborator
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
  - Optional opportunity to provide “for destruction” samples for testing
Securing Permissions: Sufficient Until We Change the Law

Memo-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; We also understand that the New England High Intensity Drug Trafficking Area (“NEIHDTA”) is funding and supporting the “911 Drug Checking Project (911DC)”, 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 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 cotton 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.

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

August 1, 2022

CF 0449-22

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 (“NEIHDTA”) is funding and supporting the “911 Drug Checking Project (911DC)”, which is an expansion of the Massachusetts Drug Supply Datastream and related efforts referred to more broadly as the Streetcheck Drug Supply Datastream.

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Please let me know if you have any questions.

Joshua A. Garcia
Mayor
Holyoke Police Department
136 Appleton Street
Holyoke, Massachusetts 01040-5706

Dave Pratt
Chief of Police
Community partner sample collection “kit”

Locking sample bag

Labeled sample baggies

Flyers

MOU
Process

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

- 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!

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
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
- 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

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**Massachusetts Drug Supply Stream (MADS)**

**Community Drug Supply Alert: Xylazine Present in Opioids July 2022**

- **Xylazine is on the rise in fentanyl & heroin**
  - Since initial reporting by MADS in March 2022, the veterinary sedative xylazine continues to be detected in a substantial number of samples as fentanyl and heroin throughout Massachusetts. In June 2022, 9% of 984 opioid samples tested statewide contained xylazine. As of June 15, xylazine was detected in 18% of 284 opioid samples tested in 2022 (per graph).

- **Xylazine is a health hazard**
  - **Xylazine is a long-acting, sedating medication, but it is not an opioid. Use experience noted: “made me sleep well,” “put me out for a few hours,” “very strong,” “made me pass out and I awoke with vomit on me,” amin in 10,000, they felt like they were going to pass out, feeling more sedated than before.”**
  - **Xylazine can cause respiratory or cardiovascular depression, including blood pressure, slowed heart rate, and reduced breathing. Because xylazine is often used 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.

- **Harm reduction and risk of overdose**
  - **The drug supply is unpredictable. It is safer to use where other people are present or you check on you frequently. People using alone or using large doses put themselves at risk of overdose and death.**
  - **In case of overdose, administer naloxone, give oxygen, breathe, and monitor until breathing returns, even if the person seems unresponsive. You can get naloxone at a local emergency department and certain pharmacies without a prescription. If you are given naloxone, get to the recovery position, make sure they are comfortable and monitor that they breathe.**
  - **Use a different syringe and never share a needle or syringe between the opioid and xylazine injection, encourage them to test immediately or refer to them to the nearest medical facility.**
  - **Tall to provide and community members about the harms of xylazine to the drug supply. When transporting post-injection or community outreach, offer sterile syringes and wound care kits to help prevent infection.**

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**Public Safety Oriented Alerts (Health/occupational safety concern)**

**Update (Informative) English and Spanish**

**Print and roll-call video (2 min)**

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**Massachusetts Drug Supply Stream (MADS)**

**Street Narcotics Alert: Xylazine**

- **Active alert created: Xylazine is on the rise in fentanyl & heroin**
  - Since initial reporting by MADS in March 2022, the veterinary sedative xylazine has been detected in opioid samples in Massachusetts statewide as an active agent 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.**

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**How to identify xylazine**

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

**How to respond**

- **Examine medical attention. Monitor oxygen levels and breathing if a person appears unresponsive. Give naloxone (see box at right). Start CPR and ventilation 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 test immediately or refer to them to the nearest medical facility.**

- **Talk to providers and community members about the harms of xylazine to the drug supply. When transporting post-injection or community outreach, offer sterile syringes and wound care kits to help prevent infection.**

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**Xylazine and naloxone: Xylazine can contribute to overestimation of fentanyl. Naloxone WILL NOT reverse the effects of xylazine. Naloxone will reverse the effects of any opioid overdose. The person may remain unresponsive even after naloxone is administered.**

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MADS is a state-funded collaboration between Broadside Public Health, the Massachusetts Department of Public Health, school nurses, police agencies, and law enforcement. For more information, visit [madsbroadside.com](http://madsbroadside.com) or call 211 Massachusetts. **For the latest updates on xylazine, please see the website.**
Active cut alert: Xylazine is on the rise in fentanyl & heroin

- Since initial reporting by MADDs in 2020, 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.

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 of 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/always administer naloxone in a suspected overdose. Naloxone will reverse the effects of any opioid present. The person may remain unresponsive if xylazine is present. Give rescue breaths to support their breathing.

MADDs is a user-funded collaboration between members/youth leaders, the Massachusetts Department of Public Health, various towns/policing departments, and local harm reduction agencies. Contact us at maddsmassnhk@gmail.com, scan the QR code, or visit here for more information.
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

Breakdown of Fentanyl Analogue

- 4-Fluorofentanyl: 1
- Acetylfentanyl: 1
- Benzyl Fentanyl: 2
- 4-Chlorofentanyl: 7
- Chlorofentanyl: 98
Substance Presence in Drug Samples - Berkshire County vs. State of Massachusetts

- **Fentanyl**: Statewide 92% vs. Berkshire County, MA 59%
- **Cocaine**: Statewide 52% vs. Berkshire County, MA 23%
- **Heroin**: Statewide 60% vs. Berkshire County, MA 7%
- **Tramadol**: Statewide 44% vs. Berkshire County, MA 11%
- **Methamphetamine**: Statewide 8% vs. Berkshire County, MA 0%

*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.*
Presence of Fentanyl in Drug Samples (where n=Total Samples)

Fentanyl Detected? • Yes • No

- Cocaine (n=25): 12.0% Yes, 88.0% No
- Counterfeit Pill (n=51): 15.4% Yes, 84.6% No
- Crack (n=42): 100.0% Yes, 0.0% No
- Heroin/Dope (n=124): 1.6% Yes, 98.4% No
- Methamphetamine (n=22): 100.0% Yes, 0.0% No

*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
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
<table>
<thead>
<tr>
<th>Photo</th>
<th>Sample Name</th>
<th>Substance</th>
<th>Ratio / Amounts</th>
<th>Date Published</th>
<th>Date Tested</th>
<th>Location</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Fentanyl" /></td>
<td>Code: AC2020B321</td>
<td>Xylazine</td>
<td>20</td>
<td>Jan 27, 2021</td>
<td>Jan 26, 2021</td>
<td>Lawrence, MA</td>
<td>DrugsData (EcasityData)</td>
</tr>
<tr>
<td><img src="image" alt="Fentanyl" /></td>
<td>Code: AC2020B340</td>
<td>Xylazine</td>
<td>1</td>
<td>Jan 27, 2021</td>
<td>Jan 26, 2021</td>
<td>Quincy, MA</td>
<td>DrugsData (EcasityData)</td>
</tr>
<tr>
<td><img src="image" alt="Fentanyl" /></td>
<td>Code: AC2020B316</td>
<td>Xylazine</td>
<td>7</td>
<td>Jan 25, 2021</td>
<td>Jan 22, 2021</td>
<td>Lynn, MA</td>
<td>DrugsData (EcasityData)</td>
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<tr>
<td><img src="image" alt="Doce" /></td>
<td>Code: AC2020B8901A</td>
<td>Xylazine, Fentanyl, 4-ANPP, Acetaminophen</td>
<td>10</td>
<td>Jan 21, 2021</td>
<td>Jan 16, 2021</td>
<td>Boston, MA</td>
<td>DrugsData (EcasityData)</td>
</tr>
<tr>
<td><img src="image" alt="4812" /></td>
<td>Code: AC2020B4006</td>
<td>Dichlorhydrate, Fentanyl, 4-ANPP, Unidentified, Xylazine</td>
<td>10</td>
<td>Oct 22, 2020</td>
<td>Oct 20, 2020</td>
<td>Boston, MA</td>
<td>DrugsData (EcasityData)</td>
</tr>
<tr>
<td><img src="image" alt="Tan Powder" /></td>
<td>Code: AC2020B190</td>
<td>Fentanyl, Lidocaine, Tramadol, 4-ANPP, Acetaminophen, Phenethyl 4-ANPP, Procainamide, Xylazine</td>
<td>28</td>
<td>Oct 09, 2020</td>
<td>Oct 04, 2020</td>
<td>Quincy, MA</td>
<td>DrugsData (EcasityData)</td>
</tr>
</tbody>
</table>
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
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)
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 Jarzycy, 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 immunosassay/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 in veterinary sedatives 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
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