

Application of Community Drug Checking to the Epidemiology of Drug Use

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Roadmap

- **Introduction**
- **MADDS and Community Drug Checking in Massachusetts**
- **Epidemiology and drug checking**
- **POINTS Study**
- **Epi-Aid on Xylazine, Massachusetts 2023-2024**



Introduction

Traci Green, epidemiologist: Professor and Director, Opioid Policy Research Collaborative, The Heller School for Social Policy and Management at Brandeis University

- **Public health scholar, harm reduction researcher, community drug checking programming, scientific advisor for CDC, FDA, and the Overdose Response Strategy for HIDTA**
- **No disclosures**

Opioid Policy Research Collaborative

OPRC in the Community

How much *naloxone* does your state need to save lives?



NaloxoneNeededtoSave.org

Interactive tool to calculate naloxone need to save lives in your state



Brandeis Opioid Resource Connector for communities looking for strategies that work



StreetCheck: Resources for Community Drug Checking

[Explore The New StreetCheck Site](#)
[Watch a Demo](#)



Evidence-based toolkit to help community pharmacies improve naloxone access and support opioid safety

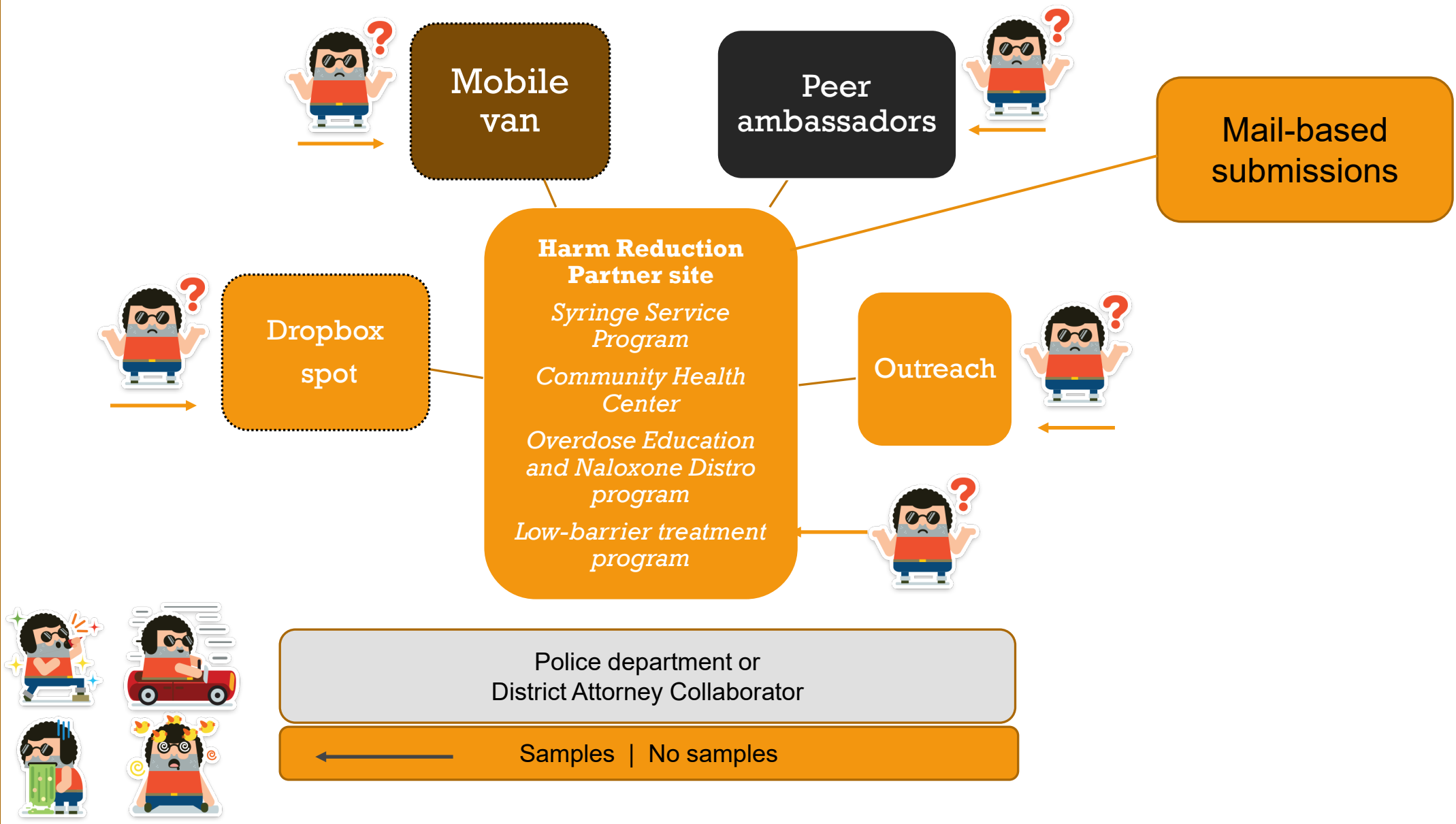
Community Drug Checking

- Test strips
- Community drug checking programs





MADDS: Massachusetts Drug Supply Data Stream





**Fourier Transform
Infrared Spectrometer
(FTIR)**



**Fentanyl,
Benzodiazepine,
Xylazine Test Strips**



**GCMS/LC-QToF by
off-site lab**
Drugsdata.org
Rhode Island Hospital
University of North Carolina
Connecticut State Dept of Health



**Medical Toxicology
Consultation**



StreetCheck Web App

www.streetcheck.org

Web-based platform for drug checking program operations

Transparency, standardization of drug checking results

Publicly accessible trends and sample data

Network 1

*New England
Community Drug
Checking Network*

- Launched May 2023
 - 12 community drug checking programs
 - First protocol validated the BTNX xylazine test strips on community based samples of opioid and non-opioid drugs
 - Over 500 samples collected and tested in 3 month period
-
- Ongoing practice network of community drug checking programs
 - Site/technicians compensated for involvement, participants providing samples also compensated
 - Evaluates tools, techniques, products for drug checking in a standardized, transparent fashion at no cost
 - Results shared publicly
 - Submissions of hypotheses, suggestions for protocols open to any individuals, drug checking programs, organizations, companies
 - Learning collaborative, practice network supports, annual regional meeting for programs

Community Drug Checking Refines Epidemiologic Measurement of Exposure

	Qualitative	Semi-quantitative	Quantitative
Devices	Test strips, FTIR, lab testing	FTIR, lab testing	Lab testing, requires weighable sample (5-10mg)
What is reported?	absence/presence	Ratios, major/minor/trace	% component breakdown
What can be measured?	Relative prevalence	Relative exposure	Measured exposure
Question	How common is X substance in the drug supply?	Relative to ____, is there more X substance in the drug supply?	What percent of a drug sample does X substance compose? How much of X substance is in a given drug sample?

WHAT IS POINTS?

Prevent Overdoses Involving sTimulants

Aim 1

What are the risk and protective factors for stimulant-involved overdoses?

Data Sources:

Surveys and Interviews with people who use and distribute drugs in Greater Providence, Rhode Island and Lawrence, Lynn, and Brockton Massachusetts

Aim 2

What are the components of the stimulant drug supply and how are they associated with reported use patterns?

Data Sources:

Drug samples from people who use drugs in Rhode Island and Massachusetts

Aim 3

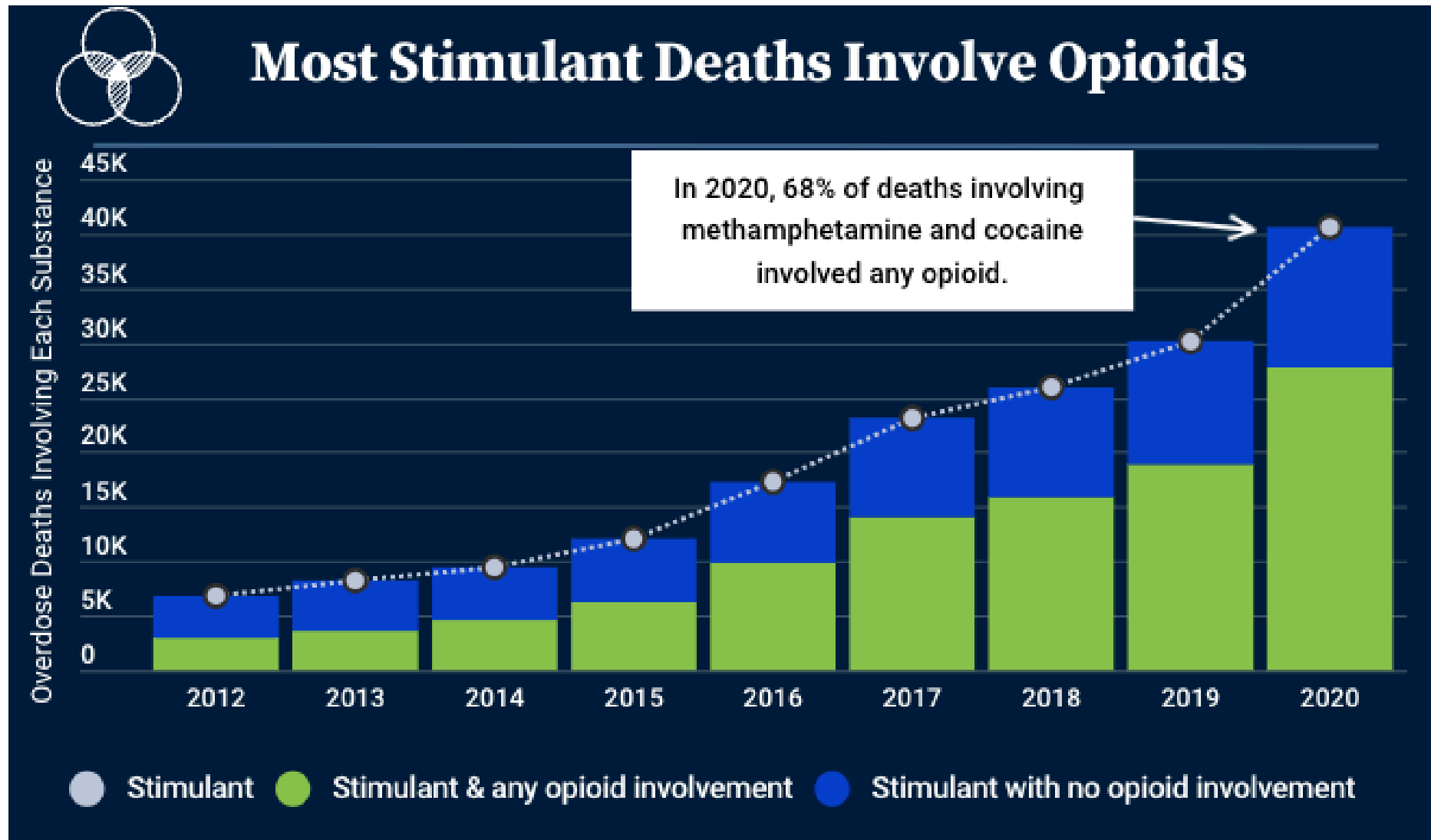
What are strategies we can use to prevent stimulant-involved overdoses?

Data Sources:

- Surveys and interviews with people who use and distribute drugs*
- Surveys and workshops with local stakeholders from across the overdose prevention and response continuum in Rhode Island and Massachusetts*

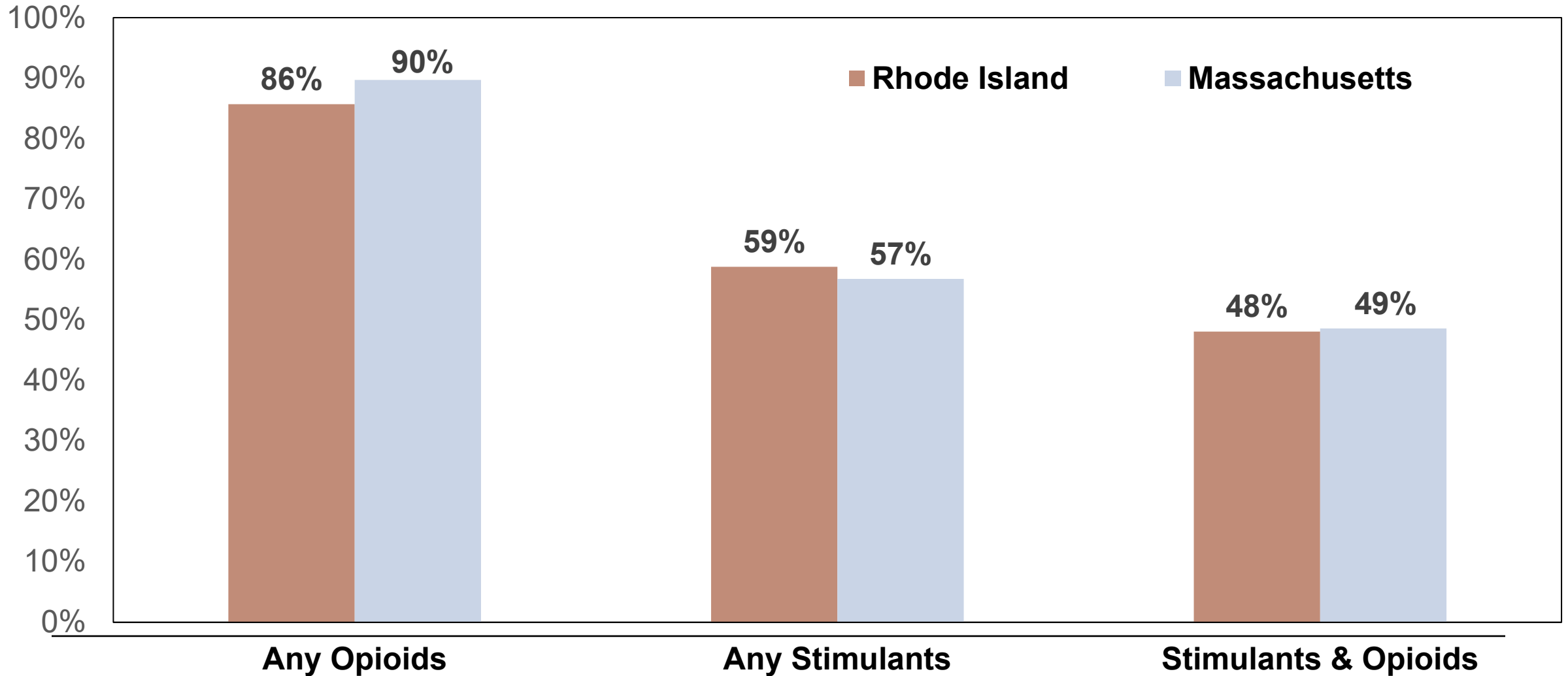


BACKGROUND

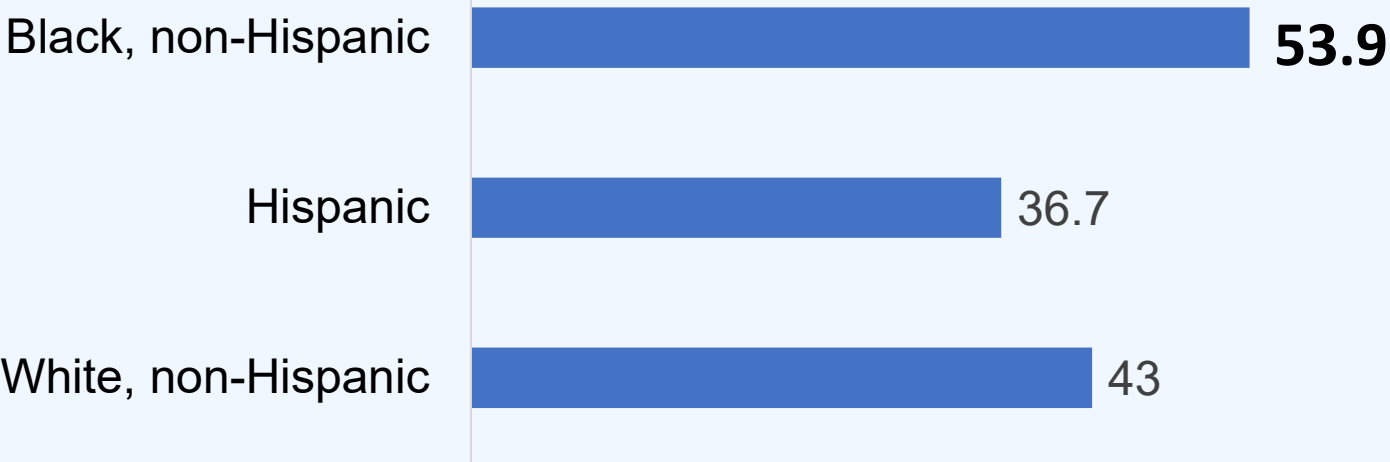
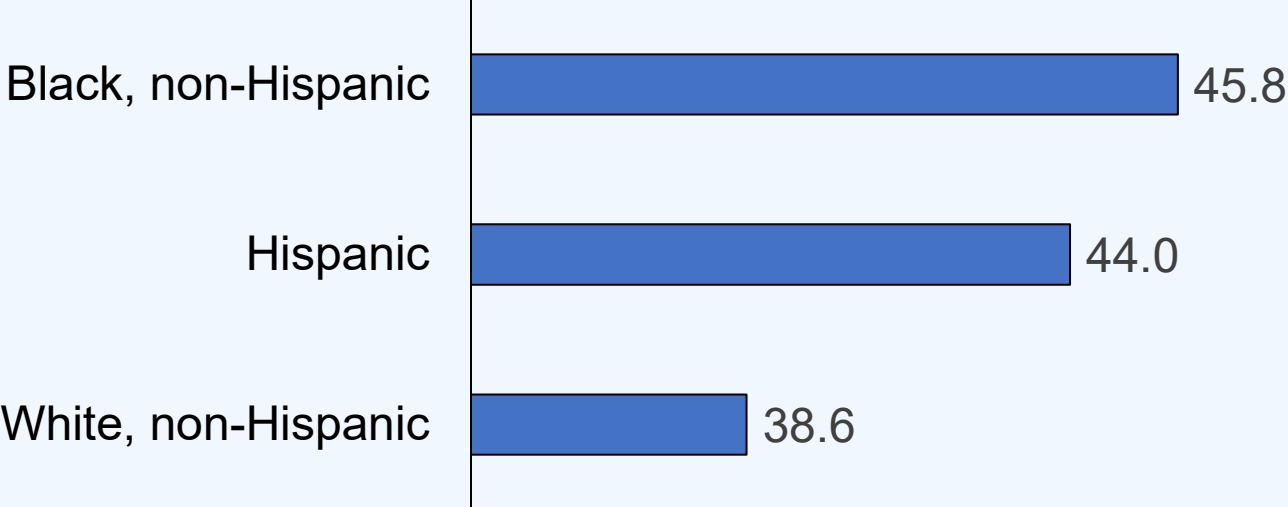


Source: <https://nihcm.org/publications/stimulant-drug-overdose-deaths-2022-update>

Percentage of Overdose Deaths Involving Opioids and Stimulants in Rhode Island and Massachusetts, 2021



Rate of Overdose Deaths by Race per 100,000 Persons, 2021





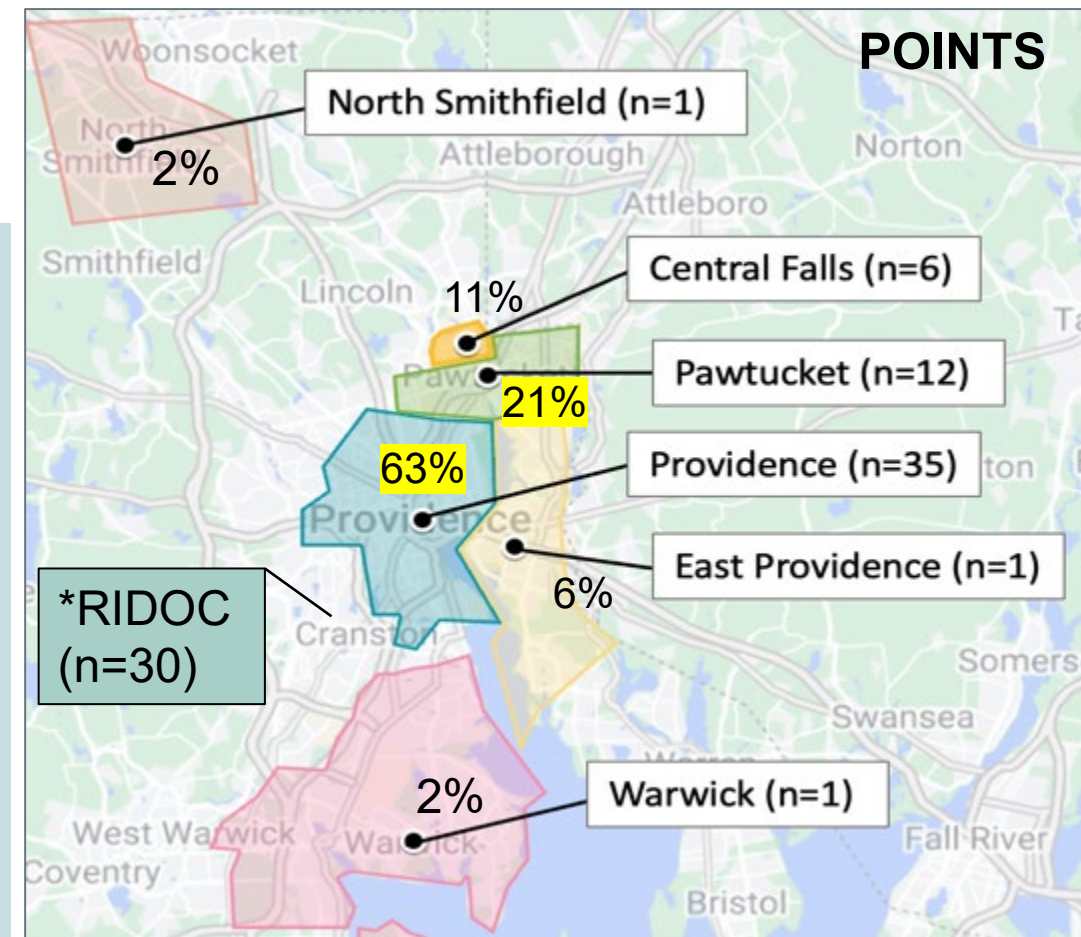
Massachusetts-Based Formative Research

***People who use Cocaine but DO NOT Use Opioids →
at High Risk for Unintentional Opioid Overdose + Least
Prepared to Respond to an Overdose BECAUSE they...***

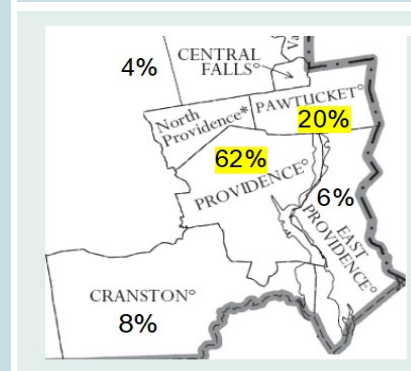
- ✓ Don't expect fentanyl to be in the cocaine supply
- ✓ Don't know the signs and symptoms of an opioid overdose
 - ✓ Don't always have naloxone on them
 - ✓ May not call police
 - ✓ May be using alone
- ✓ Initial evidence of contamination of cocaine supply with fentanyl in drug samples

DATA COLLECTION WITH PWUS & PWDD

- **Overdose Data:** Analysis of SUDORS data to identify individual and geographic risk factors for fatal, stimulant-involved overdoses and inform sampling frame for data collection in Greater Providence, RI and Lawrence, Lynn, and Brockton, Massachusetts
- **Community samples:** Modified respondent-driven sampling to identify the following people who use stimulants (PWUS):
 - Lived in or spent time in named communities
 - Used an illicit stimulant (powder or crack cocaine, methamphetamine) past 30 days
 - Age 18 or older
- **Rhode Island Department of Corrections (RIDOC):** Purposive sampling to identify people who distribute drugs (PWDD):
 - Incarcerated in the past 3 years
 - Sentenced on drug distribution or manufacturing charges
 - Age 18 or older
- **Surveys:** All completed an Interviewer-administered, web-based survey
- **Interviews:** Some or All completed a one-on-one in-depth interview
 - Some: Subset of PVD sample offered and completed interview
 - All: All RIDOC participants were offered and completed an interview
- **Drug Checking:** Participants provided samples for testing (N=249)



SUDORS, 2021



POINTS, 2022

PVD PWUS	
Total Surveys	56
Total Interviews	23
Total drug samples	72
RIDOC PWDD	
Total Surveys	30
Total Interviews	30

DEMOGRAPHICS OF SUDORS & THE PVD SAMPLE

RI SUDORS, 2021: (N=90)

Stimulant & Opioid-Involved Decedents

- **Mean age:** 43 years (SD=13)
- **Sex:** 77% male, 23% female
- **Race/Ethnicity:**
 - 56% White, non-Hispanic
 - 19% Black, non-Hispanic
 - 26% Hispanic
- **Education:**
 - 26% Some high school or less
 - 44% High school degree or GED
 - 23% Some college or more
- **Drugs Involved in Overdose**
 - 96% Fentanyl
 - 99% Cocaine
 - 2% Methamphetamine
 - 4% Methadone (3%), Buprenorphine (1%)



PVD POINTS Sample, 2022 (N=56)

- **Mean age:** 46 years (SD=12)
- **Sex:** 64% male, 36% female
- **Race/Ethnicity:**
 - 39% White, non-Hispanic
 - 23% Black, non-Hispanic
 - 25% Hispanic
 - 9% Multi-racial, non-Hispanic
 - 2% American Indian, non-Hispanic
- **Education:**
 - 38% Some high school or less
 - 39% High school degree or GED
 - 23% Some college or more
- **Drug Use – Past 30 Days (all used stimulants)**
 - 57% were co-using opioids
 - 20% had a history of regular opioid use but were not currently using opioids
 - 23% only used stimulants



*0% had a same sex partner

DRUG CHECKING: *IS FENTANYL IN THE STIMULANT SUPPLY?*

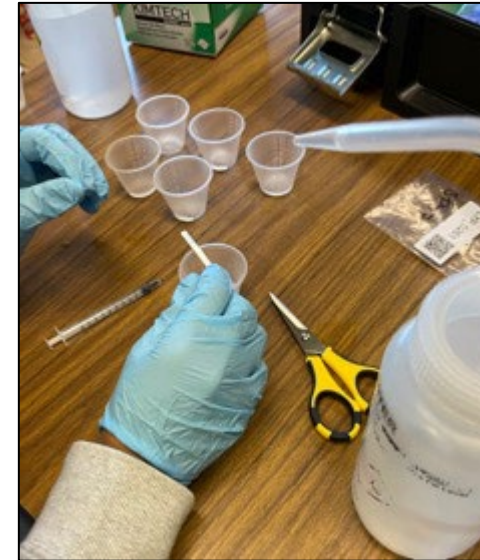
56% (15/27) of powdered cocaine samples tested positive for fentanyl

- 16 = not expected to contain fentanyl
 - **38%** (6/16) tested positive for fentanyl
- 11 = expected to contain cocaine + an opioid
 - **82%** (9/11) tested positive for fentanyl



8% (11/147) of crack cocaine samples tested positive for fentanyl

- 145 = not expected to contain fentanyl
 - **8%** (11/145) tested positive for fentanyl
- 2 = expected to contain crack cocaine + an opioid
 - **0%** (0/2) tested positive for fentanyl



40% (2/5) of methamphetamine samples unexpectedly tested positive for fentanyl

249 samples were tested ≥ 1 methods (FTIR, FTS, off-site laboratory)

VARIABILITY IN FENTANYL PRESENCE IN COCAINE SAMPLES ACROSS LOCATIONS WITH HIGH STIMULANT-OPIOID OVERDOSE MORTALITY

	Fentanyl detection % (Unexpected)	
Location	Cocaine (Powder) N=27	Crack cocaine N=147
Greater Providence	50%	6.8%
Lawrence, Massachusetts	75%	13.2%
Lynn, Massachusetts	60%	2.6%
Brockton, Massachusetts	0%	7.4%
Overall study sample	38%	8%

No fentanyl was detected in stimulant pills (submissions were primarily of “Adderall”)

Xylazine Epi-Aid questions & objectives

- How does **route of administration** of fentanyl with xylazine impact drug-related harms (overdose, wounds, withdrawal, overdosedation)?
- How does **dose and pattern of use** of xylazine in fentanyl effect use experience and drug related harms (overdose, wounds, withdrawal, overdosedation)?
- What are ways that **PWUD** can reduce the harm of xylazine exposure? What are ways that **providers** can help reduce the harm of xylazine exposure?

Objectives

- Learn about clinical presentations, health impacts, identify in existing surveillance sources
- Hear from people with lived experience exposed to xylazine
- Identify modifiable factors that increase risk (drug supply, behavioral) and protective approaches

Xylazine in Non-opioids

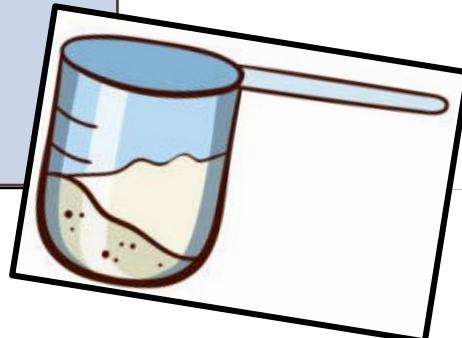
Massachusetts Epi-Aid 2024

- Uncommon but notable
- Observed in places with high levels of persistent (known) stimulant—fentanyl contamination
- People using cocaine/crack suspect something is odd/felt weird
- Drug checking samples indicated they were using stimulant drugs that have xylazine in them (identified in field on FTIR, XTS+)
- Described as “bugs on me”/itchiness, noticeable sedation, horrible/uncomfortable feeling following crack smoking, injection
- Infrequent exposure to xylazine, so use experience stands out
- No wounds reported
- High levels of concern, motivated to avoid use

TWO PATHWAYS FOR FENTANYL TO ENTER STIMULANT SUPPLY

INTENTIONAL CUTTING

- More community participants reported theories regarding intentional contamination on the part of dealers/suppliers
- Some RIDOC participants reported theories, very few reported first-hand knowledge



ACCIDENTAL

INTENTIONAL

UNINTENTIONAL CONTAMINATION

- Most common pathway reported by both community and RIDOC samples
- Both samples described hypothetical and personal experiences



HOW and WHY IS FENTANYL ENTERING THE STIMULANT SUPPLY?

UNINTENTIONAL CONTAMINATION

WHY: UNINTENTIONAL MECHANISMS

- Carelessness (“sloppiness”) while preparing drugs and dealing
- People preparing and delivering drugs while high
- Products that appear visually similar can cause human error

“Some of these people are using it the same time as dealing. So, they’re mixing up their products, or they’re not labeling with what substance is in the bag. Or they’re using the same instruments to weigh and measure. And you know, so it’s cross-contaminating everything.”

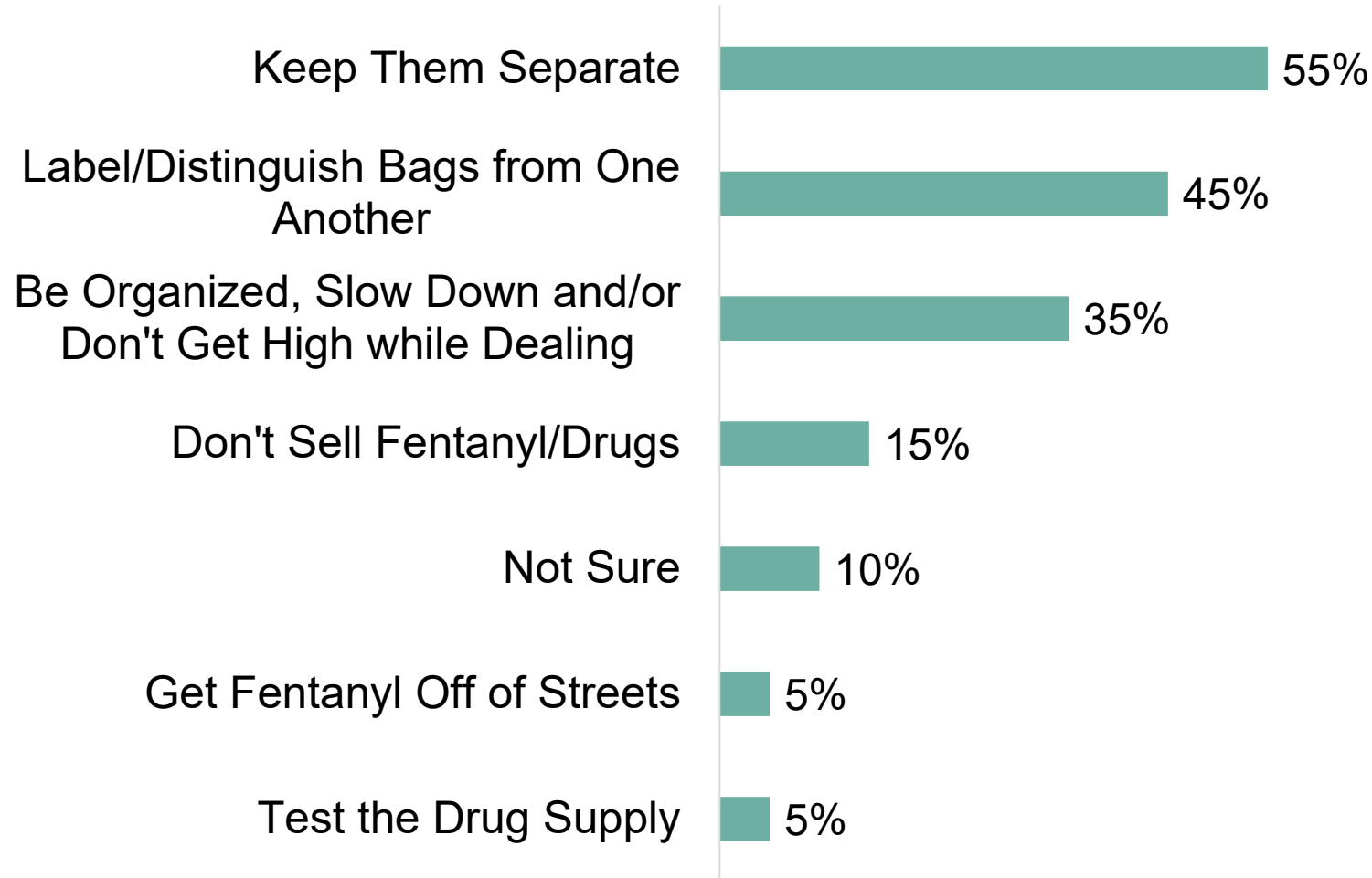
- Sold Stim & Op, Mid-level, Age 31

“Well, so, if you have someone that’s selling both and you’re trying to bag up this and that at the same time – you’re too close in vicinity [...] it could get on your coke if you’re using the same scale. And be mixed all in one or could be, in fact, that you just threw a bag somewhere and now it’s mixed in with this one. And it’s accidentally distributed as the wrong thing.”

- Sold Stimulants, Mid-level, Age 34

“My cousin..she died. She’s never dosed Fentanyl in her life. Her husband’s in jail now doing 24 years ‘cause after she died, they started an investigation against him and they caught him selling drugs. Anyways, cocaine and fentanyl look so much alike that she just grabbed a bag thinking it was coke so she could sniff it and it ended up being fentanyl and she died.” - Used Stim only, Age 50

RIDOC: WHAT CAN BE DONE



Be more responsible with what you're doing. Treat it like a 9-5 job, don't get high when you're out on the block. You have to be careful, You're dealing with people's lives.
– Sold Stimulants, Mid-level, Age 44

It's an easily fixable thing: use different color bags, keep everything in separate places in your house, keep fentanyl away from everything else.
– Sold Stimulants, Mid-level, Age 28

“I think that testing thing was like the best thing I ever heard. That would be like -- that's like something to push for, for sure.”
– Sold Cannabis, High-level, Age 25

Key points

- The drug supply is dynamic and toxic. People consuming drugs but also those supplying drugs need tools to navigate harms and are motivated to do so.
- Patterns can be determined and acted upon if we have the ability to see into the drug supply.
- The geography of drug use necessitates local monitoring, partnering, and programming.
- There are things we can do to help communities to stay safe and ways we can respond to harmful effects sooner.
- Drug checking provides more immediate information for people, programs, and policy makers and points to a different, new chapter in “supply side” considerations and harm reduction.

THANK YOU!



WWW.STREETCHECK.ORG



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