
# Drug Overdose Surveillance and Epidemiology Unit

## Office of Drug User Health, AIDS Institute

# Overview

- Drug Overdose Surveillance and Epidemiology (DOSE) Unit
- State Unintentional Drug Overdose Reporting System (SUDORS)
- Office of Drug User Health (ODUH) Drug Checking

# Drug Overdose Surveillance and Epidemiology Unit, Office of Drug User Health

**Objective.** To generate high-quality ‘real-time’ surveillance and epidemiology data to contextualize drug overdose events; and assist staff in utilizing and interpreting available data to inform program planning and implementation.

**Principles**. Applies principles of respect and compassion by prioritizing and promoting responsible, confidential, and deidentified use of drug overdose morbidity and mortality information.

# Key Functions

1. Collaborate, coordinate, and leverage information and data across areas of New York State Department of Health (NYSDOH) and within Office of Drug User Health (ODUH) related to drug overdose morbidity, mortality, suicide and self-harm, and programmatic activities related to drug user health.

2. Improve quality and timeliness of data related to overdose mortality through the State Unintentional Drug Overdose Reporting System (SUDORS).

3. Develop a ‘real-time’ surveillance system for fatal and non-fatal drug overdoses utilizing available and novel data sources.

4. Provide data services to Office of Drug User Health (ODUH) programs including data interpretation, collection and visualization, performance monitoring, and program evaluation.

# State Unintentional Drug Overdose Reporting System

# Program History

**State Drug Reporting Systems Provides Comprehensive Information on Drug Overdose Deaths**

In 2016, the **State Unintentional Drug Overdose Reporting System (SUDORS)** began as part of the Enhanced State Opioid Overdose Surveillance (ESOOS) program, to provide comprehensive data on **opioid overdose deaths.**

## Overdose Data to Action

In 2019, reporting system expanded to collect data on **all drug overdose deaths in 47 states and the District of Columbia** as part of the Overdose Data to Action (OD2A) program. Each of these 48 funded jurisdictions collects and abstracts data for unintentional and undetermined intent drug overdose deaths from **death certificates and medical examiner/coroner reports (including scene findings, autopsy reports, and full postmortem toxicology findings)**

## Overdose Data to Action for States

Beginning September 2023, grant aims to **enhance the ability of State Health Departments to track and prevent nonfatal and fatal overdoses** while also identifying emerging drug threats. It emphasizes surveillance strategies and **evidence-based and evidence-informed interventions** that have an immediate impact on reducing overdose morbidity and mortality, with a focus on opioids, stimulants, and polysubstance use.

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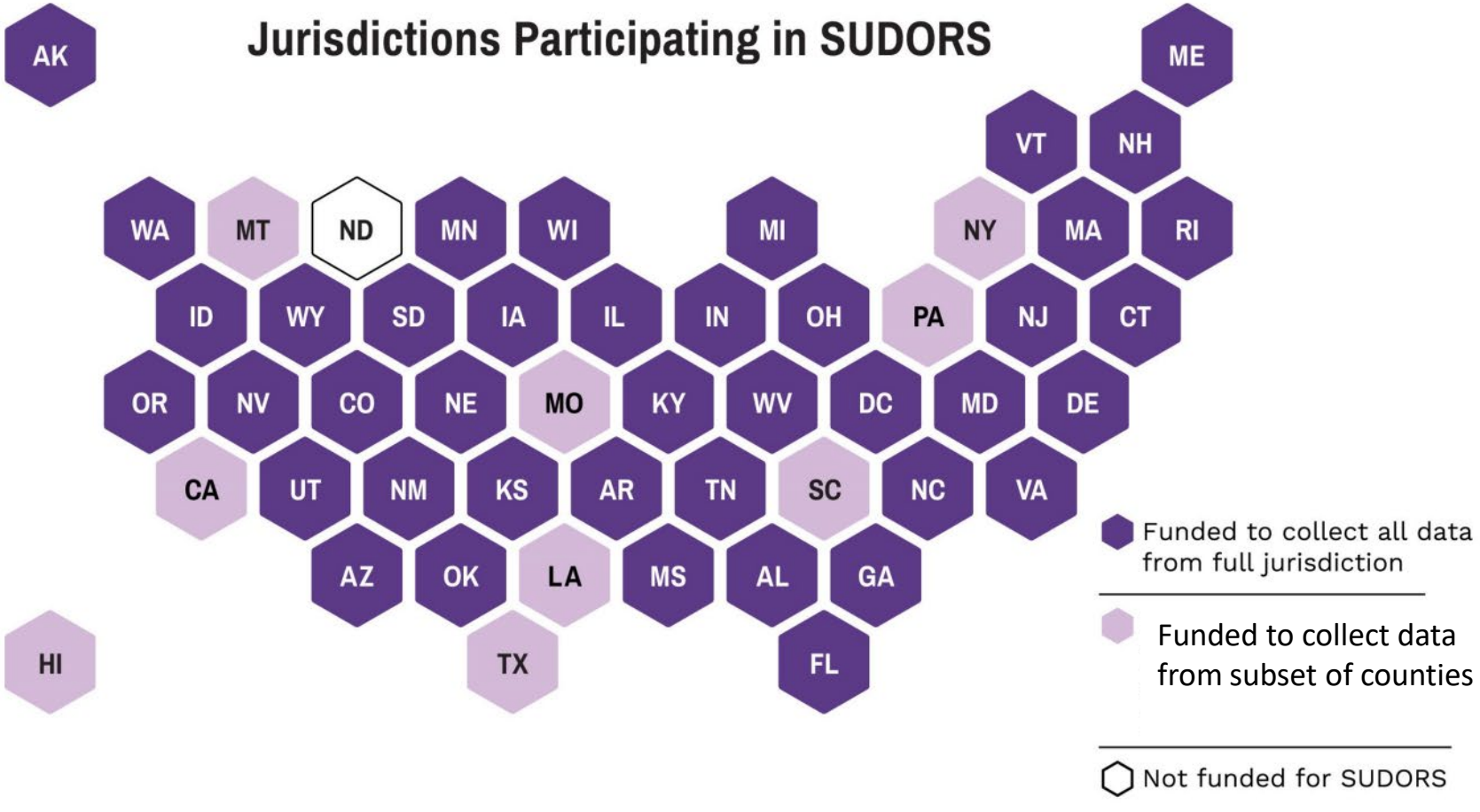
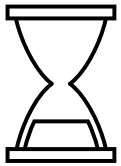
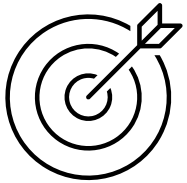
# State Unintentional Drug Overdose Reporting Systems in the United States

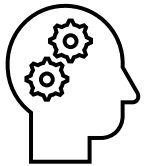
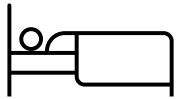


# Goals

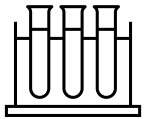
The overall goals are to:

Improve overdose data **timeliness**  **and accuracy** 

**Better understand the circumstances** that surround overdose deaths.

Identify specific substances causing or contributing to overdose deaths as well as emerging and polysubstance overdose trends to help **inform overdose prevention and response efforts**.

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# Sources of Data

### Death Certificates

- Demographics
- County and state where overdose occurred
- Cause and manner of death
- Other significant conditions contributing to death
- How overdose occurred
- Place of death (e.g., hospital, home)
- Date of death

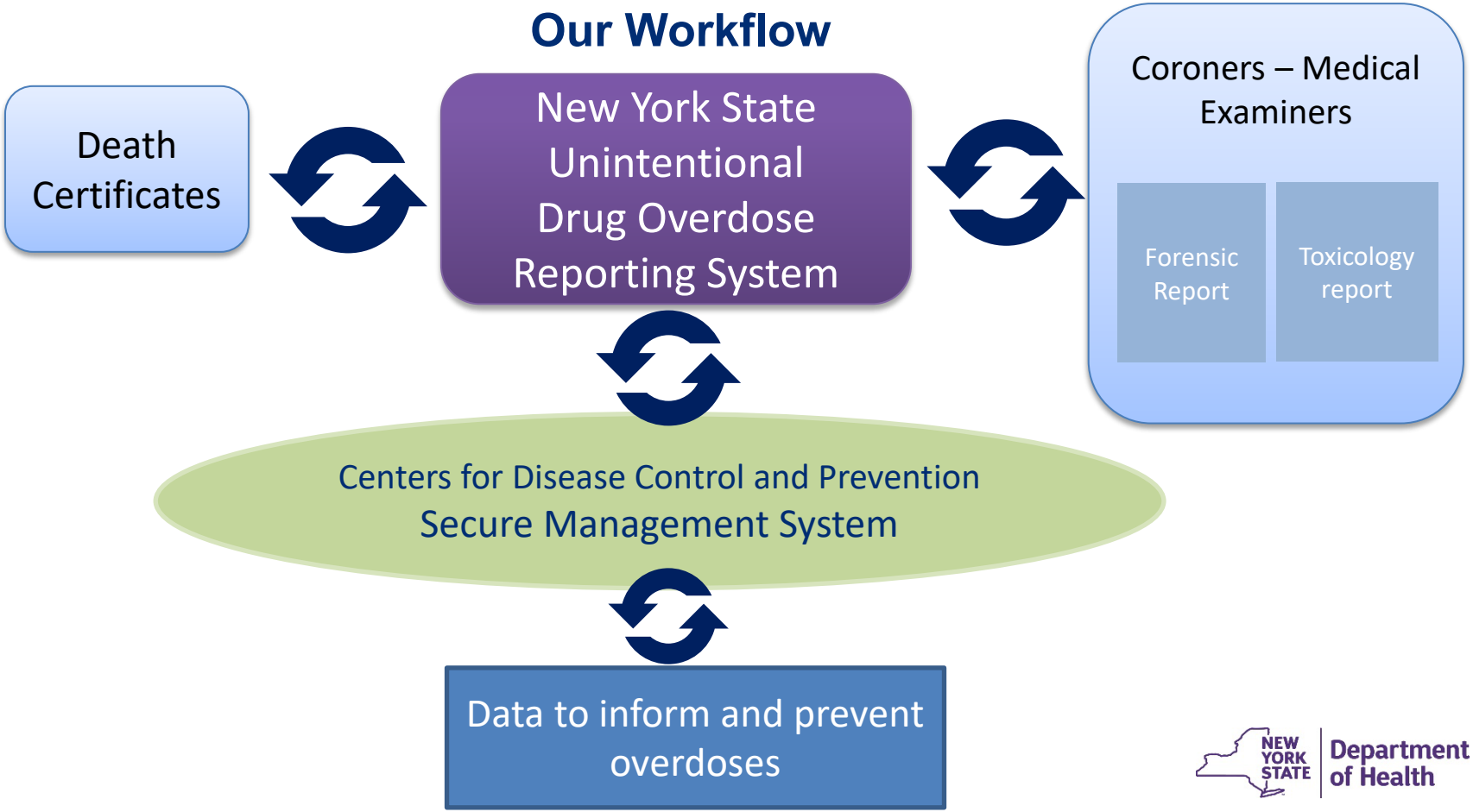
### Medical Examiner/Coroner Reports

- History of prior overdoses
- Treatment for substance use disorder
- Prescription drug misuse or illicit drug use history
- Routes of drug administration (e.g., injection, smoking)
- Presence of bystanders
- Naloxone administration

### Postmortem Toxicology

- All drugs detected
- Drugs contributing to death
- Date specimens were collected

# Our Workflow

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# Step 1: Obtain and process Death Certificate data

- Data use agreements with vital records and vital statistics
- Monthly file is sent via secure file transfer on health commerce system to us
- Processed and imported onto the secure management system (deidentified)
- Incident number generated for case management

# Step 2: Report requestion

Using case management system, we:

- Maintain Coroner/Medical examiner contact info
- Send letters to contact on file to request reports
- Track reports received
- Track reimbursement program eligibility
- Abstract data out of reports onto our reporting system platform

# Actionable Data Elements

## CIRCUMSTANCES

- Substance use disorder status?
- Mental health status?
- Treatment history?
- Life stressors?
- Co-morbidities?

## OVERDOSE-SPECIFICS

- Last known alive?
- Previous overdose/recent emergency visits/medical conditions?
- Treatment status?
- Evidence of use or prescriptions?
- Route of administration?
- Bystanders present?
- Medical response?
- Naloxone administered?

# Drug Overdose Report Submission Reimbursement Program

# Purpose

- Program provides financial support to counties and coroner/medical examiner offices

- Financial support aims to offset increased costs of toxicology testing and overdose death investigations

- Program staff contacts coroner/medical examiner offices for reports, **timely** response and submission of reports will authorize the funds reimbursement based on the number of report “bundles” received (reports for each overdose death)

# “Timely Manner” - Defined

| Year of Death | Month of Death | Program Outreach | Federal Deadline |
|---|---|---|---|
| 2023 | Jan - Jun | Fall 2023 | Jan 26, 2023 |
| 2023 | Jul - Dec | Spring 2024 | July 26, 2024 |
| 2024 | Jan - Jun | Fall 2024 | Dec 13, 2024 |
| 2024 | Jul - Dec | Spring 2025 | Jun 13, 2025 |

Low volume counties: 50% goal
High volume counties: 75% goal

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# Federal Support

- Centers for Disease Control and Prevention acknowledge the high costs of toxicology testing – especially enhanced and tests for novel psychoactive substances
- Good portion of reimbursement funding is coming from the overdose data to action for states grants
- Grant is 5 years

# Reimbursement Process

Our staff requests reports based of decedents' county of death

Your office submits requested documents

Our team reviews submitted reports and provides county representative with the authorized amount to be reimbursed

County representative submits a claim for payment or voucher to our state fiscal team via email.

Our Fiscal Team submits electronic payment or check to county within 30-60 days

**Payments are processed quarterly**

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# Process

- Our team tracks reports received
- Outreach to county fiscal contact; will provide number of reports received and total reimbursement ($150 per report bundle)
- County fiscal rep sends in claim for payment or voucher to our state fiscal e-mail
- Electronic payment or check sent out in 30-60 days
- Repeats every quarter

# Drug Overdose Report Submission Reimbursement Program – Success Story

## Increasing County Participation in the State Unintentional Drug Overdose Reporting System (SUDORS)

**SUDORS** is an enhanced public health surveillance reporting system that aims to collect comprehensive information on fatal drug overdose cases to inform public health action.

The Reimbursement Program resulted in:

- Total number of participating counties **doubled** from 21 to 45 counties.
- The percent of fatal drug overdose cases with a toxicology and a coroner/ medical examiner report **increased from 64% to 83%**

| Percent of county cases with a submitted report | PRE - Program No. of counties | POST- Program No. of counties |
|---|---|---|
| Less than 25% | 42 | 17 ↓ |
| 25-49% | 3 | 4 ↑ |
| 50-74% | 4 | 8 ↑ |
| Greater than 75% | 13 | 33 ↑ |

SUDORS data as of May 1, 2024. SUDORS data are preliminary.



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# Office of Drug User Health Drug Checking Pilot Programs

# What Exactly Is Drug Checking?

Integrated service that allows individuals to have their drugs analyzed to identify the composition of the substance they're intending to take or have taken.

# Types of Drug Checking in New York State

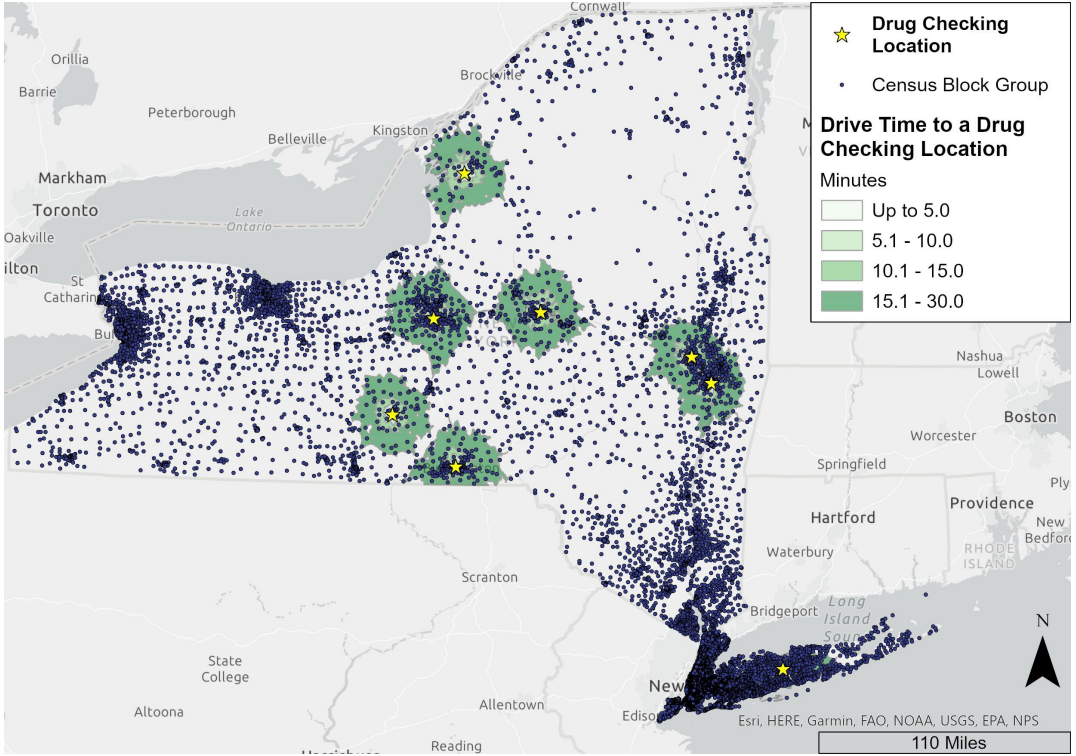
**Community Drug Checking Program**

*(In-House Model)*

**Rapid Drug Analysis and Research Pilot**

*(Mail-Based Model)*

**Piloted in Broome County**

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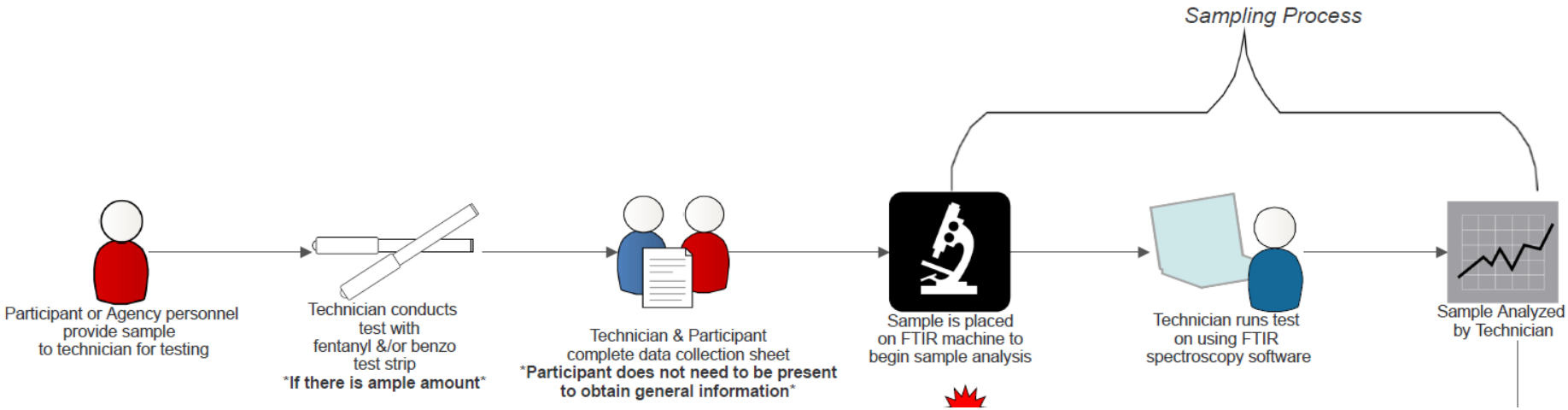
# Program Workflow

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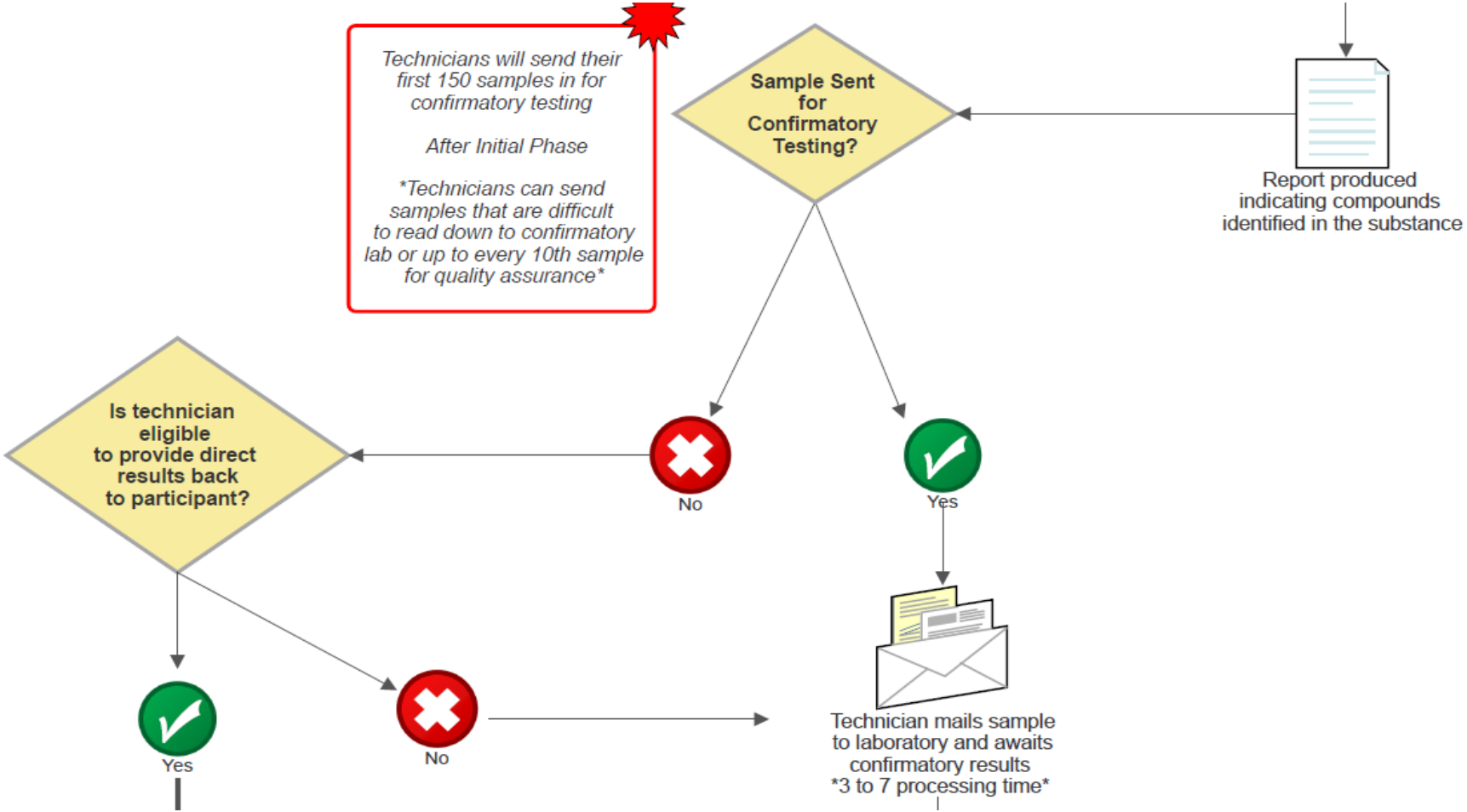

Technicians will send their first 150 samples in for confirmatory testing
After Initial Phase
*Technicians can send samples that are difficult to read down to confirmatory lab or up to every 10th sample for quality assurance*
Sample Sent for Confirmatory Testing?
Report produced indicating compounds identified in the substance
Is technician eligible to provide direct results back to participant?
No
Yes
Yes
No
Technician mails sample to laboratory and awaits confirmatory results
*3 to 7 processing time*

Technician reviews the results with participant and provides harm reduction education/resources
*samples given back to participant if not sent down for confirmatory testing*

Confirmatory lab provides additional analysis on sample

Confirmatory results spreadsheet sent to DOH then to separate agencies

Technician/Consultant cross checks initial FTIR result with confirmatory lab result

# Essential Components

## Confirmatory Testing Lab

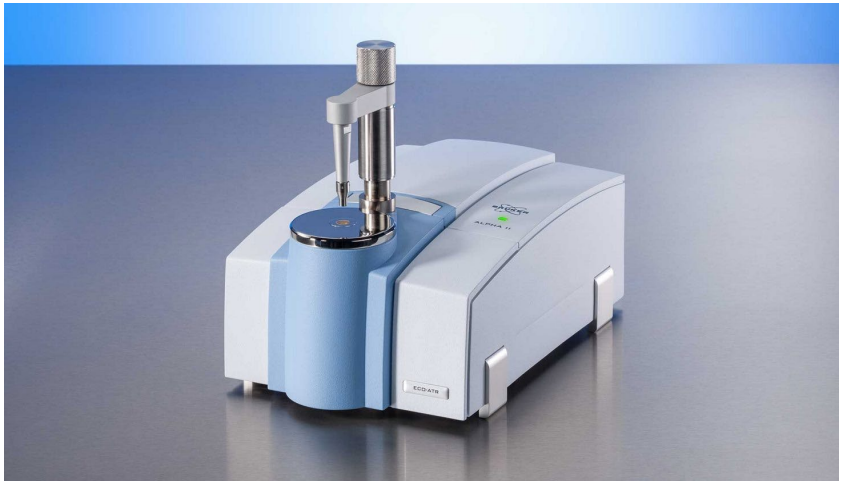
- Initial pilot period, the technicians at each facility will send their first 150 samples in for confirmatory testing and quality assurance.
- Conducting mass spectrometry using gas chromatography followed by detection using a mass spectrometer.

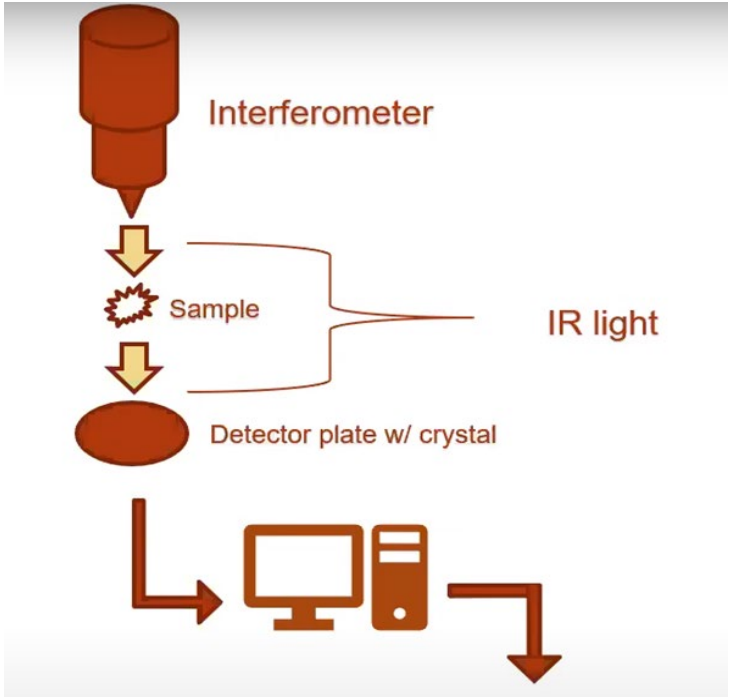
## Consultation Services

- Contracting with an experienced drug checking consultant who, is experienced in overseeing the implementation and operationalizing of drug checking programs.
- The consultant will be providing onboarding training and ongoing technical assistance for the health hub technicians.

| Technology | Detect a wide variety of compounds | Ability to detect fentanyl and other opioids | Ability to detect multiple compounds at once | Specificity | Sensitivity | Quantitative analysis | Can identify unknown compounds | Speed per sample | Cost | Suitable drug checking settings |
|---|---|---|---|---|---|---|---|---|---|---|
| Colorimetric Reagent Testing[6,17,20-23] | Moderate | Low | Low | Low | Low | No | No | <6 min | $ | Stationary, Mobile |
| Fourier-transform Infrared Spectroscopy (FTIR)[24-27] | High | Moderate | High | High | High | Low | No | <2 min | $$ | Stationary, Mobile |
| Thin Layer Chromatography (TLC) with UV detection[6,20,23-25] | Moderate | Weak | Moderate | Moderate | Moderate | Low | No | 30 min, multiple at once | $$ | Stationary |
| Capillary Electrophoresis (CE) with UV detection[23,24,26-28] | High | Moderate | Moderate | Moderate | Moderate | Moderate | No | <2min* | $$ | Stationary |
| High Performance Liquid Chromatography (HPLC) with UV detection[6,17,23,24,29-31] | High | High | High | High | High | High | No | 15 min | $$ | Stationary, Mobile |
| High Performance Liquid Chromatography (HPLC) with MS detection[6,17,24,32-34] | Highest | Very high | Very high | Very high | Highest | Highest | Yes | 7.5 min* | $$$$ | Stationary** |
| Gas Chromatography (GC) with MS detection[6,17,24,33,35,36] | Very high | Very high | Very high | Very high | Very high | Very high | Yes | 14.5 min* | $$$$ | Stationary |
| Ion Mobility Spectrometry[37-42] | Moderate | Moderate | Moderate | Low | High | Moderate | No | <1 min* | $$ | Stationary, Mobile |
| Ion Mobility with MS detection37-41 | High | High | Very high | High | Very high | High | Yes | 20-30min* | $$$$ | Stationary |

# Fourier-transform infrared (FTIR) Spectroscopy





# Drug Checking Pilot Programs

## Data May 2023 – March 2024

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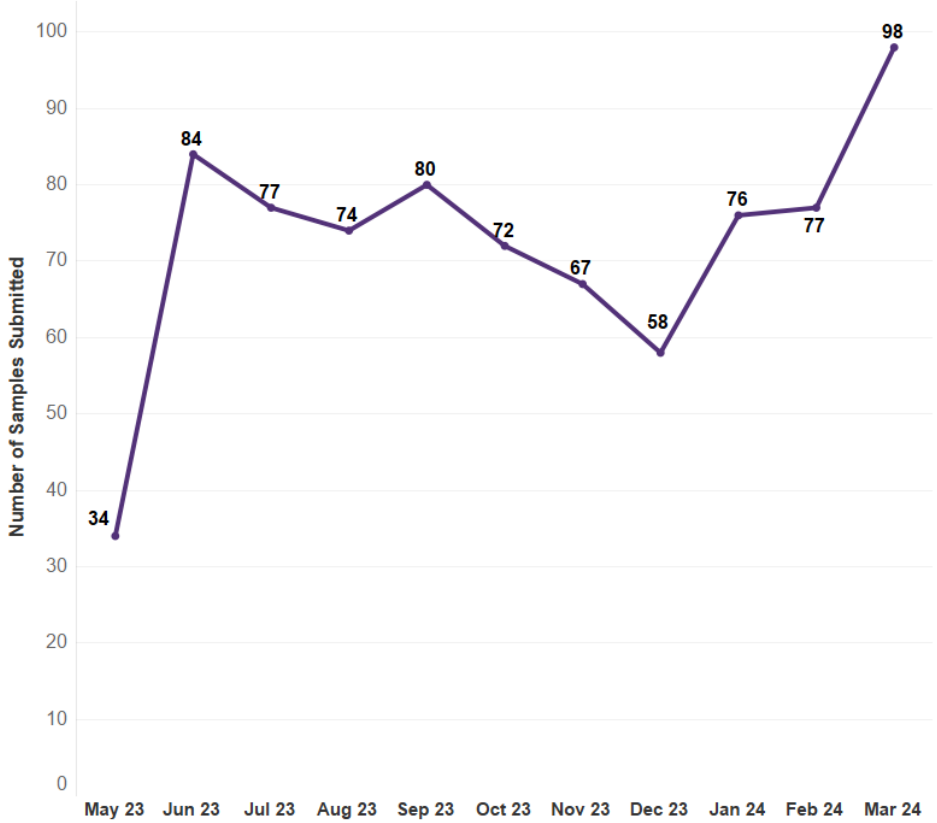
**892 samples**
tested through 4/23/24

**March 2024 saw the highest monthly number of samples** tested so far by the New York State Community Drug Checking Program (98 samples).




Footnotes:
* Data through 3/31/24

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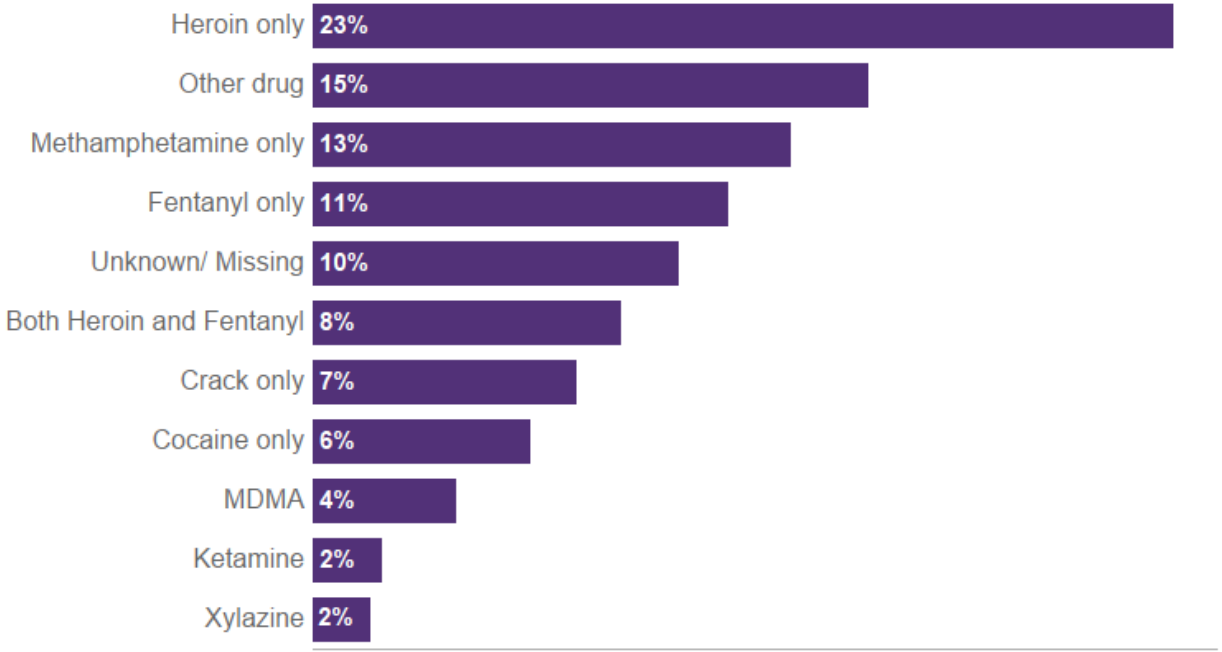
The most common drug that participants expected their sample to be was **heroin**.




**Footnotes**:
* The "Other drug" category includes cathinones or "Olly" (what participants describe as "fake Molly/ MDMA"), THC/ cannabis, hormones including testosterone and estradiol, prescription medications including Percocet, Adderall, and Xanax, recreational drugs with psychedlic or stimulant effects including DMT and MDA, and benzodiazepines
* Participants can select more than one expected drug
* Cumulative data through 4/23/24

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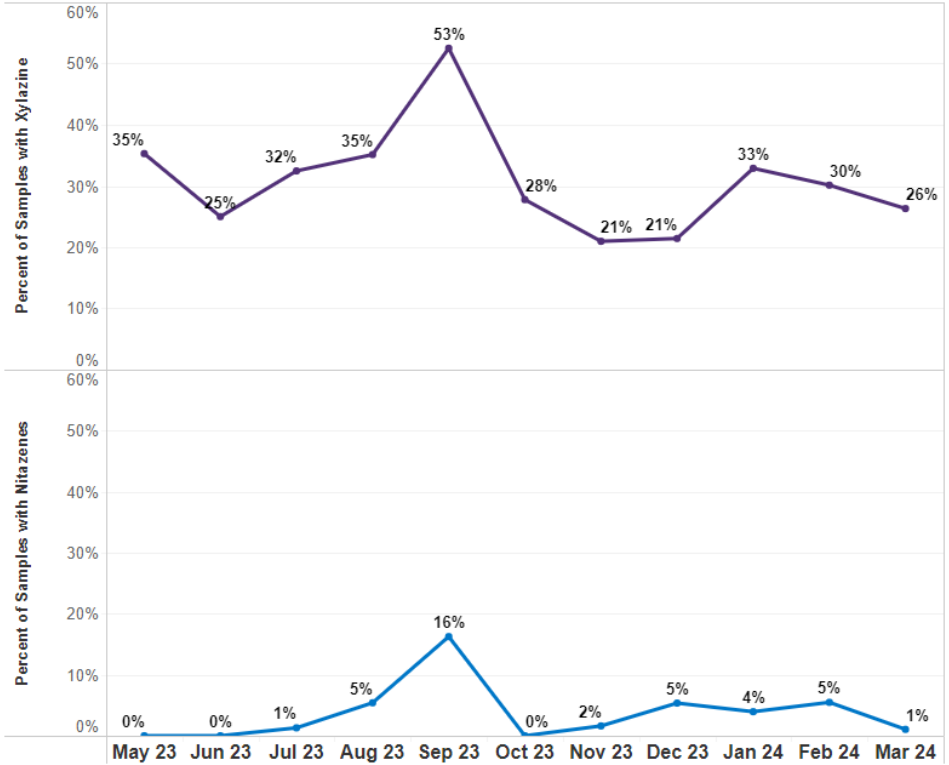
**Xylazine was found in 26% of samples** tested in March 2024, a slight downward trend since January.

In March 2024, **1% of tested samples contained a nitazene**.




Footnotes:
* Data through 3/31/24

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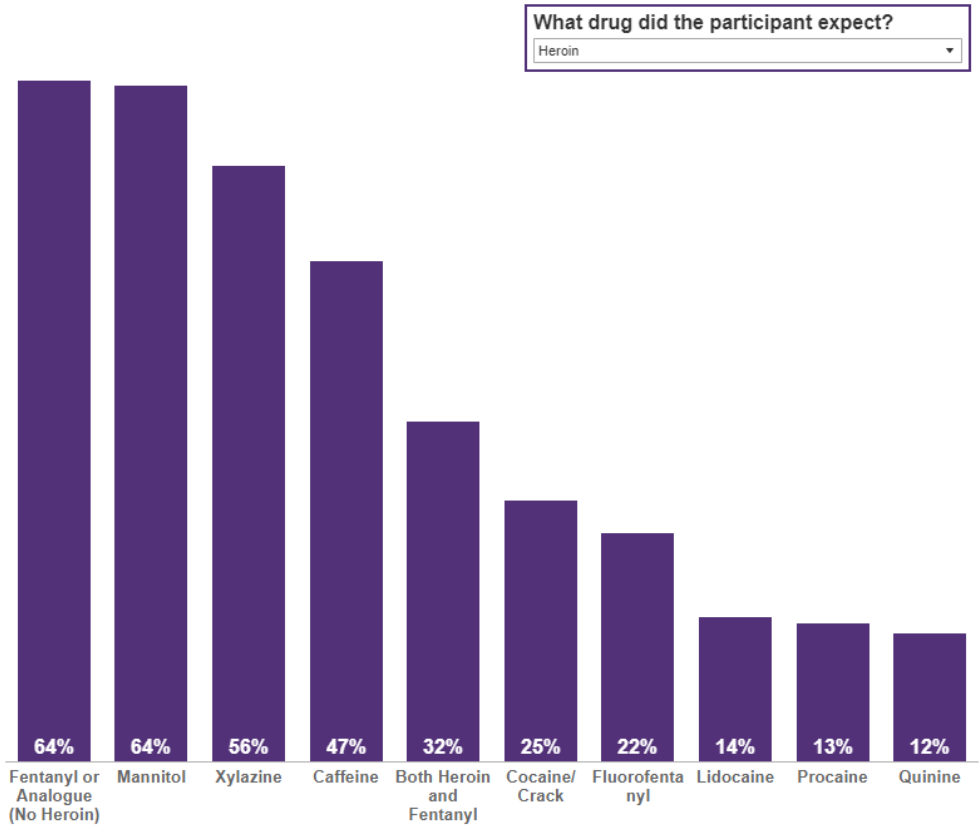
## What was found in samples based on participant's expectations?

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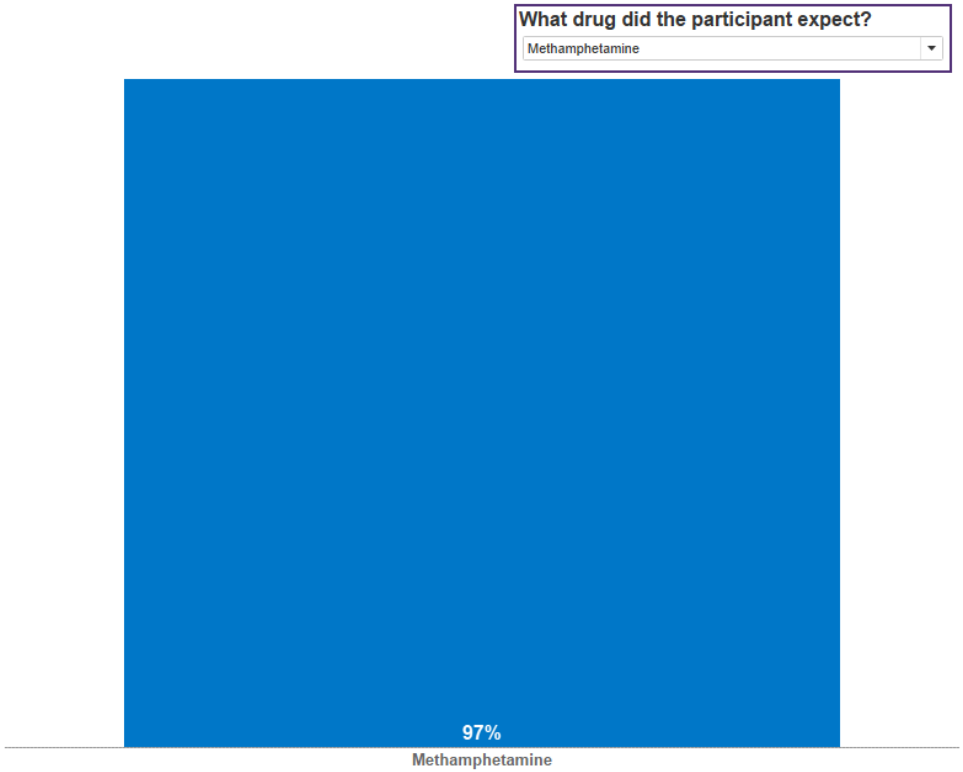


Footnotes:
* Cumulative data through 4/23/24
* Substances that were found at least 10% of the time are included

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# Additional Considerations

- **Technician training and on-going quality control through a confirmatory lab is critical for program success**
- Partnerships were key in developing and successfully implementing this program
- Future considerations:
  - Consider the role of health departments in ensuring quality in the provision of drug checking services
  - Staffing a larger, more robust, team working on data analysis/ surveillance
  - Creating and implementing a strategic plan around drug checking data use
  - Ensuring on-going quality assurance of technicians providing drug checking results through a certification process
  - Creating guidance around alert dissemination
  - Incorporating qualitative feedback from consumers and suppliers

# Thank you!

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