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CT's Fourth Wave Drug Crisis: Emerging Trends

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Federal Acknowledgement

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What is the Overdose Response Strategy (ORS)?

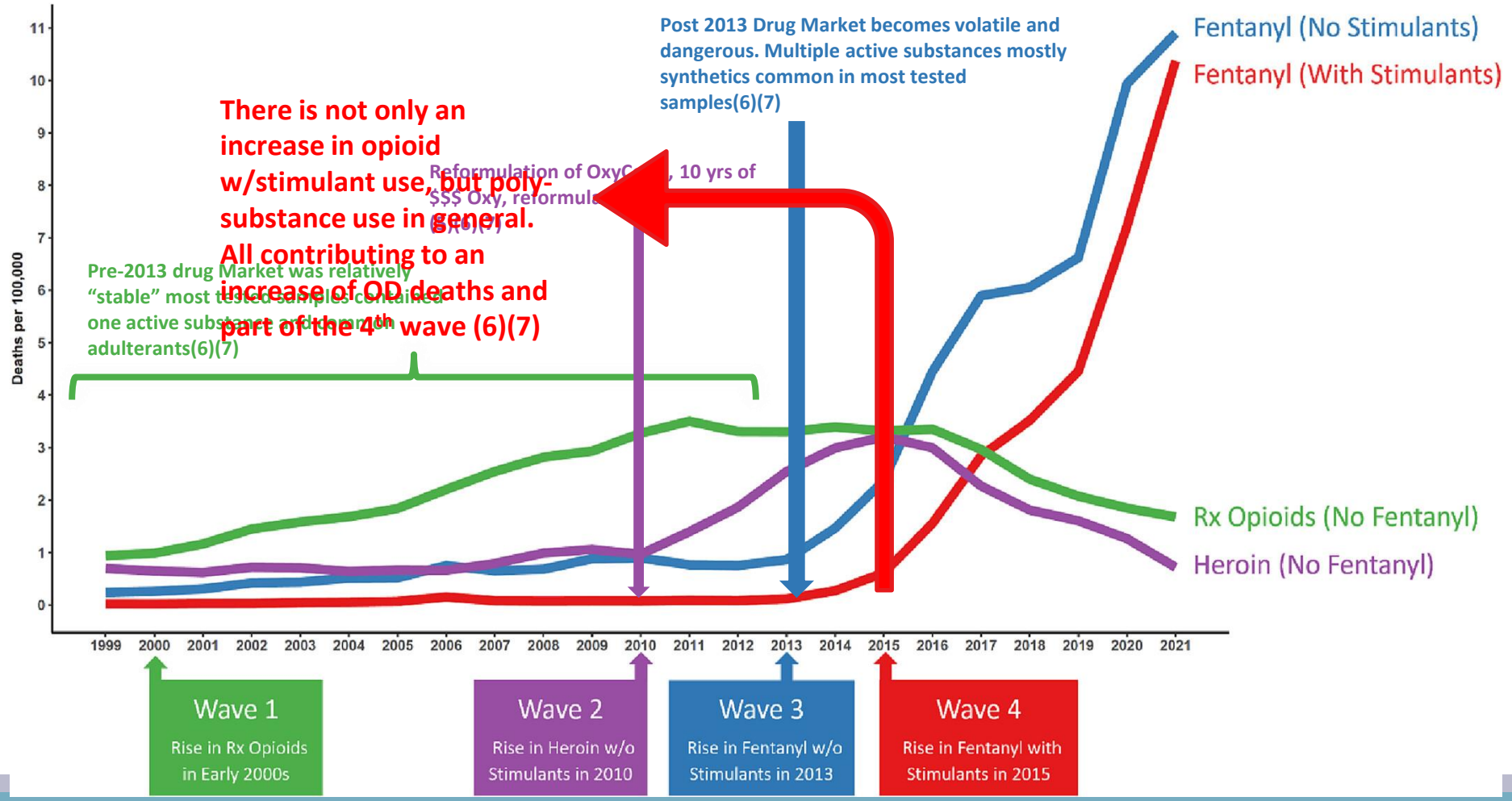
The Overdose Response Strategy is an unprecedented and unique collaboration between public health and public safety, created to help local communities reduce drug overdoses and save lives by sharing timely data, pertinent intelligence and innovative strategies.

Visit us at ORSprogram.org!

CT Drug Trends

Addiction, First published: 13 September 2023, DOI: (10.1111/add.16318)

Waves of the Overdose Epidemic



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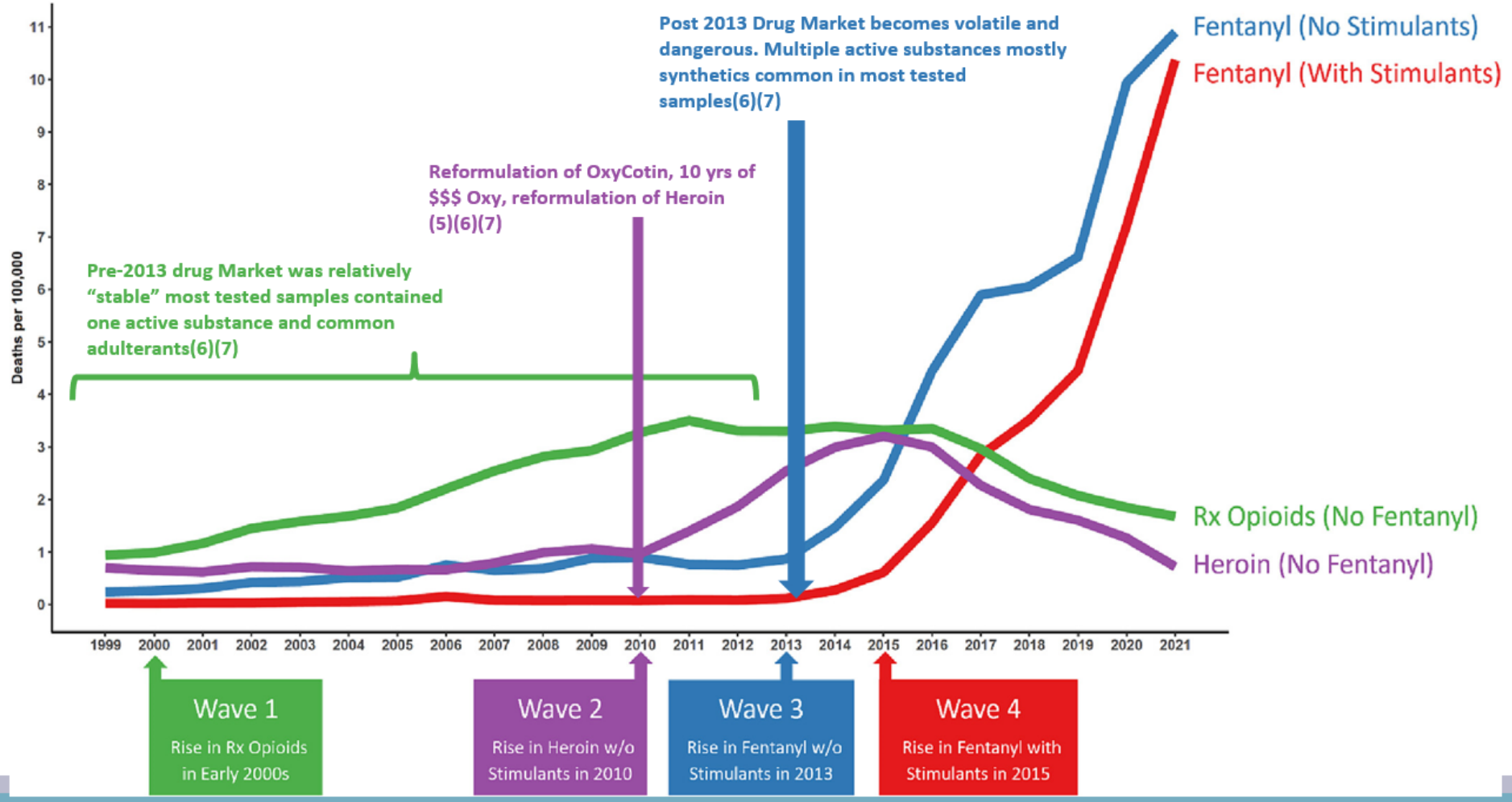

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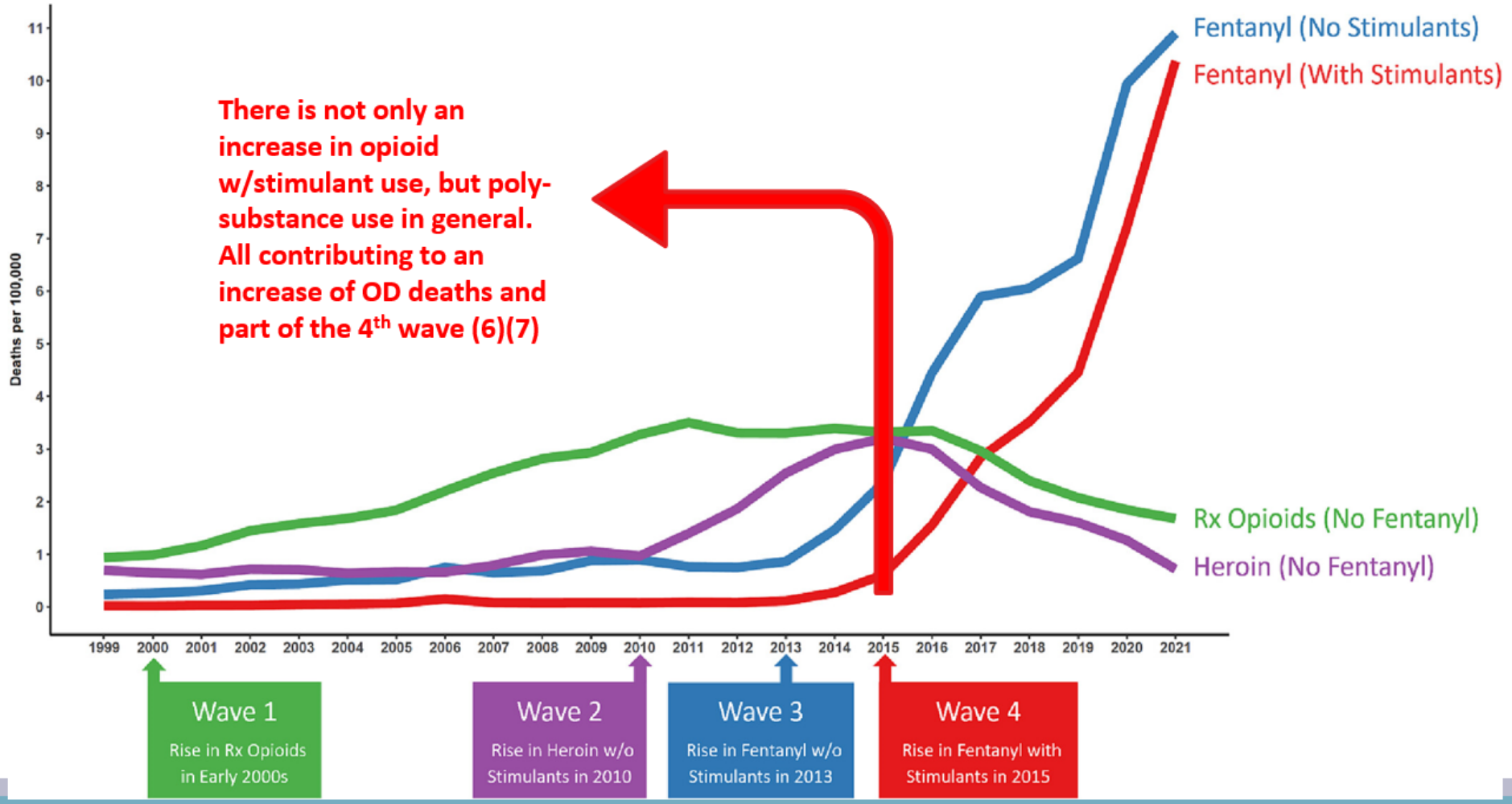
Waves of the Overdose Epidemic



Connecticut's Top Drug Issues

- Fentanyl
- Cocaine/Crack
- Fake Pills
- Methamphetamine
- Synthetic Cannabinoids

Source: CT ORS/NEHIDTA, 2024

The Top Fake Pills in CT

- M30 Oxycodone - Fentanyl
- 2mg Xanax bars – Designer Benzodiazepine or Fentanyl
- Adderall – Methamphetamine
- Ecstasy/MDMA - Methamphetamine

Source: NEHIDTA/CT-ORS

Xylazine

- Alpha 2 agonist
- Not a controlled substance
- A veterinary sedative, analgesic, and muscle relaxant
- Causes central nervous system depression and respiratory depression
- Increases effects of fentanyl and decreases frequency to re-dose
- Not an opioid, does not bind to the opioid receptors
- Does not respond to naloxone

Xylazine is a contributing factor in 21.5% of fatal overdoses (2023), a decrease from 24.2% in 2022. It is found in 25.9% of law enforcement seizures.

As of 2nd week of October 2024 36.5% , highest level since we started tracking it in 2019

Source: (Thangada et al., 2023) CT DPH, 2023, CT-OCME, 2023, CT-DESPP DSS, 2023

Medetomidine – Xylazine Alternative

Medetomidine is an alpha-2 agonist, belonging to the same family of drugs as xylazine and clonidine. Medetomidine is synthetically manufactured.

The effects of medetomidine can include sedation, analgesia, muscle relaxation, anxiolysis, bradycardia, hypotension, hyperglycemia, and hallucinations. Duration of action is noted to be longer for medetomidine relative to xylazine.

The New Haven Community Drug Checking project, operated by New Haven Syringe Service Program, has had a positive result for medetomidine, which was confirmed by the CT-DPH public health lab. Medetomidine has not yet been identified in fatal overdose toxicology or in law enforcement seizures.

CT-ORS and CT-DPH are monitoring the prevalence of medetomidine.

Source: (CFSRE, 2024)

Carfentanil

- Carfentanil is approximately 100 times more potent than fentanyl and 10,000 times more potent than morphine, originally developed as a tranquilizer for large animals. Carfentanil has been identified in CT in fatal overdoses.
  - 2017: 7 fatal overdoses
  - 2020: 2 fatal overdoses
  - 2021: 1 fatal overdoses
  - 2023: 7 fatal overdoses
  - 2024: 9 fatal overdoses

Source: (CT ORS, 2024)CT DPH, 2024, CT-OCME, 2024

OVERDOSE RESPONSE STRATEGY

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Public Health and Safety Alert: Carfentanil in Connecticut

Connecticut Overdose Response Strategy Team (CT-ORS team) *August 2, 2024*

Carfentanil is an extremely potent synthetic opioid, primarily used as a tranquilizer for large animals. It is estimated to be approximately 100 times more powerful than fentanyl and about 10,000 times stronger than morphine. Due to its high potency, even in trace amounts it can be lethal to humans, making it a significant concern in the illicit drug market and posing severe risks to public health and safety.[1,2]

Since July of 2023, the CT-ORS team has been monitoring the presence of carfentanil in the illicit drug environment across Connecticut, New York and the New England region. The ORS teams and our public health and safety partners are reporting an increase in the prevalence of carfentanil.

Connecticut:

July – December 2023:

- 3 fatal overdoses in New Haven county
- 2 fatal overdoses in Fairfield county
- 1 fatal overdose in Windham county
- 1 fatal overdose in Litchfield county
- 2 law enforcement seizures

January – July 2024*:

- 1 fatal overdose in Middlesex county
- 1 fatal overdose in Fairfield county

New York City (NYC):

Between March 2024 and June 2024, the New York City (NYC) Department of Health's drug-checking program identified carfentanil in eight samples. NYC Department of Health's Bureau of Vital Statistics and NYC Office of the Chief Medical Examiner report seven fatal overdoses from carfentanil between January - June 2024, as well as three fatal overdoses in 2023.

New York State:

New York State Department of Health reported that central New York has detected carfentanil in two samples through their community drug checking program. Both samples were collected in May 2024.

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OVERDOSE RESPONSE STRATEGY

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Massachusetts:

Massachusetts State Police, Forensic Services Division reported that they have detected carfentanil in six law enforcement seizures since September 2023. Law enforcement in Essex County is also reporting that there have been two confirmed fatal overdoses in 2024 in which carfentanil was detected.

Rhode Island:

Rhode Island State Fusion Center reported that the Rhode Island Forensic Drug Chemistry Laboratory has detected carfentanil in at least two law enforcement seizures in 2024.

New Hampshire:

New Hampshire Information and Analysis Center (NHIAC) reported that the New Hampshire State Police Forensic Laboratory detected carfentanil in two law enforcement seizures in November 2023 and May 2024. NHIAC also reported that the New Hampshire Office of Chief Medical Examiner detected carfentanil in two fatal overdoses in 2024.

This uptick in carfentanil incidents and fatal overdoses is occurring across the United States. On July 22, 2024, Microsoft News (MSN) reported that Sedgwick County, Kansas identified carfentanil in four fatal overdoses in the past three months. Preliminary data for 2023 from the CDC State Unintentional Drug Overdose Reporting System (SUDORS), which contains fatal overdose data from 50 U.S. states, Washington, DC and Puerto Rico, show 150 documented fatal overdoses involving carfentanil compared to 20 in the prior year.

Figure 1

*As noted, 2nd half 2023 data are incomplete; there might be additional states with carfentanil detected among overdose deaths that are not yet available in our data.

The CT-ORS team is advising public health, law enforcement and first responders about the alarming situation highlighted by ORS teams reporting from surrounding states, CT-specific data and the 2023 CDC SUDORS data. The data reveals carfentanil-related fatal overdoses not only within CT but in neighboring states and key areas that significantly influence CT's illicit drug environment, including NYC, New Jersey and Philadelphia, PA. This widespread presence stresses the urgent need for heightened awareness and coordinated response efforts to address the growing threat of carfentanil in our region. The CT-ORS team continues to work with our federal, state and local public safety and public health partners in monitoring CT's illicit drug environment and will update accordingly.

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(CT ORS, 2024)

BTMPS

- BTMPS, also known as Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate or Tinuvin 770, is a newly identified substance that has emerged as a dangerous adulterant in the illicit opioid supply in Connecticut. BTMPS has unknown pharmacological effects and potential for toxicity, which is concerning to persons who may come in contact with it.

- BTMPS was originally developed as a light stabilizer and was first tested for its application in plastic materials. It has since been noted to be utilized in the production and packaging of certain pharmaceutical products.

- BTMPS was initially reported in Philadelphia, PA, and Portland, OR, however, BTMPS is being identified in various other states, including California and Michigan, highlighting its growing prevalence in the illicit drug market.

- In CT, the Forensic Lab has detected BTMPS in law enforcement seizures and the Community Drug Checking program has also identified BTMPS in samples from individuals who use drugs.

Source: (Walton et al., 2024), CT DESSP and CT-ORS

Poly Drug Use

vs

Polysubstances

Fatal Overdoses due to Complications from Poly-Drug Use

Fentanyl, Xylazine, Fluoxetine, Amitriptyline, Tramadol and Gabapentin

Cocaine, Fentanyl, Methadone, Hydroxyzine, Duloxetine, Gabapentin, Quetiapine, and Despropionyl Fentanyl (4-ANPP)

Fentanyl, Xylazine, Cocaine, Clonazepam and Diphenhydramine

Ethanol, Cocaine, Fentanyl and Morphine

Fentanyl, Cocaine and Xylazine

Fentanyl, Promethazine, Mitragynine and Lamotrigine

Fentanyl, Para-fluorofentanyl, Despropiony Fentanyl (4-ANPP) and Xylazine

Source: CT Office of Medical Examiner (CT-OCME)

Law Enforcement Seizure Lab Results

Fentanyl, Heroin, Tramadol, Chlorfentanyl, Xylazine, caffeine, sugar and procaine	Cocaine, Bromazolam Methadone, phenacetin and nicotine	Cocaine, Fentanyl, para-Fluorofentanyl, caffine, mannitol and levamisole	Cocaine, Ketamine and LSD
Cocaine, Methamphetamine and acetaminophen	Methamphetamine, Eutylone and procaine	Cocaine, Fentanyl, Heroin, acetaminophen, phenacetin, inositol, caffeine, diphenhydramine, procaine and lidocaine	Cocaine, Methamphetamine and Dimethylpentylone

Source: CT DESPP DSS

Community Drug Checking: Confirmatory Testing Samples

HRT_0661	Ketamine	Major
	Methamphetamine	Trace
	MDMA	Trace
	Deschloroketamine	Trace
	Cocaine	Trace
	Benzoylecgonine	Trace

LP_0811	Cocaine	Major
	Xylazine	Major
	Benzoylecgonine	Trace
	Ketamine	Trace
	Fentanyl	Minor
	4-ANPP	Trace
	Ecgonine methyl ester	Trace

YNH_0955	Fentanyl	Minor
	Xylazine	Major
	Medetomidine	**Minor**
	Cocaine	Minor
	Acetyl Fentanyl	Trace
	Diphenhydramine	Trace
	Caffeine	Trace
	4-ANPP	Trace
	Benzoylecgonine	Trace
	Levamisole	Trace
	6-Acetylmorphine	Trace
	Quinine	Trace
	Phenacetin	Trace

Source: Samples from CT Harm Reduction Alliance, Liberation Programs, New Haven Syringe Service, Results from DPH Lab 2024

Community Drug Checking

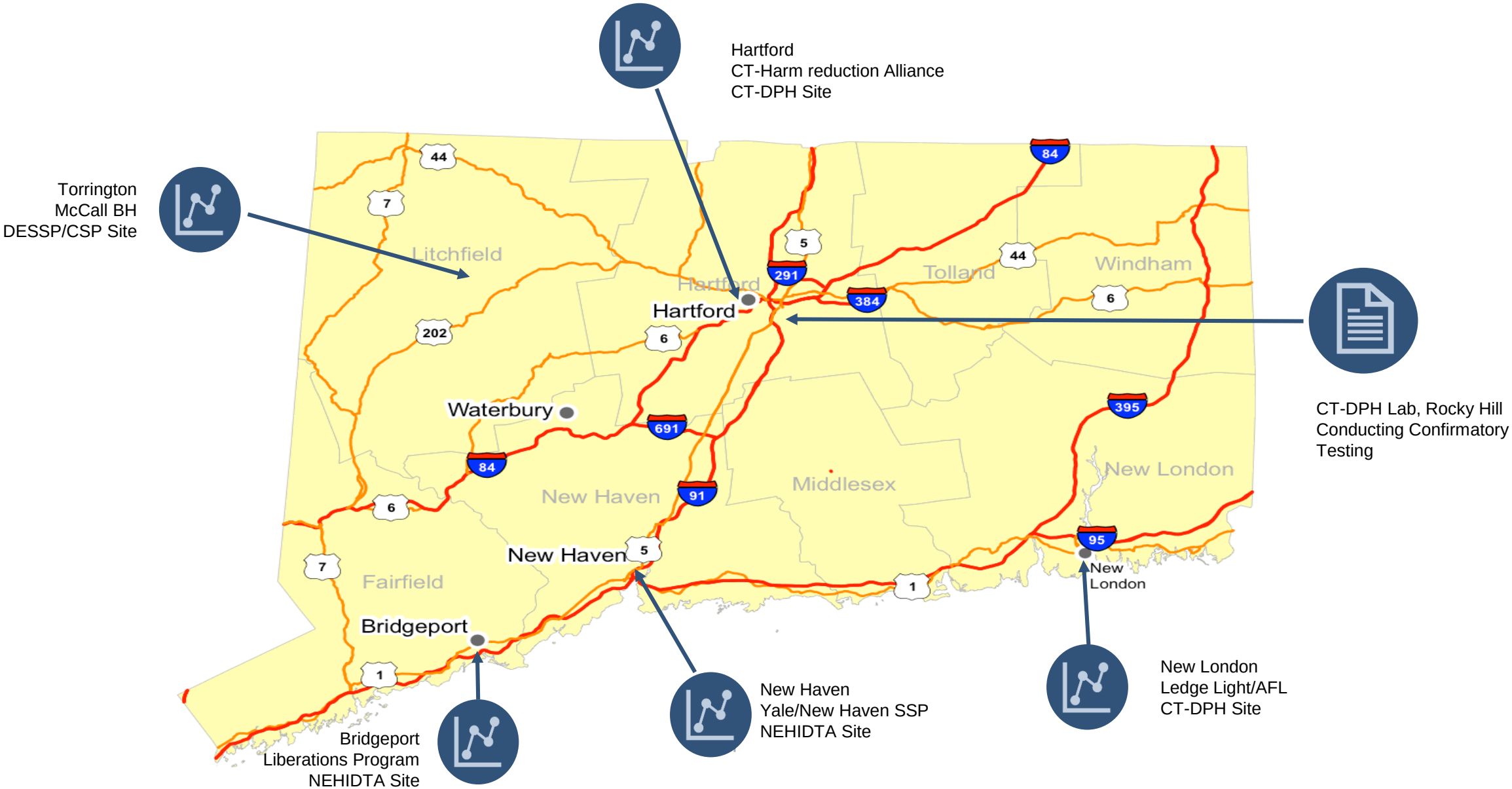
A partnership between CT-ORS/NEHIDTA, CT-DPH and CT-DESPP

Community Drug Checking

The goal of this project was to develop a surveillance system that provides near real-time insights into the illicit drug supply in Connecticut, specifically at the street and user levels.

This initiative addresses a significant intelligence gap, as traditional drug data and overdose surveillance have relied on information from arrests, seizures, hospitalizations, and post-mortem analyses—none of which offer a current view of the illicit drug market.

This project enhanced our understanding of the current illicit drug landscape, which better informs public health and safety strategies aimed at preventing and addressing overdoses at the community level.


Hartford
CT-Harm reduction Alliance
CT-DPH Site
Torrington
McCall BH
DESSP/CSP Site
CT-DPH Lab, Rocky Hill
Conducting Confirmatory
Testing
Litchfield
Hartford
Tolland
Windham
Waterbury
New Haven
Middlesex
New London
Fairfield
Bridgeport
New London
Bridgeport
Liberations Program
NEHIDTA Site
New Haven
Yale/New Haven SSP
NEHIDTA Site
New London
Ledge Light/AFL
CT-DPH Site

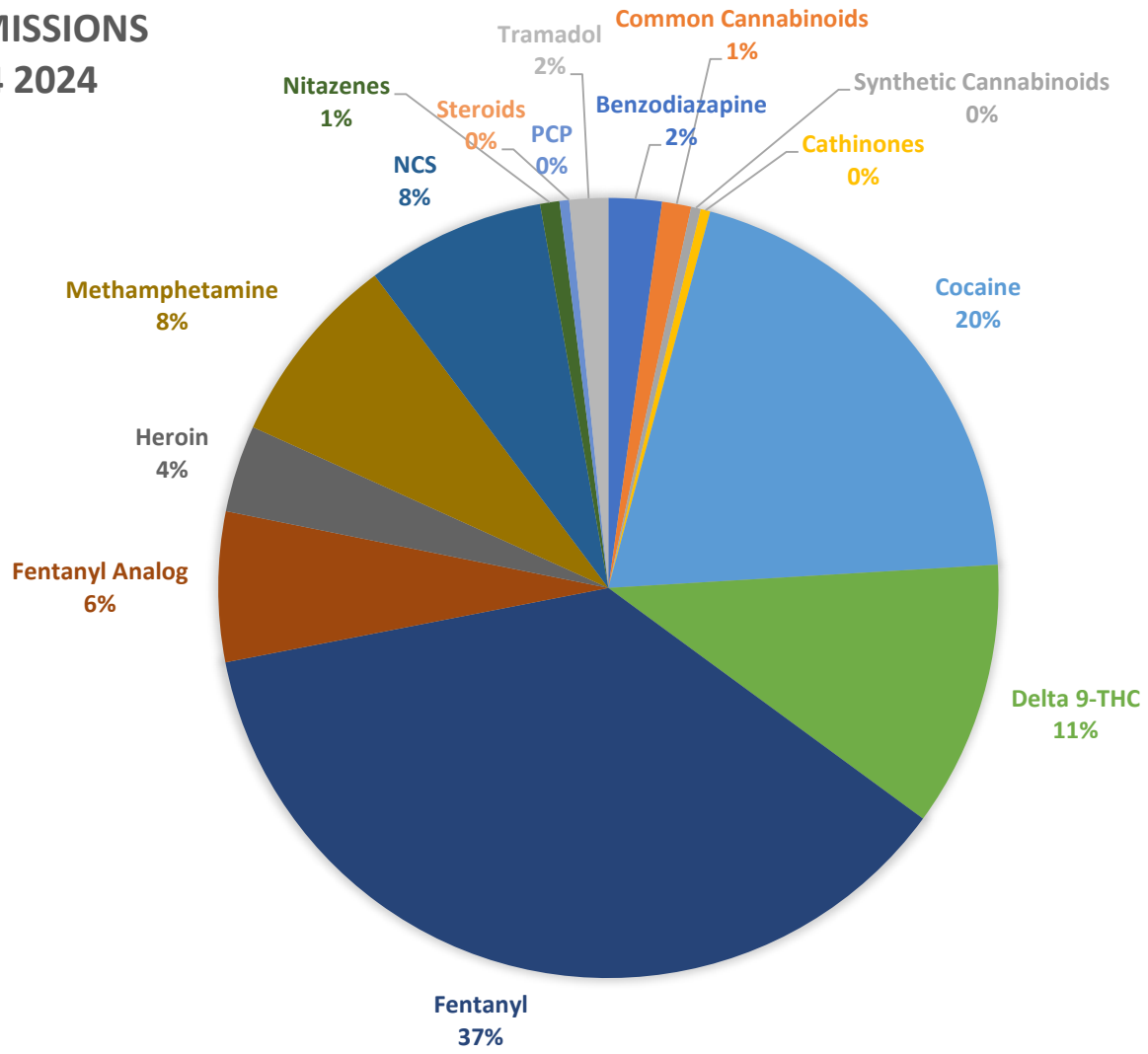
How Community Drug Checking Works

1. **Sample Collection:** Sites, such as harm reduction or syringe service provider organizations, collect drug trash or remnants (samples) from their clients.
2. **Initial Testing:** The collected samples are tested on-site using a Bruker Alpha FT-IR device to obtain preliminary results.
3. **Confirmatory Testing:** The samples are then sent to the State of Connecticut Department of Public Health (CT-DPH) Public Health Lab for confirmatory testing.
4. **Result Sharing:** The confirmatory results are shared with the sites. These organizations use the information to better interact with and advise clients on safer usage practices to avoid overdose and death.
5. **Oversight and Analysis:** CT-DPH and the Connecticut Overdose Response Strategy (CT-ORS) oversee all results, enabling a comprehensive understanding of the drug environment at both macro and micro levels.

It is important to note that drugs are never returned to clients.

DESPP Forensic Lab Results for Quarter 4 (October-December) 2024

CONTROLLED SUBSTANCES SUBMISSIONS Q4 2024



Number of cases submitted	61
Number of submissions	167
Number of groupings	408
Total number of units	11,830
Number of units analyzed	455

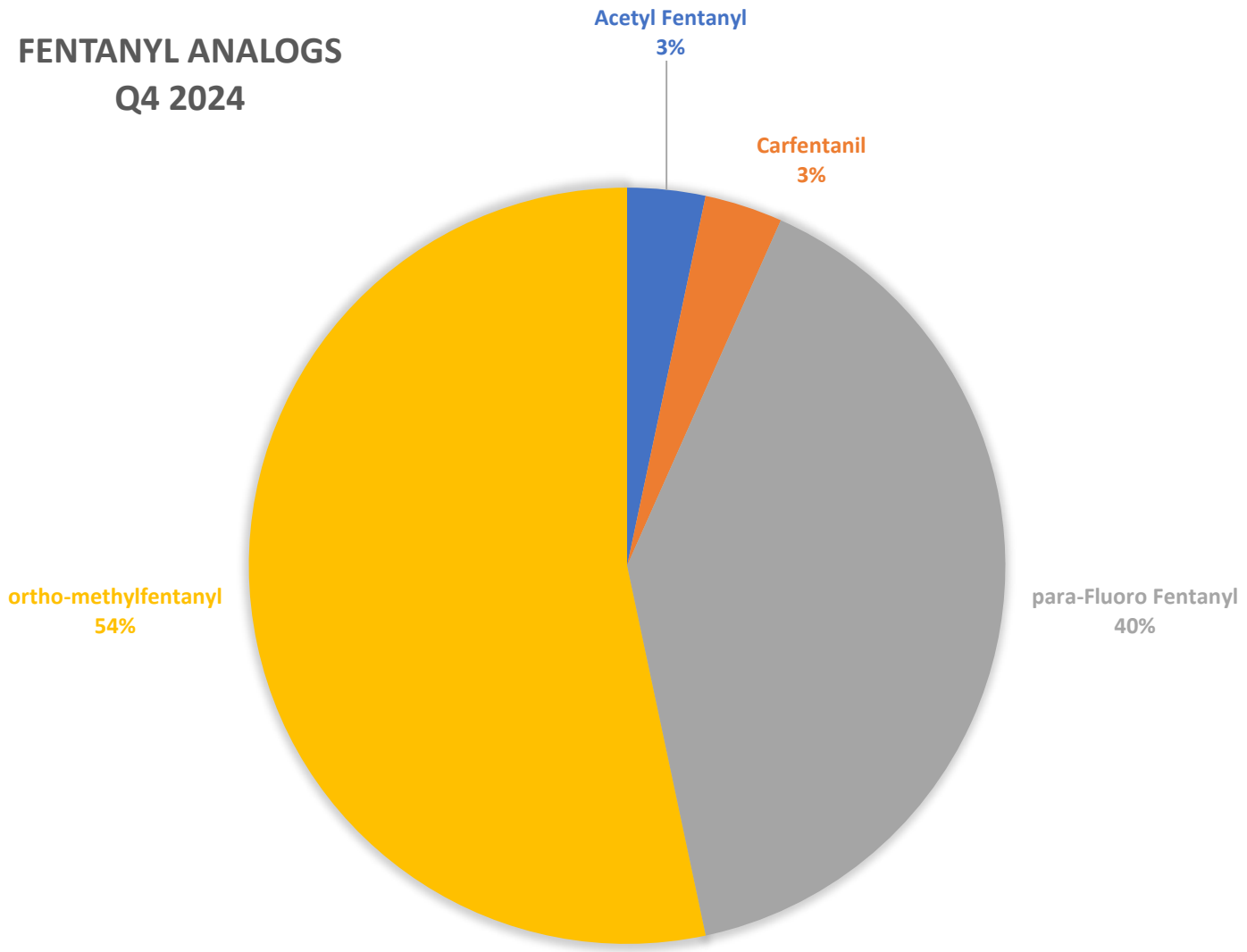
Top 5 Controlled Substances submitted this quarter:

- Fentanyl (184 units)
- Cocaine (99 units)
- Delta 9 THC (55 units)
- Methamphetamine (40 units)
- NCS (37 units)[1]
- Xylazine found in 105 (23%) of units analyzed this quarter

*Percentages are based on number of units analyzed

[1] No controlled substance (NCS) found

Source: DESPP Forensic Lab, January 2025



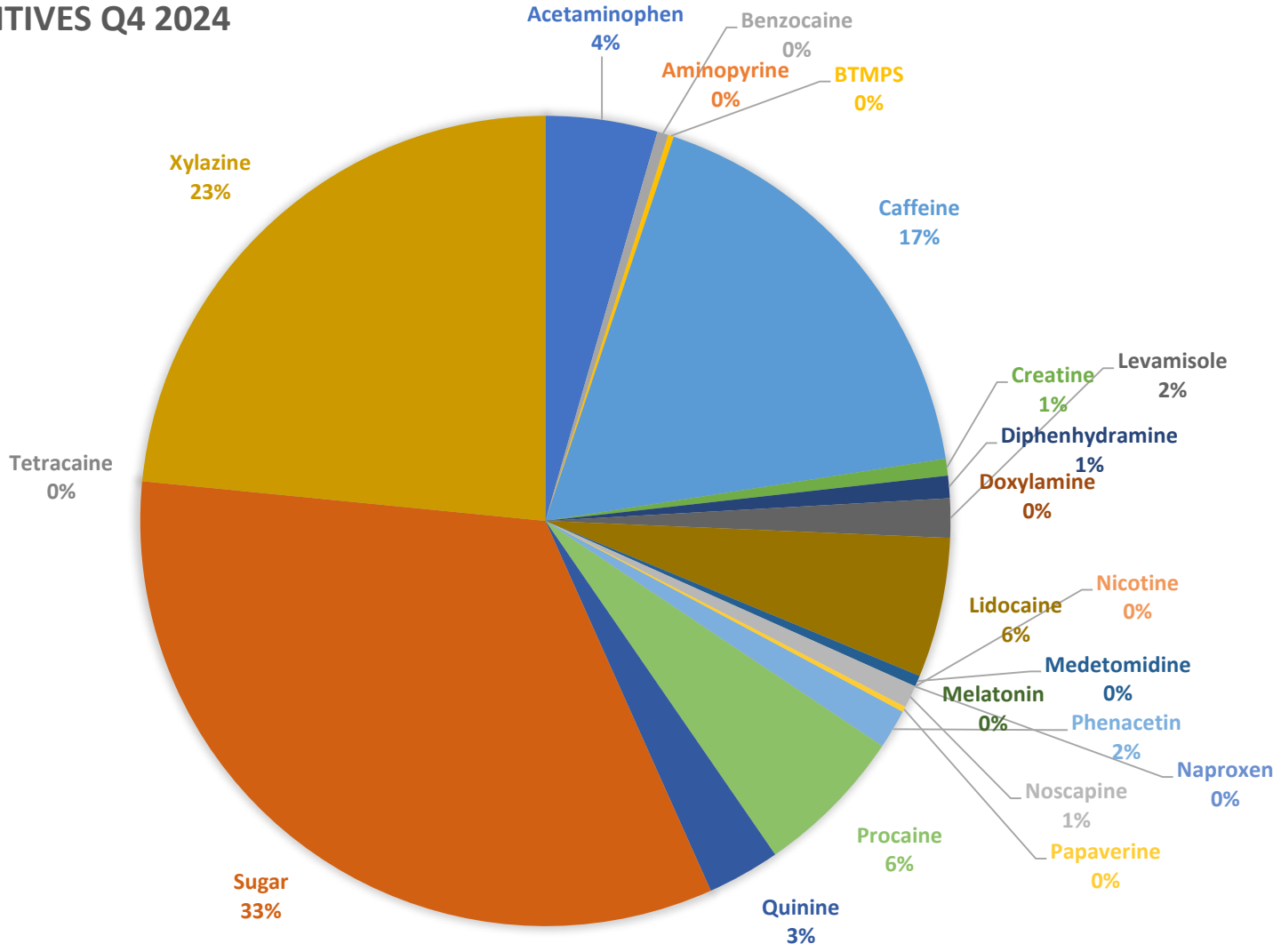
Various Fentanyl analogs have been found during this quarter:

- Para-Fluoro Fentanyl (12 units)
- ortho-methylfentanyl (16 units)
- Carfentanil (1 unit)
- Acetyl Fentanyl (1 unit)

*Percentages are based on number of units analyzed

Source: DESPP Forensic Lab, January 2025

ADDITIVES Q4 2024



*Percentages are based on number of units analyzed

Top 5 Additives found during this quarter:

- Sugar (149 units)
- Xylazine (105 units)
- Caffeine (78 units)
- Procaine (27 units)
- Acetaminophen (20 units)

**Only compounds routinely confirmed in casework are Xylazine, Medetomidine, and BTMPS. All other compounds are only based on a library comparison match.

Source: DESPP Forensic Lab, January 2025

New or unusual substances and combinations found:

- MDMB-4en-PINACA (paper)
- Fentanyl, Heroin, Tramadol, ortho-methylfentanyl (powder)
- Fentanyl, BTMPS (powder)
- Bromazolam, desalkylgidazepam (tablet)
- delta 9-THC, Desethyl Isotonitazene, Hexahydrocannabinol (HCC) (residue)
- Desethyl Isotonitazene, Cocaine (residue)

*The underlined compounds represent new or emerging drugs identified by the lab. Other compounds listed are either infrequently encountered in casework, uncommon in the specific matrix, or rarely observed in combination.

Source: DESPP Forensic Lab, January 2025

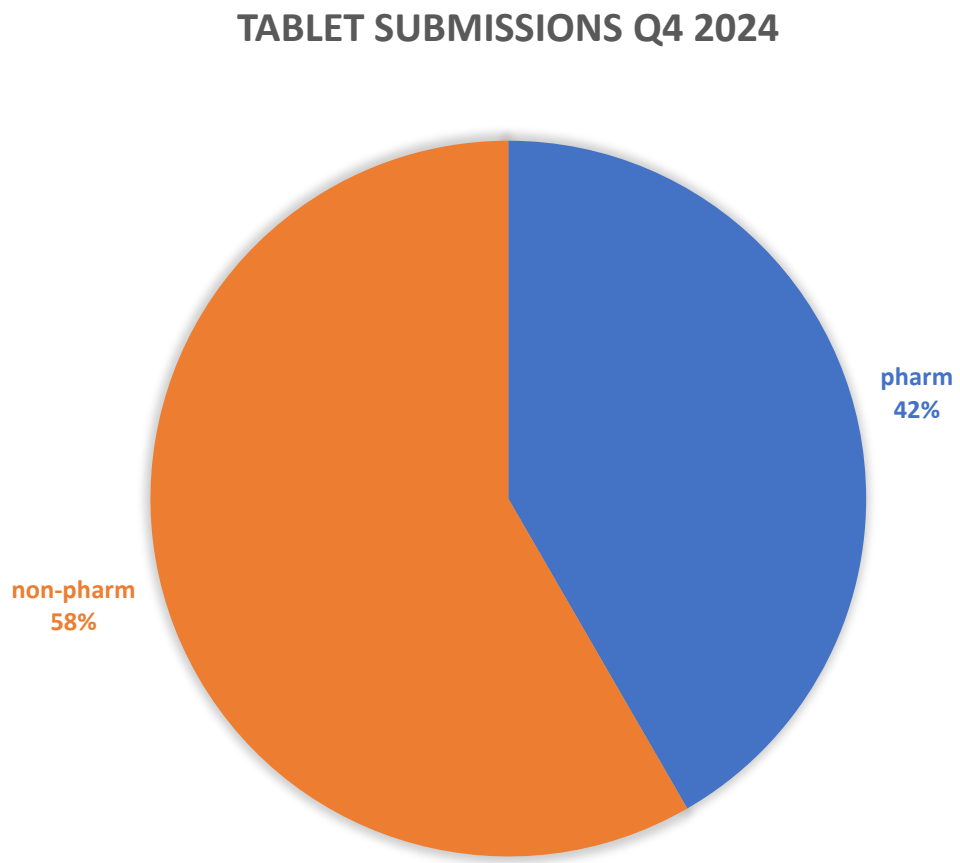
New or unusual substances and combinations found:

- Desethyl Isotonitazene (powder)
- Fentanyl, para-Fluorofentanyl, Xylazine, Medetomidine (powder)
- Bromazolam, cocaine, Fentanyl, Flubromazepam (residue)
- 5-Fluoro ADB, MDMB-4en-PINACA (paper)

*The underlined compounds represent new or emerging drugs identified by the lab. Other compounds listed are either infrequently encountered in casework, uncommon in the specific matrix, or rarely observed in combination.

Source: DESPP Forensic Lab, January 2025

Illicit Tablets



Number of tablets submitted	1,575
Number of tablets analyzed	62

*Pharm refers to counterfeit (fake) pharmaceutical pills, while non-pharm includes all other irregularly shaped tablets.

Source: DESPP Forensic Lab, January 2025

Illicit Pharmaceutical tablets submitted

- Blue/green round tablets imprinted “M/30” or “A215” or pink round tablets imprinted “K56”
  - Fentanyl
- White rectangular tablets imprinted “XANAX/2”
  - Bromazolam, desalkylgidazepam
  - Bromazolam, Clonazolam
  - Bromazolam
- Orange oval tablets imprinted “b 974/30”
  - Methamphetamine

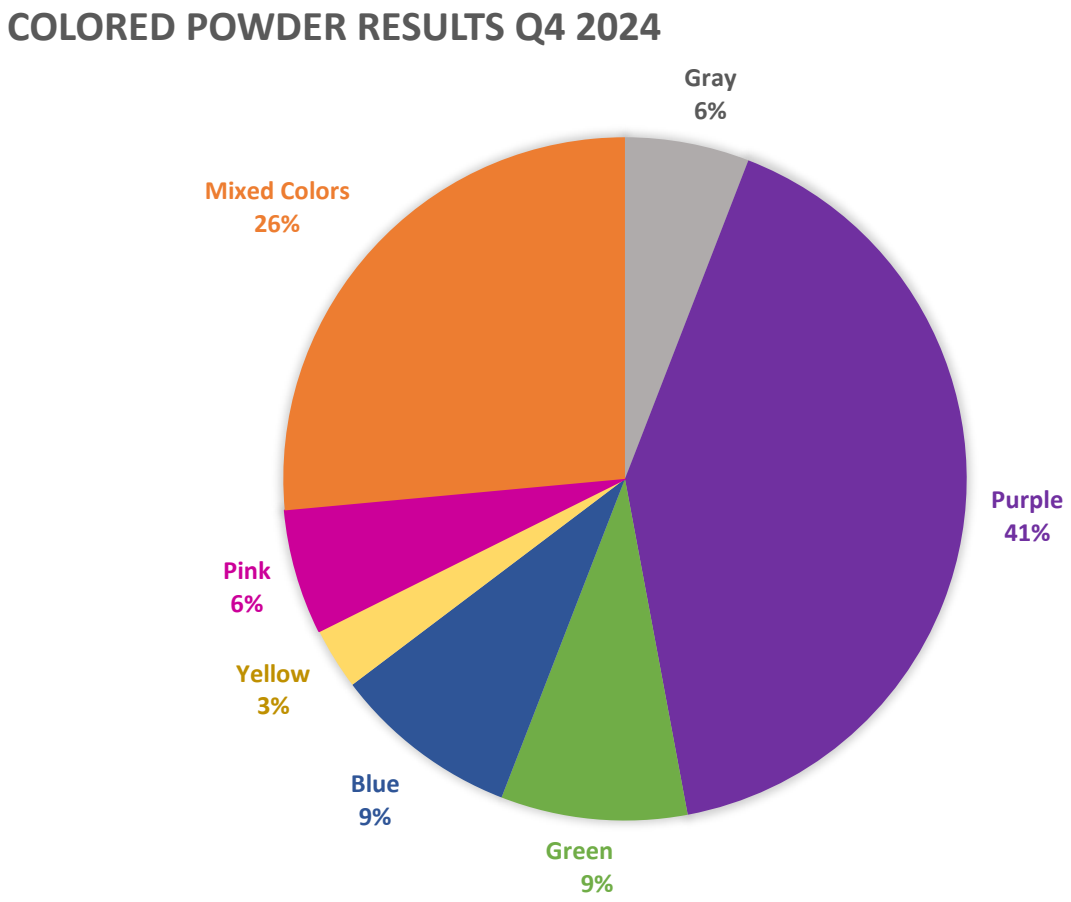
Source: DESPP Forensic Lab, January 2025

Illicit non-Pharmaceutical tablets submitted

- Green round with no imprint
  - Dextromethorphan
- Pink round with image of bulldog
  - Methamphetamine
- Other tablets with no color and no imprint reported
  - Methamphetamine

Source: DESPP Forensic Lab, January 2025

Colored powders results:



Purple (14 units analyzed)

- Fentanyl
- Cocaine, Fentanyl, gabapentin
- Acetyl Fentanyl, Carfentanil, Fentanyl, Ketamine
- Fentanyl, Ketamine
- Cocaine, Fentanyl
- NCS
- Ketamine, MDMA
- MDMA
- Fentanyl, ortho-Methylfentanyl
- Fentanyl, ortho-Methylfentanyl, Heroin
- Fentanyl, Heroin

Source: DESPP Forensic Lab, January 2025

Colored powders results:

Mixed colors[2] (9 units analyzed), color combinations and results found:

- Green and white
  - Cocaine
- Purple and white
  - Fentanyl
  - Fentanyl, ortho-Methylfentanyl, Heroin
  - Fentanyl, Heroin
- Gray and purple
  - Cocaine, Fentanyl
- Green and blue
  - Fentanyl
- Purple, white and blue
  - Fentanyl, ortho-Methylfentanyl
  - Fentanyl, ortho-Methylfentanyl, Heroin

Green (3 units analyzed)

- Cocaine
- Fentanyl
- Fentanyl, para-Fluorofentanyl

Blue (3 units analyzed)

- MDMA
- Fentanyl

Gray (2 units analyzed)

- Fentanyl

Pink (1 unit analyzed)

- Cocaine, Ketamine, Methamphetamine
- Cocaine

Yellow (1 unit analyzed)

- Desethyl Isotonitazene

[2] Multiple colors co-mingled within a single sample were observed during analysis

Source: DESPP Forensic Lab, January 2025

Stimulants

COCAINE/CRACK

METHAMPHETAMINES

(CT ORS, 2024) (CT DESPP, 2024)(CT NGCD, 2024)(DEA CT, 2024)(USPSI CT, 2024)

Thank you!

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Resources

- Drug Overdose Deaths | Drug Overdose | CDC Injury Center
- Connecticut Office of Chief Medical Examiner https://portal.ct.gov/OCME
- Connecticut Department of Emergency Service and Public Protection, Division of Scientific Services, Forensic Lab
- Connecticut Overdose Response Strategy (CT ORS)
- New England High Intensity Drug Trafficking Area (NEHIDTA)
- Connecticut National Guard Counter Drug Program (CT NGCD)
- United States Postal Inspection Service Connecticut (USPIS CT)

Resources

- Connecticut Department of Emergency Service & Public Protection, Connecticut State Police, Statewide Narcotics Task Force
- Public_Alert_Medetomidine_052024.pdf (cfsre.org)
- Thangada S, Clinton HA, Ali S, et al. *Notes from the Field*: Xylazine, a Veterinary Tranquilizer, Identified as an Emerging Novel Substance in Drug Overdose Deaths — Connecticut, 2019–2020. MMWR Morb Mortal Wkly Rep 2021;70:1303–1304. DOI: http://dx.doi.org/10.15585/mmwr.mm7037a5
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