

Results from 155 samples checked

April 6 – 19, 2024

Key findings

- 12% of the expected¹ fentanyl samples⁵ were known to be **associated with an overdose**: all of these samples contained high-potency opioids (an opioid as strong as or stronger than fentanyl), and most contained a benzodiazepine-related drug and/or a veterinary tranquilizer
- 64% of the expected¹ fentanyl samples⁵ **contained fluorofentanyl** (up to 2 times stronger than fentanyl)
- 52% of the expected¹ fentanyl samples⁵ **contained multiple high-potency opioids**, including fentanyl, fluorofentanyl, a methylfentanyl-related drug, and/or nitazene opioids
- 49% of the expected¹ fentanyl samples⁵ **contained a benzodiazepine-related drug** – 7% contained multiple benzodiazepine-related drugs
- 44% of the expected¹ fentanyl samples⁵ **contained a veterinary tranquilizer** – 29% contained **medetomidine** and 22% contained xylazine
- 42% of the expected¹ fentanyl samples⁵ **contained a methylfentanyl-related drug** (roughly as strong as fentanyl)
- 1% of the expected¹ fentanyl samples⁵ **contained a nitazene opioid** (up to 25 times stronger than fentanyl)
- 37% of the expected¹ fentanyl samples⁵ **did not contain fentanyl** – almost all of these samples instead contained fluorofentanyl or a methylfentanyl-related drug, many in combination with bromazolam (benzodiazepine-related)
- Amount of drugs found in expected¹ fentanyl drug samples²:

In 22 expected¹ fentanyl drug samples²:

5.0% was the **average³ amount of fentanyl found**

2.2 – 9.4%

was the **range⁴ of fentanyl found** in half of the drug samples²

In 31 expected¹ fentanyl drug samples²:

5.9% was the **average³ amount of fluorofentanyl found**

2.2 – 11.3% was the **range⁴ of fluorofentanyl found** in half of the drug samples²

In 23 expected¹ fentanyl drug samples²:

1.3% was the **average³ amount of bromazolam found**

0.8 – 2.6% was the **range⁴ of bromazolam found** in half of the drug samples²

In 8 expected¹ fentanyl drug samples²:

2.5% was the **average³ amount of xylazine found**

1.6 – 4.5% was the **range⁴ of xylazine found** in half of the drug samples²

Expected fentanyl drug samples

- 65% (37) of the expected¹ fentanyl drug samples⁶ **contained fentanyl and other drugs**, including:
 - 89% (33) contained caffeine
 - 81% (30) contained at least one additional high-potency opioid (!):
 - 65% (24) contained fluorofentanyl (!)
 - 51% (19) contained a methyلفentanyl-related drug (!)
 - 3% (1) contained isotornitazene/protonitazene (!)
 - 3% (1) contained N-desethyl isotornitazene/N-desethyl protonitazene(!)
 - 3% (1) contained metonitazene (!)
 - 59% (22) contained at least one benzodiazepine-related drug (!):
 - 54% (20) contained bromazolam (!)
 - 8% (3) contained flubromazepam (!)
 - 5% (2) contained flualprazolam (!)
 - 3% (1) contained desalkylgidazepam (!)
 - 57% (21) contained at least one veterinary tranquilizer (!):
 - 35% (13) contained medetomidine (!)
 - 35% (13) contained xylazine (!)
 - 8% (3) contained acetyl fentanyl (!)
 - 3% (1) contained valeryl fentanyl (!)
 - 3% (1) contained phenacetin (!)

Unexpected noteworthy drugs found in other expected drug samples

- 4% (3) of the remaining drug samples,⁶ meaning drug samples² that weren't expected¹ to be fentanyl, **contained an unexpected noteworthy drug**, including:
 - 33% (1) of **expected¹ crack cocaine drug samples²** contained phenacetin (!)
 - One **expected¹ carfentanil drug sample²** contained multiple high-potency opioids, including fluorofentanyl (!), fentanyl (!), and nitazene opioids (!), as well as multiple benzodiazepine-related drugs (!)

- One **expected¹ down drug sample²** contained fluorofentanyl (!)

Not sure what some of these substances are?

View our drug dictionary: www.drugchecking.community/drug-dictionary/

Notes

1 | Expected (drug): When a sample is submitted to be checked, the drug that sample was bought or got as is recorded. We call it the "expected drug". Knowing the expected drug helps us tailor our harm reduction advice. It also helps us understand contamination to drugs rather than combinations of drugs (e.g., fentanyl was found in a heroin sample rather than fentanyl and heroin were found together).

2 | Drug samples: Could be a small amount of powder, crystals, rocks, blotter, or liquid, or a crushed bit of a pill.

3 | Average amount: We arrange the amounts of a substance found as a proportion of the total fentanyl drug sample from smallest to largest, determine the median (i.e., the middle number), and use that number as the "average". For more information, view our [amount of substances found graph](#).

4 | Range: Known as the interquartile range, represents the middle 50% of the amounts of a substance found as a proportion of the total fentanyl drug sample. For more information, view our [amount of substances found graph](#).

5 | Samples: Includes both drugs and used drug equipment. Drugs could be a small amount of powder, crystals, rocks, blotter, or liquid, or a crushed bit of a pill. Used equipment could be a used cooker or filter, or leftover liquid from a syringe. For more information, view our [terms of service](#).

6 | Reason for reporting only drug samples: While Toronto's Drug Checking Service checks both drugs and used equipment, drug equipment – like cookers – are often re-used. The mass spectrometry technologies used for this drug checking service are so sensitive that very trace amounts of substances may be found. This means that when equipment is re-used, substances from past use may present in the results for the sample that is being checked. This can interfere with up-to-date drug market monitoring, so we've noted when we exclude used equipment from this report. For more information, view our [service and technology limitations](#).

7 | Reporting similar substances together: These substances have a very similar chemical structure, and it is not currently possible for Toronto's Drug Checking Service to differentiate between them. For this reason, we report these substances together. For more information, view our [drug dictionary](#).

8 | Drug samples that unexpectedly contain high-potency opioids or benzodiazepine-related drugs and not the expected drug: Our reports highlight unexpected noteworthy drugs found in all checked drug samples. When high-potency opioids or benzodiazepine-related drugs are found unexpectedly in a drug sample and the expected drug is not present, we flag it but are hesitant to consider it contamination of the expected drug. Instead, we assume there is an issue with the expected drug: the person who sold or provided the drugs accidentally mixed up their drugs, the service user accidentally mixed up their drugs, or the expected drug was recorded incorrectly during sample collection. These samples require special consideration.

(!) | Unexpected noteworthy drug: “Noteworthy drugs” are drugs that (i) are linked to overdose or other adverse effects, (ii) are highly potent or related to highly potent drugs, or (iii) may not be desired by some service users. Noteworthy drugs are flagged when they are unexpectedly found in checked samples.

About Toronto’s Drug Checking Service: [Toronto's Drug Checking Service](#) is a free and anonymous community-based public health service that aims to reduce the harms associated with substance use and, specifically, to prevent overdose by offering people who use drugs timely and detailed information on the contents of their drugs. Beyond educating individual service users, results for all samples are combined and analyzed to perform unregulated drug market monitoring, then translated and [publicly disseminated every other week](#) to communicate unregulated drug market trends and drug education to those who cannot directly access the service, as well as to inform care for people who use drugs, advocacy, policy, and research.

Participating collection sites: Moss Park Consumption and Treatment Service | Parkdale Queen West Community Health Centre (Parkdale and Queen West Sites) | South Riverdale Community Health Centre | The Works at Toronto Public Health

Participating analysis sites: Centre for Addiction and Mental Health (Clinical Laboratory and Diagnostic Services) | St. Michael’s Hospital (Department of Laboratory Medicine and Drug Checking Unit)

Toronto’s Drug Checking Service is coordinated by a small central team that operates from within the Drug Checking Unit at St. Michael’s Hospital. The central team is also responsible for conducting unregulated drug market monitoring and developing and disseminating relevant drug information.

Our work would not be possible if people who use drugs did not access our service and, as a result, advocate for themselves and help develop solutions that impact them. We thank the community of people who use drugs in Toronto, and elsewhere, who provide ongoing feedback on the design and implementation of our program, as well as our members, partners and collaborators, and funders for their ongoing commitment.

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