

Toronto's Drug Checking Service

Unregulated fentanyl supply trends: Toronto, Ontario

May 31 – June 13, 2025

Between May 31 and June 13, 2025, 100 samples¹ were collected from people who use drugs by the collection site members of Toronto's Drug Checking Service, the flagship program of Ontario's Drug Checking Community. Samples were analyzed by analysis site members of the program using gold standard technologies that are validated for overdose prevention drug checking. Of these 100 samples¹, 42 were expected² to be fentanyl (88% were drug samples³ and 12% were used drug equipment).

Key findings⁴

- 2% of the expected² fentanyl samples¹ were known to be **associated with an overdose** – these samples contained a high-potency opioid⁵ (an opioid considered to be roughly as strong as or stronger than fentanyl) and a veterinary tranquilizer
- 50% of the expected² fentanyl samples¹ **contained multiple high-potency opioids⁵**, including fentanyl, a methylfentanyl-related drug, fluorofentanyl, and/or protodesnitazene
- 62% of the expected² fentanyl samples¹ **contained a veterinary tranquilizer** – 38% contained medetomidine and 33% contained xylazine
- 55% of the expected² fentanyl samples¹ **contained fluorofentanyl** (at this time, we believe para-fluorofentanyl is circulating, which is considered to be roughly as strong as fentanyl)
- 36% of the expected² fentanyl samples¹ **contained a methylfentanyl-related drug** (at this time, we believe ortho-methylfentanyl is circulating, which is considered to be roughly as strong as fentanyl)
- 14% of the expected² fentanyl samples¹ **contained a benzodiazepine-related drug**, namely, bromazolam, desalkylgidazepam, and/or nordiazepam
- 5% of the expected² fentanyl samples¹ **contained a nitazene opioid**, namely, protodesnitazene (considered to be as strong as fentanyl)
- While we have been observing a resurgence of carfentanil (considered to be up to 100 times stronger than fentanyl) in Toronto's unregulated fentanyl, heroin, and down supplies, **we did not find carfentanil in any samples collected in Toronto between May 31 and June 13, 2025**
- 40% of the expected² fentanyl samples¹ **did not contain fentanyl** – many of these samples instead contained fluorofentanyl and/or protodesnitazene

- Amount of drugs found in expected² fentanyl drug samples³:

In 21 expected² fentanyl drug samples³:

0.3% was the **average amount⁶ of fentanyl found** **0.2 – 1.1%** was the **range⁷ of fentanyl found** in half of the drug samples³

In 19 expected² fentanyl drug samples³:

1.6% was the **average amount⁶ of fluorofentanyl found** **0.8 – 3.5%** was the **range⁷ of fluorofentanyl found** in half of the drug samples³

In 12 expected² fentanyl drug samples³:

3.4% was the **average amount⁶ of methylfentanyl-related drugs found** **1.2 – 3.8%** was the **range⁷ of methylfentanyl-related drugs found** in half of the drug samples³

In 13 expected² fentanyl drug samples³:

0.4% was the **average amount⁶ of medetomidine found** **0.1 – 1.1%** was the **range⁷ of medetomidine found** in half of the drug samples³

In 12 expected² fentanyl drug samples³:

1.5% was the **average amount⁶ of xylazine found** **0.6 – 1.8%** was the **range⁷ of xylazine found** in half of the drug samples³

In 5 expected² fentanyl drug samples³:

6.4% was the **average amount⁶ of bromazolam found** **2.1 – 34.1%** was the **range⁷ of bromazolam found** in half of the drug samples³

Expected fentanyl drug samples

- 57% (21) of the expected² fentanyl drug samples³ **contained fentanyl and other drugs**, including:
 - 90% (19) contained caffeine
 - 81% (17) contained at least one additional high-potency opioid⁵:
 - 57% (12) contained a methylfentanyl-related drug (!)
 - 24% (5) contained fluorofentanyl (!)
 - 81% (17) contained a veterinary tranquilizer:
 - 52% (11) contained xylazine (!)
 - 33% (7) contained medetomidine (!)
 - 14% (3) contained at least one benzodiazepine-related drug:
 - 14% (3) contained bromazolam (!)
 - 5% (1) contained desalkylgizepam (!)
 - 14% (3) contained **phenacetin (!)**

Unexpected noteworthy drugs found in other expected drug samples

- 3% (2) of the remaining drug samples³, meaning drug samples³ that weren't expected² to be fentanyl, **contained an unexpected noteworthy drug**, including:
 - 9% (1) of **expected² cocaine drug samples³** contained phenacetin (!)
 - One **expected² cocaine drug sample³** contained cocaine as well as fentanyl (!), fluorofentanyl (!), a methylfentanyl-related drug (!), xylazine (!), and bromazolam (!) – the composition of this sample represents that of a speedball (i.e., cocaine and fentanyl mixed intentionally)

Not sure what some of these substances are? View our drug dictionary: www.drugchecking.community/drug-dictionary/

Notes

1 | 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](#).

2 | 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).

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

4 | Our key findings for the specified time period are based on results from both drugs and used drug equipment. **There are limitations associated with including results from used drug equipment samples in unregulated drug market monitoring for a specified time period.** Drug equipment – like cookers – are often re-used. The [mass spectrometry technologies we use](#) 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 be found and included in results for the sample that is being checked. This can compromise the accuracy of drug market monitoring for a specified time period. For example, the substance was found in the used equipment sample but, if the equipment was re-used, is that substance circulating in the supply now or when the equipment was previously used. This is less of an issue for drug samples, which is why we prefer to rely on results from drug samples for time period-specific unregulated drug market monitoring. However, it is not always possible for a service user to submit a drug sample. We do the best we can with the samples we have access to.

5 | High-potency opioids: We classify an opioid “high-potency” if it is considered to be roughly as strong as or stronger than fentanyl.

6 | 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 drugs found graph](#).

7 | 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 drugs found graph](#).

8 | 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](#).

9 | Drug samples that unexpectedly contain noteworthy drugs and not the expected drug: Our reports highlight unexpected noteworthy drugs found in all checked drug samples. When noteworthy 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.

10 | High-potency opioid contamination: Based on the information we have about this sample, we are reporting it as contaminated with a high-potency opioid. However, it is very unusual that our program finds high-potency opioids unexpectedly in samples expected to be stimulants, psychedelics, and depressants, and these samples always require special consideration. There is increasing consensus in the drug checking community that the unexpected presence of high-potency opioids in other drug types is the product of accidental cross contamination rather than intentional adulteration. Cross contamination may result from poorly cleaned scales, storing drugs together (e.g., storing LSD in a baggie that was originally used for storing cocaine), or using drug equipment with different batches of drugs.

(!) | 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 and Ontario’s Drug Checking Community: Ontario’s Drug Checking Community, for which Toronto’s Drug Checking Service is the flagship program, is a national leader in drug checking service delivery and community-led unregulated drug market monitoring and education. It involves implementing the offsite drug checking model designed and in use by Toronto’s Drug Checking Service since 2019 in other jurisdictions across the province. The primary reason for doing so is to inform evidence-based responses to the worsening toxic drug supply crisis by educating people who use drugs, community health workers, public health units, clinicians, first responders, policy makers, public servants, forensic science and toxicology laboratories, coroners, researchers, and others about what’s circulating in the unregulated drug supply and anticipated harms.

Collection site members in Toronto: Casey House | Parkdale Queen West Community Health Centre (Parkdale and Queen West sites) | South Riverdale Community Health Centre (KeepSix and Moss Park sites) | Street Health | The Neighbourhood Group (Kensington Market Overdose Prevention Site) | Toronto Shelter and Support Services (Seaton House Overdose Prevention Site)

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

Our program is coordinated by a small central team that operates from within the Drug Checking Unit at St. Michael’s Hospital. The central team is 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 donate their drugs to our program in an effort to reduce the harms associated with using unregulated substances and facilitate community-led drug market monitoring and education.

(website) www.drugchecking.community | (email) hello@drugchecking.community | (IG) [@drugchecking](https://www.instagram.com/drugchecking)