

Toronto's increasingly unpredictable and toxic unregulated opioid supply

**Results from samples checked by Toronto's Drug Checking Service
January 1 – December 31, 2022**



CENTRE ON
DRUG POLICY
EVALUATION

April 30, 2023

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Acknowledgements

We acknowledge the members of our community that have lost their lives – both in the ongoing drug poisoning crisis and long before – due to policies of drug criminalization.

We acknowledge that the land on which we operate Toronto's Drug Checking Service is the traditional territory of many nations, including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee, and the Wendat peoples, and is now home to many diverse First Nations, Inuit, and Métis peoples.

We acknowledge that racialized communities and survivors of colonization are disproportionately impacted by unjust drug policies. We strive to support the development of equitable drug policies that are responsive to the needs of racialized people who use drugs – including Black, Indigenous, and People of Colour – and their communities.

We know that many of the samples we check are linked to both fatal and non-fatal overdose, as well as adverse health events. We acknowledge the people and pain behind the data we present.

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

Members: Centre for Addiction and Mental Health | Moss Park Consumption and Treatment Service | Parkdale Queen West Community Health Centre | South Riverdale Community Health Centre | Toronto Public Health | TRIP! Project | Unity Health Toronto

Partners and collaborators: Alliance for Collaborative Drug Checking | British Columbia Centre on Substance Use | Canadian Centre on Substance Use and Addiction | Four Counties Addictions Services Team | Fred Victor | Health Canada's Drug Analysis Service | Health Canada's Office of Controlled Substances | META:PHI | National Safer Supply Community of Practice | Office of the Chief Coroner for Ontario | Ontario Harm Reduction Network | Ontario Poison Centre | Ontario's Centre of Forensic Sciences | Peterborough Public Health | Public Health Ontario | Regent Park Community Health Centre | Registered Nurses' Association of Ontario | Seaton House | Street Health | Toronto Harm Reduction Alliance | Toronto Opioid Overdose Action Network | Toronto Paramedic Services | Vancouver Island Drug Checking Project

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About Toronto's Drug Checking Service

[Toronto's Drug Checking Service](#) is a free and anonymous public health service that aims to reduce the harms associated with substance use and, specifically, to prevent overdose by uncovering the toxicity and potency of the unregulated drug supply.

Launched in October 2019, the service has operated as a pilot program within the [Centre on Drug Policy Evaluation](#) at the [St. Michael's Hospital site of Unity Health Toronto](#), in collaboration with its [member organizations](#). Between October 2019 and December 2022, Toronto's Drug Checking Service checked more than 8,000 samples from the unregulated drug supply and identified over 400 unique drugs – many of which can be directly linked to overdose.

Toronto's Drug Checking Service provides service users with detailed information on the composition of their drugs, along with tailored strategies to reduce harm and referrals to drug-related, health, and social services via community health agencies that offer supervised consumption services (i.e., collection sites). Beyond educating individual service users, results for all samples are collated and analyzed to monitor the unregulated drug supply, then translated and [publicly disseminated every other week](#) to communicate unregulated drug market trends and inform care for people who use drugs, advocacy, policy, and research.

By way of exemptions from Canada's *Controlled Drugs and Substances Act*, Toronto's Drug Checking Service has piloted what is known as "offsite drug checking," where controlled substance samples are collected in the community at collection sites and transported to partnering laboratories (i.e., analysis sites) for analysis. This offsite drug checking model leverages existing instruments, human resources, and community-based services.

Samples, including substances and drug equipment after it has been used, are collected at five collection sites in Toronto:

- [Moss Park Consumption and Treatment Service](#)
- [Parkdale Queen West Community Health Centre \(Parkdale site\)](#)
- [Parkdale Queen West Community Health Centre \(Queen West site\)](#)

A note about the continuation of Toronto's Drug Checking Service

As of April 1, 2023, Toronto's Drug Checking Service is without a long-term funding commitment and has begun to wind down various aspects of the service. As the only operational drug checking service in the province of Ontario, an internationally recognized leader in the field of harm reduction, and given its positive and quantifiable impact on responding to Canada's drug poisoning crisis, Toronto's Drug Checking Service urgently requires a sufficient and long-term funding commitment to sustain and scale its operation. If you are interested in supporting us or learning more, please email drugchecking@cdpe.org.

- [South Riverdale Community Health Centre](#)
- [The Works at Toronto Public Health](#)

Five days per week, samples are transported by bike courier to an analysis site (the [Centre for Addiction and Mental Health](#) or [St. Michael's Hospital](#)) where they are analyzed using highly sophisticated [mass spectrometry technologies](#) (gas or liquid chromatography). These technologies provide precise information about which drugs are found in each sample and some information about how much of each drug is present (i.e., qualitative and quantitative results). Within 1 to 2 days, detailed results are returned to the collection site that collected the sample and communicated to the service user either in person, by phone, or by email, along with tailored strategies to reduce harm as well as referrals to drug-related, health, and social services.

Purpose of this report

The purpose of this report is to highlight observed changes and trends in Toronto's unregulated opioid supply using drug market monitoring data generated by Toronto's Drug Checking Service between January 1 and December 31, 2022.

This report will focus on opioids, with particular emphasis on samples expected to be fentanyl, given that fentanyl is the primary driver of the toxic and fatal drug poisoning crisis; fentanyl is also the drug checked most by Toronto's Drug Checking Service. Limited information on samples not expected to be fentanyl (i.e., those expected to be stimulants, psychedelics, disassociates, or depressants) are available in the following sections:

- [Checked samples by expected drug](#)
- [Are drugs from the unregulated supply meeting people's expectations?](#)
- [High-potency opioid contamination of other drugs](#)

Should you wish to learn more about other drugs checked by Toronto's Drug Checking Service, we encourage you to visit the following interactive graphs and tables on [our website](#):

- [Presence of the expected drug](#)
- [Other drugs found](#)
- [Amount of drugs found](#)
- [Noteworthy drug trends](#)

Lastly, we hope this report serves as a tool to advocate for an immediate increase in available harm reduction services, as well as for safer alternatives to the unregulated drug supply and policies that are more responsive to the needs of people who use drugs in Toronto and beyond, including decriminalization and legal regulation.

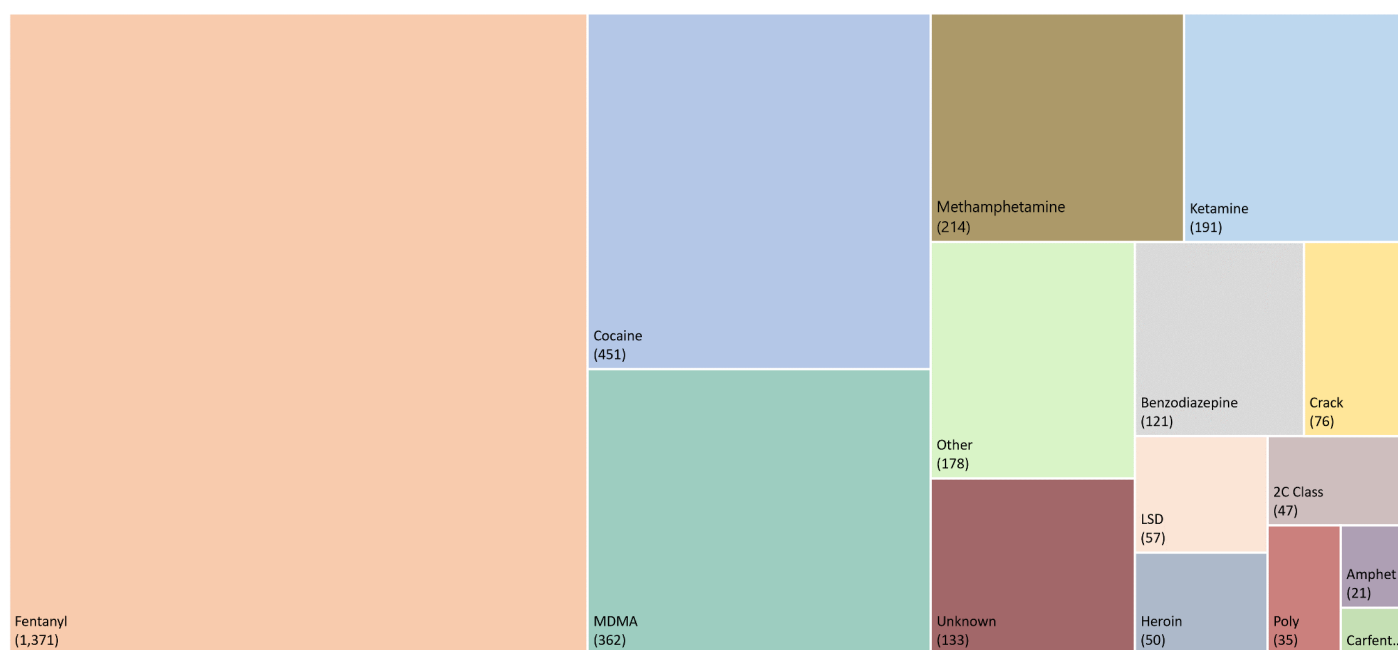
Checked samples by expected drug

In 2022, Toronto's Drug Checking Service analyzed 3,319 samples – a 15% increase from 2021 (2,886) and 100% increase from 2020 (1,657). What service users expected to be (i.e., got or bought as) opioids continued to make up approximately half of all samples checked in 2022, with samples expected to be fentanyl checked most often.

This graph summarizes the expected drugs checked by Toronto's Drug Checking Service between January 1 and December 31, 2022.

Checked samples by expected drug

Jan1 – Dec31/22 | www.drugchecking.cdpe.org



Other expected drugs checked in 2022 include: 1,4-Butanediol (BDO), 1P-ETH-LAD, 2,5-Dimethoxy-4-methylamphetamine (DOM), 2-Fluorodeschloroketamine (2F-DCK), 3-MeO-PCP, 3-Methylmethcathinone (3-MMC), 4-FA, 4-Methylcathinone (4-MC), 4-Methylmethcathinone (4-MMC), 5-MAPB, 5-MeO-DiPT, 5-MeO-DMT, 5-MeO-MiPT, Adderall, codeine, d-Amphetamine, deoxymethoxetamine (DMXE), deschloroketamine (DCK), deschloro-N-ethyl ketamine (O-PCE), dextroamphetamine, dimethoxyamphetamine (DMA), dimethyltryptamine (DMT), DiPT, GHB, hydrocodone, hydromorphone, ibogaine, kratom, lidocaine, MDA, mescaline, methaqualone (Quaalude), methylone, methylphenidate (Ritalin), modafinil, morphine, MXiPr, opium, oxycodone (OxyContin), pantoprazole, Percocet, and phenibut.

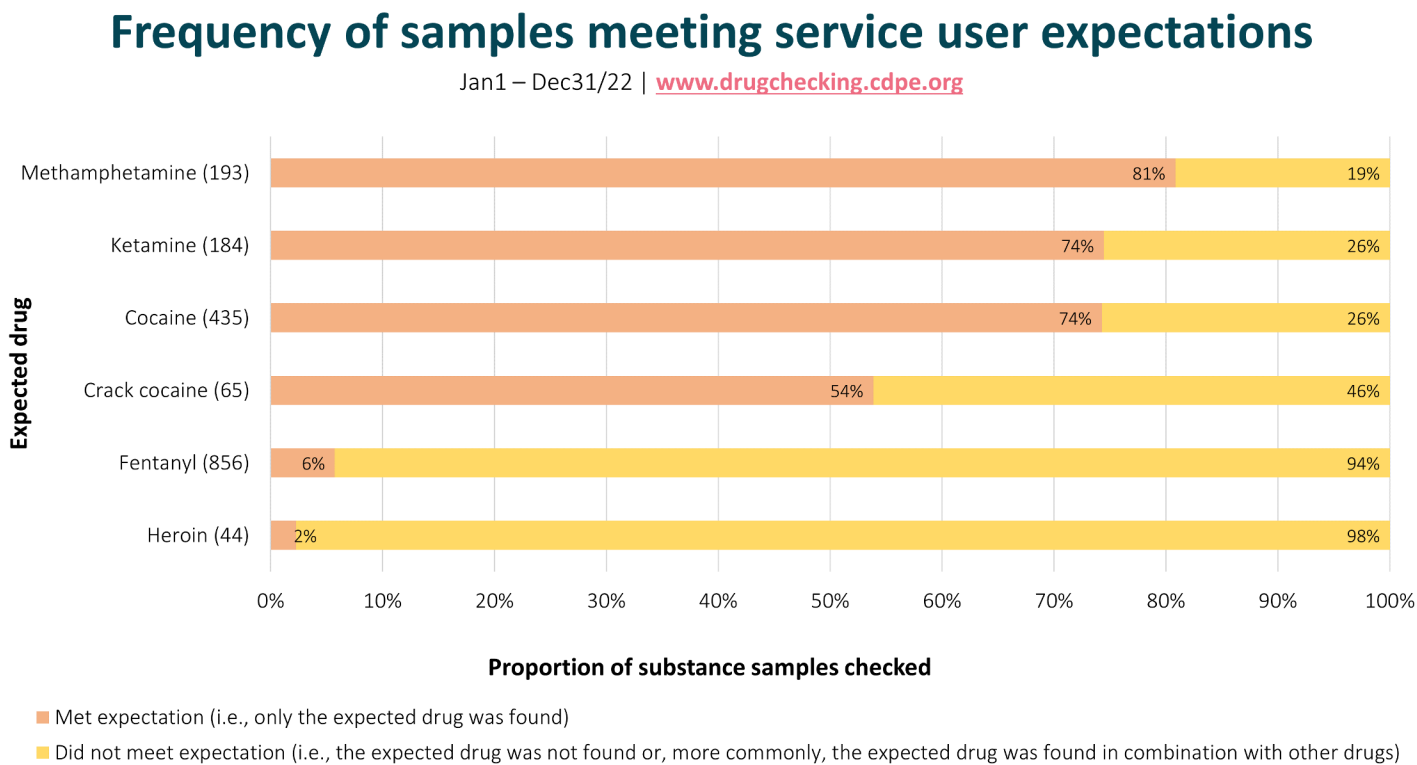
Unknown includes samples that did not have a recorded expected drug.

Polysubstance includes samples that had two or more expected drugs (e.g., fentanyl and methamphetamine).

Are drugs from the unregulated supply meeting people’s expectations?

When a service user submits a sample to be checked, the drug that sample was bought or got as is recorded – we call this the “expected drug.” When a sample only contains the expected drug(s), we consider that sample meeting the service user’s expectations.

This graph summarizes how often some of the most frequently checked substances met service user expectations in 2022.



Like previous years, opioids continued to be the most contaminated and unpredictable drugs checked by Toronto’s Drug Checking Service, rarely meeting service user expectations by containing only the expected drug. For example, **of the 856 substance samples expected to be fentanyl and checked in 2022, service user expectations were only met 6% of the time**. Conversely, stimulants, such as methamphetamine and cocaine, met service user expectations 81% and 74% of the time, respectively. Contaminants or [other drugs found](#) in stimulants generally did not pose the same risk of harm – namely, overdose – as those found in opioids.

This graph demonstrates why it is so difficult for people who use opioids to make informed decisions related to their drug use, and why more harm reduction services, like drug checking, and a readily available regulated drug supply are essential public health services and care.

Expected opioid samples

Opioids are the drugs checked most often by Toronto's Drug Checking Service. In 2022, 45% (1,503) of all samples were expected to be opioids: 65% (973) were substances and 35% (530) were used drug equipment (such as used cooker, filter, or leftover liquid from a syringe).

Opioid samples checked by Toronto's Drug Checking Service between January 1 and December 31, 2022, were expected to be:

- 91% (1,371) fentanyl
- 3% (50) heroin
- 2% (34) Percocet
- 1% (15) hydromorphone
- 1% (15) Oxycodone (OxyContin)
- Less than 1% (12) carfentanil
- Less than 1% (2) codeine
- Less than 1% (2) morphine
- Less than 1% (1) hydrocodone
- Less than 1% (1) opium

Not sure what some of these drugs are?

View our [drug dictionary](#).

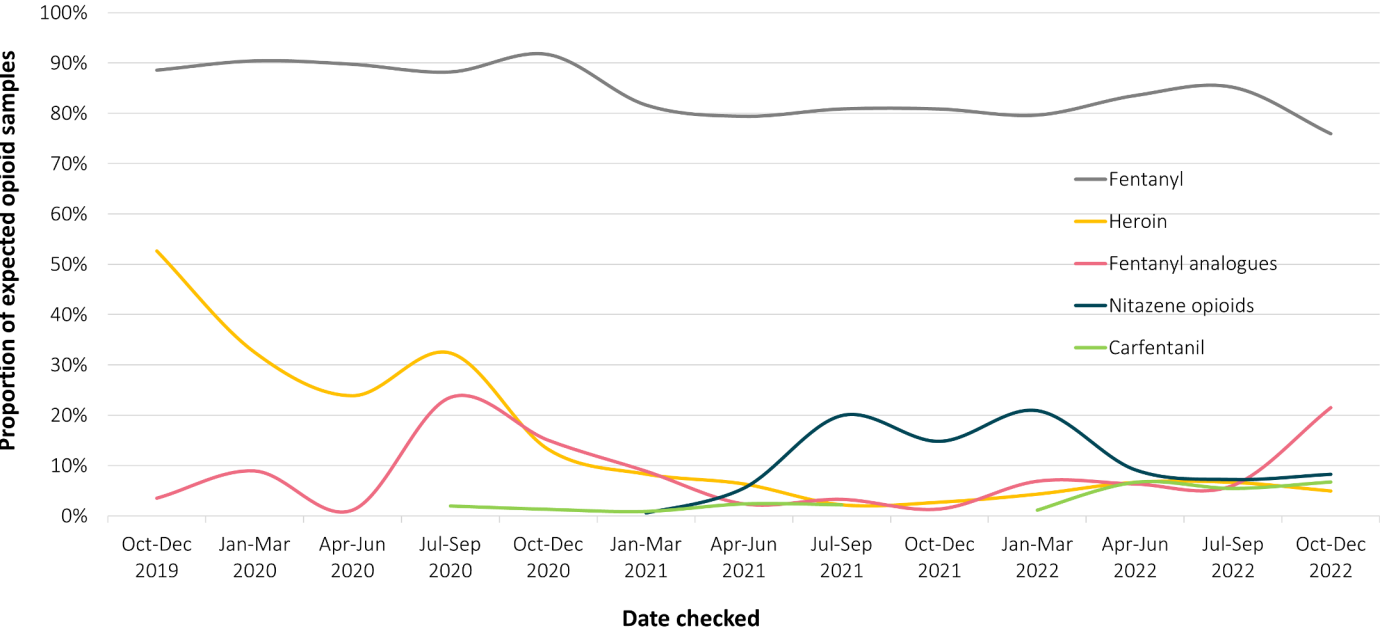
Since Toronto's Drug Checking Service launched in October 2019, the presence of heroin in the opioid supply has decreased significantly: it was found in over 50% of opioid samples in late 2019 and in under 10% of opioid samples since 2021. Coinciding with this reduction of heroin in the drug supply, "high-potency" opioids (opioids as strong or stronger than fentanyl) have saturated Toronto's unregulated opioid supply. High-potency opioids that now regularly present in expected opioid samples include: carfentanil (up to 100 times stronger than fentanyl), "nitazenes" or benzimidazole opioids (up to 10 times stronger than fentanyl), and fentanyl analogues (mostly fluorofentanyl-related drugs, which are up to 2 times stronger than fentanyl).

New high-potency opioids are continuously being introduced into the unregulated opioid supply, likely to circumvent [supply reduction policies and interventions](#), such as drug scheduling, arrests, and seizures. Consistent with the impacts of such supply reduction measures per the '[Balloon Effect](#),' data from Toronto's Drug Checking Service has demonstrated that the unregulated drug supply in Toronto has become more potent and unpredictable year-over-year. Specifically, in 2022, we witnessed a significant increase in fentanyl analogues presenting in the unregulated opioid supply, as well as an escalation in multiple high-potency opioids presenting in a single sample.

This graph reveals the changes and trends in Toronto’s unregulated opioid supply from October 2019 to December 2022.

High-potency opioids and heroin found in expected opioid samples

4,008 expected opioid samples checked | Oct10/19 – Dec31/22 | www.drugchecking.cdpe.org



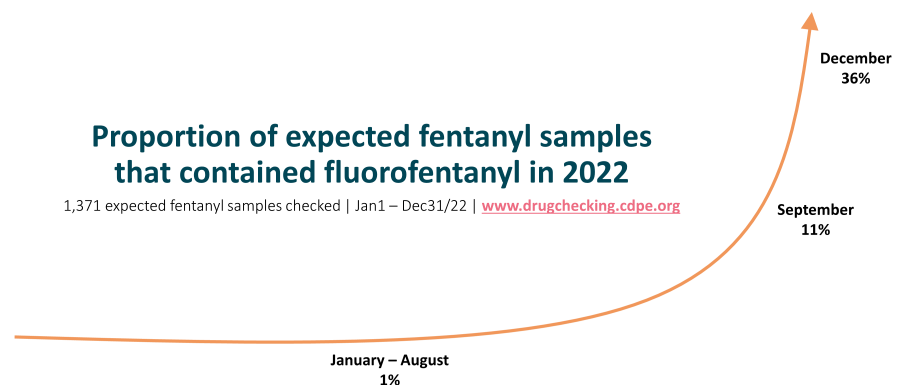
The remainder of the opioid section of this report will focus on fentanyl, as sample sizes for other expected opioids checked by Toronto’s Drug Checking Service between January 1 and December 31, 2022, are too small to be able to reveal meaningful and representative trends about those drugs.

Expected fentanyl samples

Key findings from expected fentanyl samples

Of the 3,319 samples checked between January 1 and December 31, 2022, 41% (1,371) were expected to be fentanyl; 62% (856) were substances and 38% (515) were used drug equipment. Key findings related to expected fentanyl samples checked by Toronto's Drug Checking Service in 2022 include:

- [Fentanyl was quantified](#) in 625 expected fentanyl substance samples:
 - 4.3% was the average amount (i.e., median concentration) of fentanyl found. Assuming a sample is completely representative of the drug that sample is taken from, which may be unlikely given the [Chocolate Chip Cookie Effect](#), and that fentanyl is 80 – 100 times stronger than morphine, this is equivalent to 3,400 – 4,300 mg of morphine for someone who uses a gram of unregulated fentanyl a day (a low assumed daily dose).
 - The amount (i.e., concentration) of fentanyl found in half of the substances (i.e., interquartile range) was between 2.6% and 7.4%. Assuming a sample is completely representative of the drug that sample is taken from, which may be unlikely given the [Chocolate Chip Cookie Effect](#), and that fentanyl is 80 – 100 times stronger than morphine, this is equivalent to between 2,080 – 7,400 mg of morphine for someone who uses a gram of unregulated fentanyl a day (a low assumed daily dose).
- 10% (131) of expected fentanyl samples were associated with an overdose – see the [Fentanyl samples associated with overdose](#) section for more information
- 62% (846) of expected fentanyl samples contained one or more unexpected noteworthy drugs – see the [Noteworthy drugs found in expected fentanyl samples](#) section for more information
- 20% (280) of expected fentanyl samples contained more than one high-potency opioid – see the [High-potency opioids found in expected fentanyl samples](#) section for more information
- Fluorofentanyl began regularly presenting in expected fentanyl samples. Fluorofentanyl is a family of active fentanyl-related drugs, including para-, ortho-, or meta-fluorofentanyl, which are up to 2 times stronger than fentanyl. They were found in just 1% of fentanyl samples from January to August and in 36% of fentanyl samples by December 2022.



Expected fentanyl samples associated with overdose

Of the 1,371 expected fentanyl samples checked between January 1 and December 31, 2022, 10% (131) were reported as being associated with an overdose. Of the expected fentanyl samples associated with overdose:

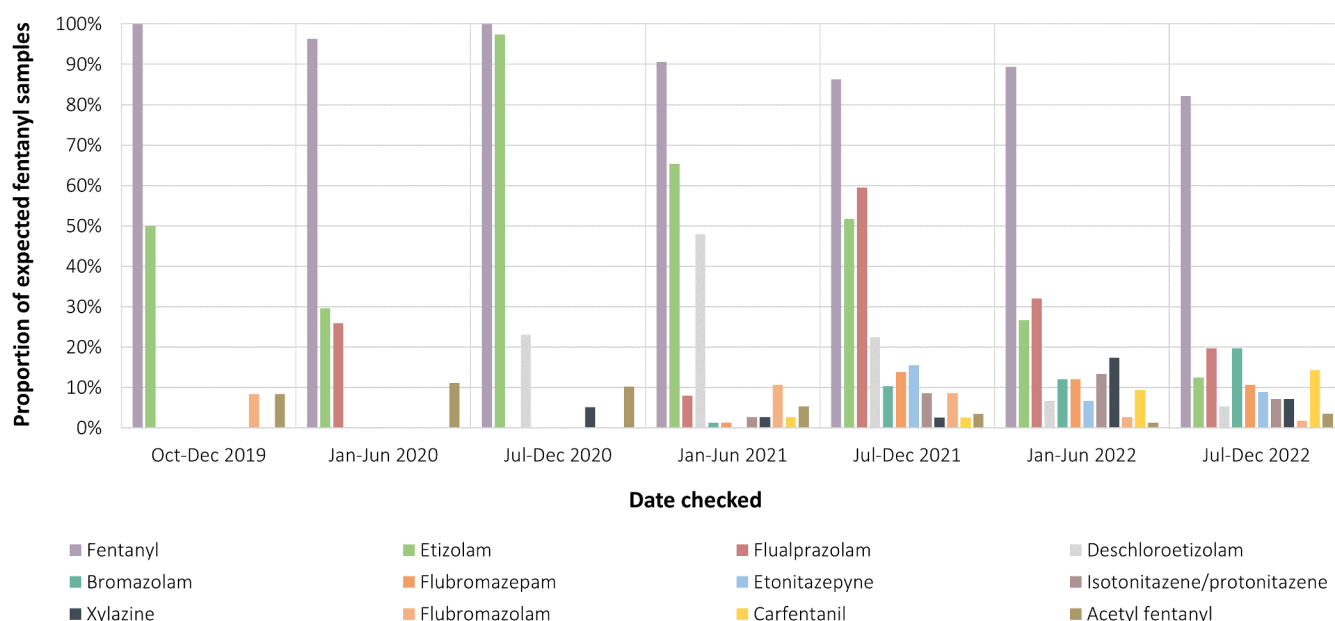
- 98% (128) contained one or more noteworthy drugs
- 92% (120) contained at least one high-potency opioid (fentanyl, fluorofentanyl, carfentanil, and/or nitazene opioids)
- 61% (80) contained at least one non-opioid central nervous system and respiratory depressant (benzodiazepine-related drugs and/or xylazine)

Since Toronto's Drug Checking Service launched in October 2019, the number of noteworthy drugs (predominantly high-potency opioids and benzodiazepine-related drugs) found in samples reported as being associated with overdose has increased dramatically, signaling that the unregulated fentanyl supply is becoming more contaminated, more potent, and less predictable over time.

This graph summarizes trends in the noteworthy drugs most commonly found in expected fentanyl samples reported as being associated with overdose between October 2019 and December 2022.

Growing complexities in the composition of fentanyl samples associated with overdose

400 expected fentanyl samples checked | Oct10/19 – Dec31/22 | www.drugchecking.cdpe.org



Unfamiliar with some of the drugs found in samples associated with overdose?

View our [drug dictionary](#).

Noteworthy drugs found in expected fentanyl samples

Of the 1,371 expected fentanyl samples checked between January 1 and December 31, 2022, 62% (846) contained one or more 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.

Of the 1,371 expected fentanyl samples checked that contained noteworthy drugs:

- 51% (694) contained one or more non-opioid central nervous system and respiratory depressants:
 - 44% (601) contained benzodiazepine-related drugs
 - 11% (155) contained xylazine
 - Less than 1% (13) contained synthetic cannabinoid-related drugs
- 24% (333) contained one or more high-potency opioid other than fentanyl:
 - 12% (162) contained nitazene opioids
 - 9% (119) contained fluorofentanyl
 - 6% (76) contained carfentanil

What are noteworthy drugs?

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.

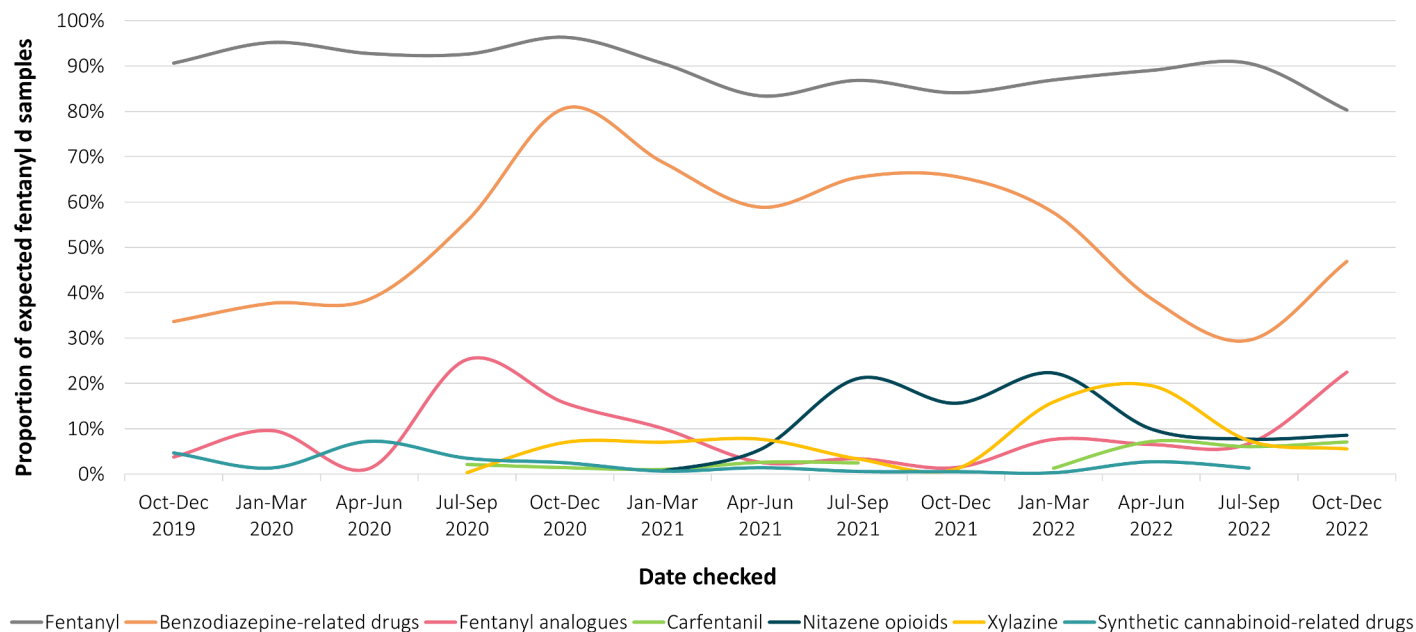
With the unregulated fentanyl supply changing so rapidly, it is nearly impossible for people who use fentanyl to make informed drug use decisions without access to harm reduction services like drug checking. For example, in 2022, the presence of benzodiazepine-related drugs found in fentanyl samples went from 58% (January – March) to 30% (July – September). This level of volatility has a range of serious and potentially fatal consequences for people who use fentanyl, including benzodiazepine withdrawal from unexpected benzodiazepine-related drugs presenting in the fentanyl supply, and increased risk of overdose or prolonged sedation when benzodiazepine-related drugs present in combination with other central nervous system and respiratory depressants.

Prior to 2022, carfentanil only appeared sporadically in fentanyl samples checked by Toronto's Drug Checking Service (approximately 1%). Throughout 2022, carfentanil consistently presented in up to 7% of fentanyl samples. Similarly, fluorofentanyl (a fentanyl analogue in the graph below) went from presenting in 1% of fentanyl samples from January to August 2022, to 36% in December.

This graph summarizes the most important noteworthy drug trends observed in the fentanyl samples checked between October 2019 and December 2022.

Noteworthy drugs found in expected fentanyl samples

3,676 expected fentanyl samples checked | Oct10/19 – Dec31/22 | www.drugchecking.cdpe.org



Benzodiazepine-related drugs include: alprazolam (Xanax), bromazolam, clonazepam, clonazolam, desalkylflurazepam, desalkylgidazepam, deschloretizolam, diazepam (Valium), etizolam, flualprazolam, flubromazepam, flubromazolam, flurazepam, meclonazepam, nordiazepam, and temazepam.

Fentanyl analogues include: 4-Fluorobutyrylfentanyl (4-FBF)/4-Fluoroisobutyrfentanyl, acetyl fentanyl, bromofentanyl, butyryl fentanyl, fluorofentanyl, furanyl fentanyl, furanyl fentanyl-related, furanylethyl fentanyl, and valeryl fentanyl.

Nitazene opioids include: 5-Aminoisotonitazene, Etodesnitazene, etonitazene, etonitazepyne, isotonitazene/protonitazene, metonitazene, and N-desethyl isotonitazene.

Synthetic cannabinoids include: AB-FUBINACA, ACHMINACA, and AMB-FUBINACA.

To review noteworthy drugs found in expected fentanyl samples but not included in this summary (e.g., levamisole or phenacetin), visit our interactive [Noteworthy drug trends visualization](#).

High-potency opioids found in expected fentanyl samples

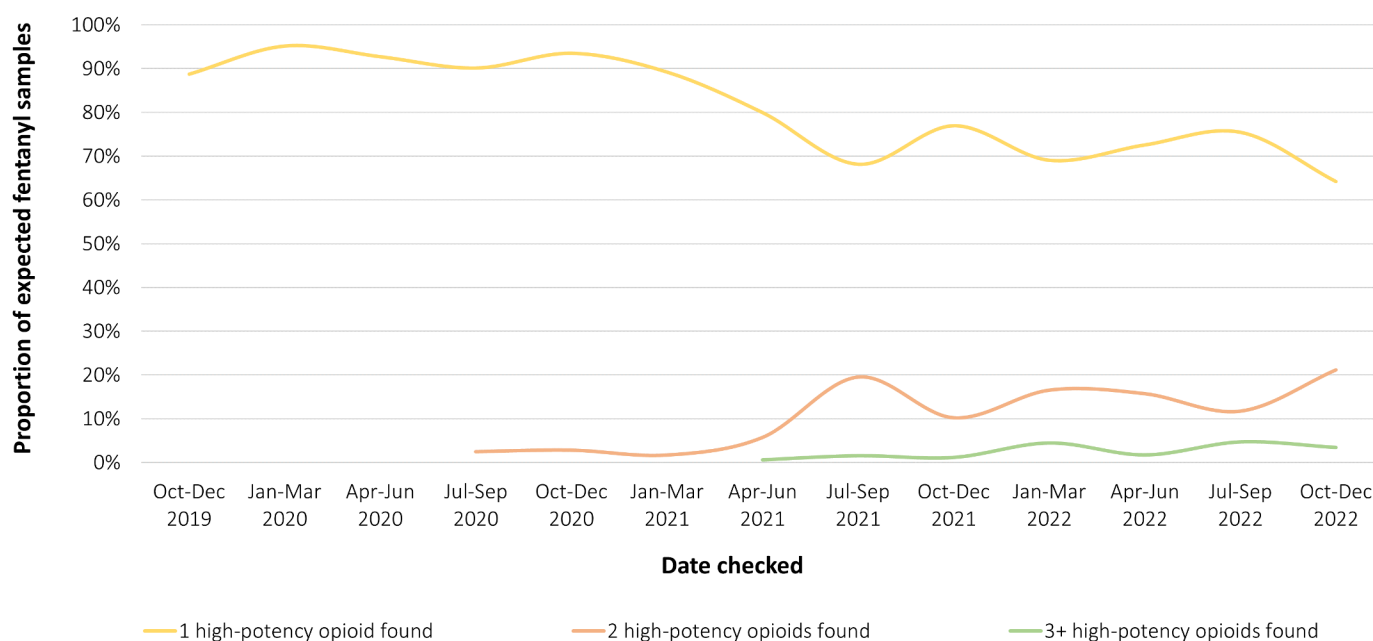
Of the 1,371 expected fentanyl samples checked between January 1 and December 31, 2022, 20% (280) contained more than one high-potency opioid. The majority of these samples contained fentanyl in combination with either fluorofentanyl, carfentanil, and/or one or more nitazene opioids. Of fentanyl samples that contained multiple high-potency opioids:

- 84% (235) contained two high-potency opioids
- 15% (41) contained three high-potency opioids
- 1% (3) contained four high-potency opioids
- Less than 1% (1) contained five high-potency opioids

This graph shows the proportion of fentanyl samples that have contained multiple high-potency opioids between October 2019 and December 31, 2022. In 2022, we observed an increase in the number of fentanyl samples that contained more than one high-potency opioid, likely indicating that the strength of the fentanyl supply is increasing over time.

High-potency opioids found in expected fentanyl samples

3,676 expected fentanyl samples checked | Oct10/19 – Dec31/22 | www.drugchecking.cdpe.org

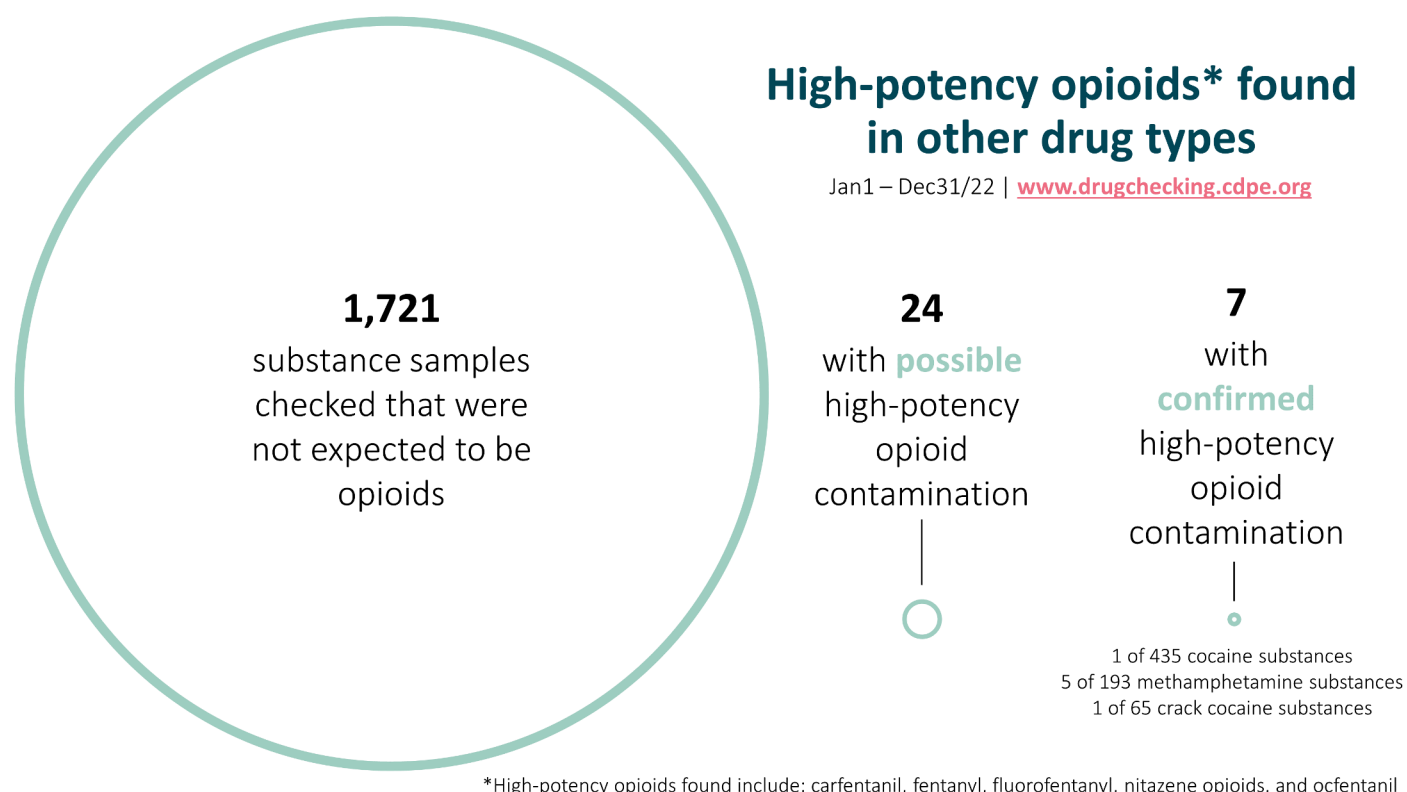


Toronto's Drug Checking Service considers opioids that are as strong or stronger than fentanyl "high-potency opioids." High-potency opioids found by Toronto's Drug Checking Service to date include carfentanil, etodesnitazene, etonitazepyne, fentanyl, fluorofentanyl, isotonitazene/protonitazene, metonitazene, N-desethyl isotonitazene, and ocfentanil. Note: Since isotonitazene and protonitazene have a very similar chemical structure, it is not currently possible for Toronto's Drug Checking Service to differentiate between the two. For this reason, we report the two drugs together.

High-potency opioid contamination of other drugs

Of the 3,742 substance samples checked not expected to be opioids between October 2019 and December 2022, only 0.2% (9) contained a high-potency opioid.

There is increasing consensus in the drug checking community that the unexpected presence of high-potency opioids in other drug types, such as stimulants and psychedelics, is likely the product of accidental cross contamination rather than intentional adulteration. Of the 1,721 substances checked in 2022 that were not expected to be opioids, 1.4% (24) were identified as possibly being contaminated with a high-potency opioid. Looking more closely at these 24 substance samples, we determined uncertainty related to the reported expected drug in 17 and, therefore, could not confirm high-potency opioid contamination. Ultimately, in 2022, 0.4% (7) of substance samples checked not expected to be opioids were confirmed to contain a high-potency opioid.



Despite what is shared in the media and public discourse, **it is incredibly rare that Toronto's Drug Checking Service finds fentanyl or other high-potency opioids in samples expected to be stimulants, psychedelics, and depressants.** When fentanyl or other high-potency opioids are found in non-opioid samples, we make every effort to find out as much as we can about that sample and the service user in an effort not to contribute to misinformation about high-potency opioid contamination of other drug types.

Despite only 0.4% of other drugs containing high-potency opioids in 2022, this statistic is likely over-reported, as all 5 methamphetamine substances were known to have come from the London,

Ontario, on the same date, and were likely all from the same batch of drugs. They were analyzed, specifically, to confirm the presence of fentanyl, and therefore are outside of the parameters of routine drug checking conducted by Toronto's Drug Checking Service. Analysis results for these samples were used to inform a public health [alert issued by Middlesex-London Health Unity](#).

Key takeaways

The unregulated opioid supply in Toronto, and likely elsewhere in Ontario, is increasingly more contaminated, more toxic, more potent, and less predictable. In 2022, Toronto's Drug Checking Service observed:

- Samples expected to be opioids continued to be more contaminated than other expected drugs: only 6% of expected fentanyl substances contained only fentanyl, as compared to 81% of expected methamphetamine and 74% of expected cocaine substances, respectively.
- The composition of expected fentanyl samples reported as being associated with overdose are becoming more complex, with more high-potency opioids and non-opioid central nervous system and respiratory depressants, like benzodiazepine-related drugs and xylazine, found over the course of our pilot program.
- Over 60% of expected fentanyl samples contained a noteworthy drug – mostly other central nervous system and respiratory depressants, which could dangerously suppress vitals (e.g., slowing down of breathing, blood pressure, heart rate) and cause extreme sedation.
- Over 20% of expected fentanyl samples contained more than one high-potency opioid. When high-potency opioids are used in combination, the risk of overdose increases and more naloxone or other sustained responses (e.g., oxygen) may be required to reverse an overdose.
- Fluorofentanyl (a family of active fentanyl-related drugs para-, ortho-, or meta-fluorofentanyl, which are up to 2 times stronger than fentanyl) went from presenting in just 1% of expected fentanyl samples from January to August to 36% by December.
- Despite claims made in the media and public discourse, Toronto's Drug Checking Service has found that high-potency opioids rarely contaminate other drug types, such as stimulants, psychedelics, and depressants – 0.4% of non-opioid samples contained high-potency opioids in 2022.

As of April 1, 2023, Toronto's Drug Checking Service is without a long-term funding commitment and has begun to wind down various aspects of the service. As the only operational drug checking service in the province of Ontario, an internationally recognized leader in the field of harm reduction, and given its positive and quantifiable impact on responding to Canada's drug poisoning crisis, Toronto's Drug Checking Service urgently requires a sufficient and long-term funding commitment to sustain and scale its operation. If you are interested in supporting us or learning more, please email drugchecking@cdpe.org.

Tips & help

Checking your drugs is one way to reduce the harms associated with using drugs from an unregulated supply. Toronto's Drug Checking Service is offered alongside other harm reduction services in Toronto, including supervised consumption. These services have the most impact when used together.

1. **Carry and be trained to use naloxone.** Naloxone, also known by the brand name Narcan, is a drug that can temporarily reverse an opioid overdose. Naloxone can be picked up for free from your [local harm reduction agency or pharmacy](#) and [free training](#) is available online. Consider carrying multiple doses of naloxone.
2. **Get your drugs checked before using.** In Toronto, [drug checking services](#) are offered at [Moss Park Consumption and Treatment Service](#), Parkdale Queen West Community Health Centre ([Queen West](#) and [Parkdale](#) sites), [South Riverdale Community Health Centre](#), and [The Works at Toronto Public Health](#). You can also check your drugs after you have used them by submitting used drug equipment, like a cooker or a filter.

Other drug checking services in Canada include [British Columbia Centre on Substance Use Drug Checking Service](#), [Get Your Drugs Tested](#), and [Vancouver Island Drug Checking Project](#).

3. **Use at a supervised consumption site or overdose prevention site.** Here is a [list of sites that offer supervised consumption in Toronto](#) and an [interactive map of sites that offer supervised consumption across Canada](#).
4. **Use with someone else and take turns spotting for each other.** A buddy system is safer than using alone.
5. **If you must use alone, let someone know before you use.** Call someone you know and have them stay on the phone with you while you use. Tell them your address and keep your door unlocked. The [National Overdose Response Service](#) is available to anyone in Canada and can be reached at 1-888-688-NORS (6677). [The Brave App](#) is an app that can be downloaded on your phone and provides another way to let someone know before you use.
6. **Do a small test dose** first.
7. **Call 911 in an overdose situation.** The [Good Samaritan Drug Overdose Act](#) provides legal protection from drug-related charges for carrying drugs for personal use and other simple possession offences.
8. If your drugs did not contain what you were expecting, **consider talking to the person you got your drugs from**, or get your drugs from another source if possible.
9. **If you use opioids, learn more about safer supply programs.** Safer supply programs provide people who use drugs with prescribed alternatives to opioids obtained from the unregulated supply. Here is an [interactive map of sites that operate safer supply projects across Canada](#) and a [toolkit to advocate for safer opioid supply programs](#).

Alternatively, you could **speak to a health care provider about options** like methadone or suboxone. Your [local harm reduction agency](#) could likely refer you to methadone or suboxone providers. Or you could contact [ConnexOntario](#).

10. **Visit your local harm reduction agency for free supplies**, including safer injection and smoking equipment. Here is a list of [harm reduction agencies in Ontario](#).
11. **If you are a youth who uses drugs, connect with organizations like the Trip! Project**. The [Trip! Project](#) is a Toronto-based youth-led harm reduction health information service for the dance music scene and youth who use drugs.
12. **Stay informed** by [signing up](#) to receive alerts, reports, and other information on the unregulated drug supply from Toronto's Drug Checking Service. Results from samples checked by Toronto's Drug Checking Service are combined and [shared online](#) every other week. You can also sign up for [Toronto Public Health's mailing list](#) to receive alerts and other drug-related information.
13. **Act to advance the health, human rights, and dignity of people who use drugs** by connecting with and supporting advocacy organizations such as [Toronto Harm Reduction Alliance](#), [Canadian Association of People who Use Drugs](#), [Canadian Students for Sensible Drug Policy](#), and [Canadian Drug Policy Coalition](#).

Limitations of Toronto's Drug Checking Service

It is important to understand the limitations of this drug checking service:

Checking a sample **cannot guarantee that a drug is safe to use.**

The results for a sample **may not represent the rest of the drugs that sample was taken from** (this is known as the [Chocolate Chip Cookie Effect](#)).

Due to technological limitations, some **drugs may be missed.**

Due to technological limitations, **non-drug fillers are not reported.** This could include non-drug fillers that may be dangerous, such as bacteria, metals, pesticides, or inorganic salts. Other non-drug fillers may not be dangerous, such as sugar or laxatives.

Some human interpretation is required by skilled laboratory technologists, meaning there could be some variation in results.


Results for used drug equipment have other limitations:

- Drug equipment, like cookers, are often re-used. The mass spectrometry technologies used for Toronto's Drug Checking Service are so sensitive that very trace amounts of drugs may be found. This means that **when drug equipment is re-used, drugs from past use may present in the results for the sample that is being checked.** This can interfere with current drug market monitoring, which is why we rely on substance samples when reporting trends for most drugs.
- Fatty acids are more commonly found in samples that are taken from used drug equipment, most likely from oils on skin. These **fatty acids can interfere with the mass spectrometry analysis.** It may be difficult to see past them to determine which drugs are present.

For these reasons, **checking substances instead of used drug equipment is preferred.**

What's the Chocolate Chip Cookie Effect?

The results for a sample that is checked may not represent the rest of the drugs that sample was taken from. You can imagine your drugs as a chocolate chip cookie. If you check a piece of the cookie that is only dough, your results may not identify chocolate as present. Mixing a powder or scratching different parts of a pill when preparing a sample can increase the representativeness of your sample.



The [Centre on Drug Policy Evaluation](#) strives to improve community health and safety by conducting research and outreach on best practices in drug policy. We work collaboratively with governments, affected communities, and civil society to guide effective and evidence-based policy responses to substance use. The Centre on Drug Policy Evaluation is housed within MAP Centre for Urban Health Solutions at St. Michael's Hospital, a site of Unity Health Toronto, in Toronto, Canada.

Learn more about [Toronto's Drug Checking Service](#). [Sign up](#) to receive alerts, reports, and other information on Toronto's unregulated drug supply.

Like us on Facebook, facebook.com/centreondrugpolicyevaluation, and follow us on Twitter, [@drugpolicyctr](#).

Questions or comments? We'd love to hear from you. You can reach us at drugchecking@cdpe.org.

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