Drug checking service (SAS)

Drug checking report from summer 2023 (may to august)

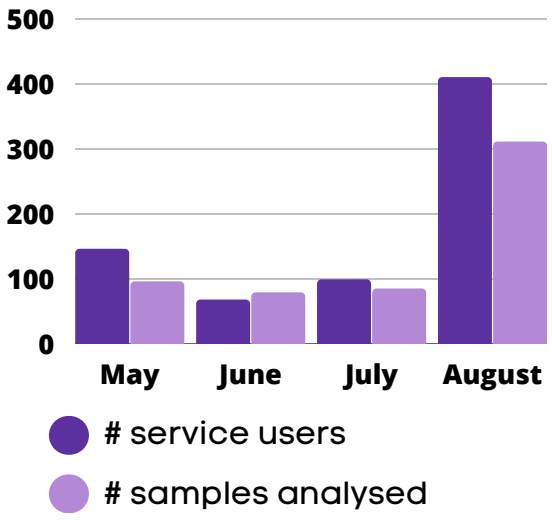
During this period, **723 people** visited our drug checking service and we checked **571 samples**.

Our service is still being discovered: 85 % of people were using our service for the first time.

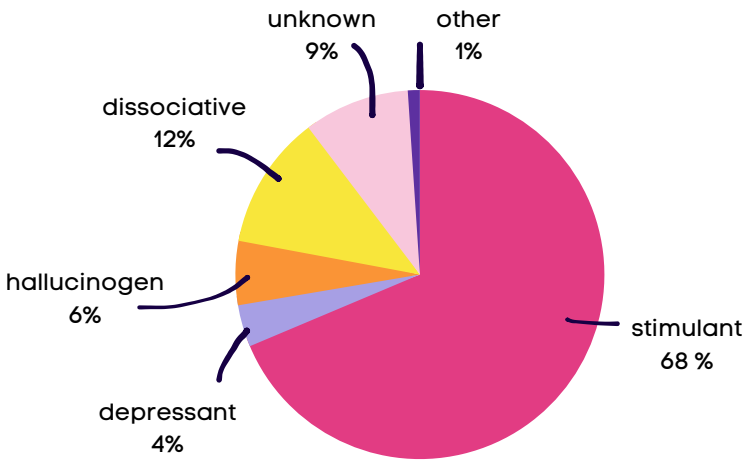
The three substance that we tested the most were MDMA (234 samples), cocaine (115 samples), and ketamine (67 samples).

We were surprised to find that the proportion of people who check their drug before vs. after using it was around 50/50.

WE WERE BUSY!



WHAT KINDS OF SUBSTANCES DID WE TEST?

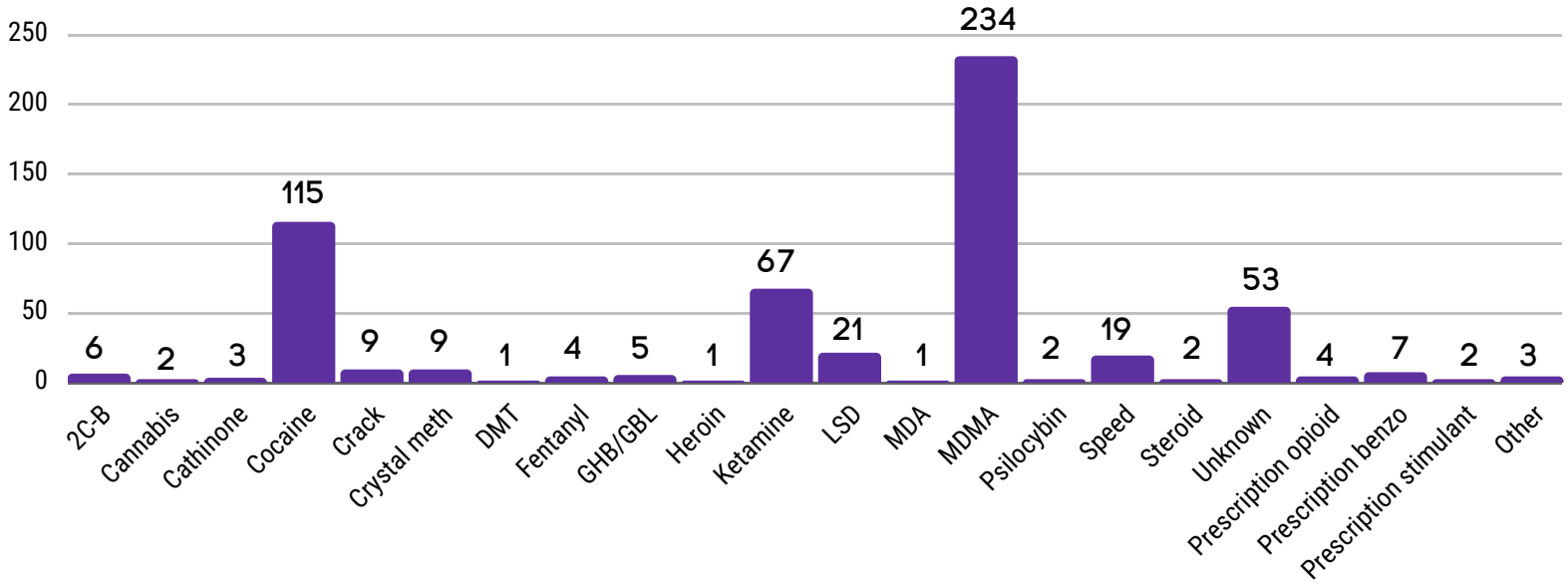


What is drug checking, and how do you access the service?

- Drug checking aims to produce more information about a drug or substance.
- Our goal is to give the person(s) in front of us more information about their substance, so they can make their own decisions about how they will use it.
- We encourage harm reduction and overdose prevention strategies, and don't encourage nor discourage drug use.
- Our drug checking service is free and it takes about 15 minutes for the tests.
- For the tests we need the amount of substance approximately equal to the size of a pumpkin seed.
- We are able to provide information about what is in the substance.
- We cannot give information about the purity, the potency, or the safety of the substance.
- Visit our website to know where and when our drug checking van is open.

https://grip-prevention.ca/en/events/

We checked a variety of substances:

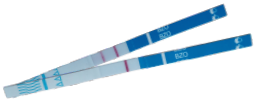


Noteworthy findings :

- Out of 234 MDMA samples, 20 contained MDA, two were methamphetamine instead, one was ketamine instead, and one contained fentanyl.
- In 71% of samples that were expected to be MDMA, we were only able to detect MDMA.
- The following cutting agents were found in cocaine more than one time: caffeine, lidocaine, mannitol, glutamine, phenacetine, and levamisole.
- One sample that was supposed to be 2C-B was instead a mixture of ketamine, sucrose and caffeine.
- We detected a ketamine analog (2-fluoro-2-oxo PCE) two samples expected to be ketamine.
- 1,4-butanediol was found in 4 out of 5 samples expected to be GHB or GBL.
- We were unable to detect the active components in a few samples. This does not mean that there is nothing active in the sample. It could mean that there is something present at a concentration under what we are able to detect. Some substances can be very strong even at low doses.

The drug checking technologies we use :

FT-IR
aka "the machine" and "the spectrometer":
can detect many substances but not if they're present at less than 5% in the sample



Test strips:
accessible and sensitive, but only detect certain substances

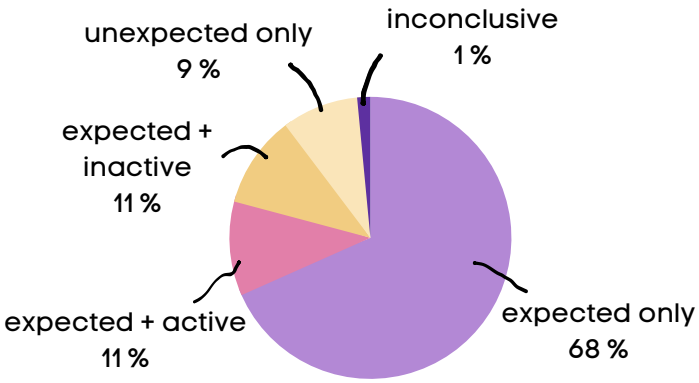
Colorimetric reagents:
accessible and sensitive, but interpretation of the result can be difficult

See page 6 to know more about the limits of our technologies

Stimulant samples

- Service users came to test the following expected stimulants : cathinones (3), cocaine (115), crack (9), crystal meth (9), MDA (1), MDMA (234), psychostimulants (2), and speed (19).

- What we detected :



Expected only : we only detected the substance that was expected by the service user

Expected + active : we detected the expected substance and active cuts like caffeine or lidocaine

Expected + inactive : we detected the expected substance and inactive cuts like cellulose or sugar

Unexpected only : we did not detect the expected substance

Inconclusive : we were not able identify the sample

Cutting agents and adulterants we detected in stimulants:

ACTIVE	INACTIVE
2C-B, aspirin, caffeine, crack, dipentylone, fentanyl, ketamine, levamisole, lidocaine, methamphetamine, MDA, phenacetin	baking soda, calcium phosphate, cellulose, creatine, dimethyl sulfone, glucose, glutamine, lactose, mannitol, safrole, sucrose, table salt

Hallucinogen samples

- Service users came to test the following expected hallucinogens : 2C-B (6), cannabis (2), DMT (1), LSD (21), and psilocybin (2).

- What we detected :
  - In samples expected to be LSD : we were able to confidently identify LSD in six samples using colorimetric reagents. Otherwise, we detected AL-LAD or another LSD analog.
  - Four samples of LSD were not possible to identify because they were mixed with water and the concentration was too low to be detected.
  - In samples expected to be 2C-B: five were found to contain 2C-B, and one did not contain 2C-B, it contained ketamine, sucrose and caffeine.
  - We are not able to test cannabis and mushroom samples on the FT-IR because its organic matter. We can only use test strips on plant material.

Cutting agents and adulterants we detected in hallocinogens :

ACTIVE	INACTIVE
AL-LAD (LSD analog), caffeine, ketamine	sucrose

Dissociative samples

- Ketamine was the only dissociative we tested (67 samples).
- What we detected in samples expected to be ketamine :
  - two samples were found to be ketamine analog 2-fluoro-2-oxo PCE. The effects of this substance are not well known.
  - in 88% of samples expected to be ketamine, we were only able to detect ketamine

Cutting agents and adulterants we detected in ketamine :

ACTIVE	INACTIVE
2-fluoro-2-oxo PCE	baking soda, dimethyl sulfone, mannitol

Depressant samples

- Service users came to test the following expected depressants : Ativan/lorazepam (3), bretazenil (1), Dilaudid/hydroporphone (2), fentanyl (4), GHB/GBL (5), heroin (1), methaqualone (1), Percocet/oxycodone (2), rilmazafone (1), and Xanax/alprazolam (4).
- What we detected :
  - In samples expected to be fentanyl: fentanyl as well as benzos were found in all four samples. Fentanyl was detected on the FT-IR in two out of four samples, meaning that the concentration of fentanyl was more than 5% in the sample.
  - In the one sample of heroin, we found heroin. Fentanyl, benzo, and xylazine test strips were negative.
  - In samples expected to be a benzodiazepine, we were not able to detect the benzo on the FT-IR, but the benzo test strips were positive. This is normal for benzos because they are very strong even at low concentrations in the sample.
  - In samples expected to be GHB or GBL : 1,4-butanediol was found in 4 out of 5 samples, in the other sample, GHB was detected.
  - For samples expected to be oxycodone or hydromorphone, we were not able to detect the opioid. However, it was still useful to be able to test the substance with fentanyl and benzo test strips.

Cutting agents and adulterants we detected :

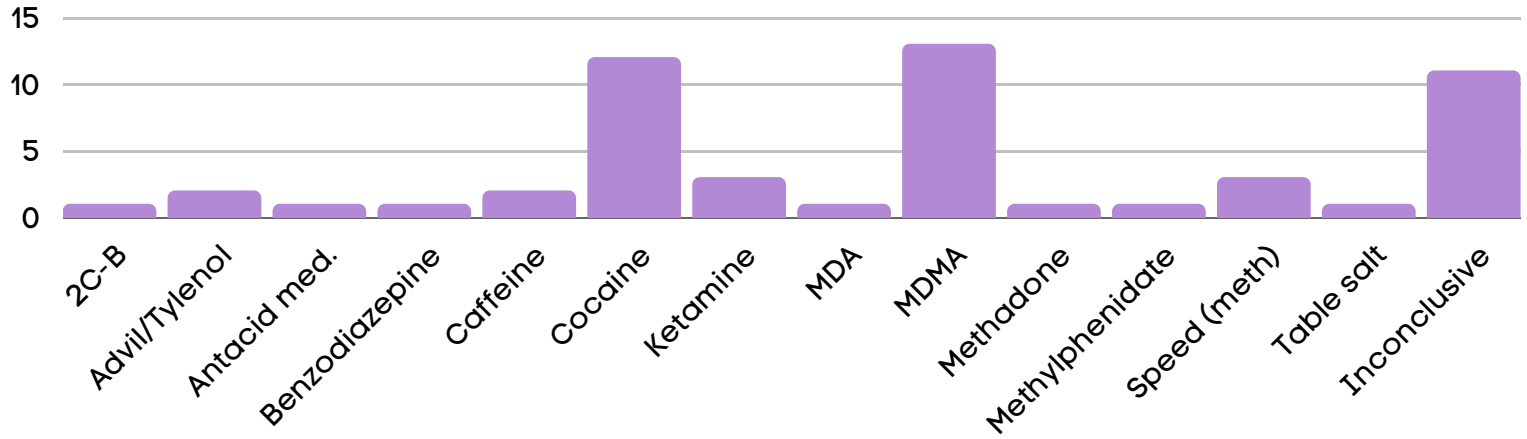
ACTIVE	INACTIVE
1,4-butanediol, bromazolam, caffeine	dimethyl sulfone, erythritol, lactose

New! We now have xylazine test strips! Come visit us to know more!

Unknown samples

These are samples where the expected identity is not known. Sometimes this is because the substance was found or donated to the person.

In 53 unknown samples, the active substances we found were :



Other samples

- These samples include a steroid (oxandrolone) and cialis (tadalafil)
- For the two oxandrolone samples, we were unable to detect a steroid.
- For the Cialis sample, we were able to detect tadalafil.

Common cutting agents

Dimethyl sulfone : marketed as a dietary supplement for osteoarthritis and occurs naturally in certain plants and cereals.

Levamisole : a cutting agent commonly found in cocaine due to its similar appearance. The consumption of levamisole can reduce the body's immune response to infections.

Lidocaine : a local anesthetic. Causes a strong numbing effect when sniffed. Large intravenous injections of lidocaine can lead to overdose.

MDA : similar to MDMA, however the effects last much longer, it is a bit strong, and the effects more hallucinogenic. It is sometimes found in samples sold as MDMA.

Phenacetin : a drug previously used to relieve pain and reduce fever, but which has been withdrawn from the market.

Sugar alcohols (such as mannitol and erythritol) : used in the food industry as artificial sweeteners.

Our drug checking technologies have limits:

FT-IR Spectrometer

With FT-IR, **we can :**

- Analyze samples that contain multiple substances or cutting agents present in concentrations of 5% and more.
- Identify up to 3 or 4 different components in the sample.

With FT-IR, **we cannot :**

- Detect substances or cutting agents that are present in low concentrations (5% and less).
- Distinguish between substances that have a similar chemical structure (e.g. the 2C-X family, or derivatives of fentanyl).

Test Strips

for fentanyl and benzodiazepines

With test strips, **we can :**

- Detect the presence of fentanyl and some fentanyl derivatives.
- Detect the presence of some benzodiazepines.

With test strips, **we cannot** :

- Assume that the test results apply to the rest of your sample or batch.
- Detect all of the derivatives of fentanyl or benzodiazepines that are in circulation.

Reagent Testing

With reagent testing, **we can :**

- Detect some components of the sample present in small quantities.
- Complement the information provided by FT-IR and test strips, through a process of elimination.

With reagent testing, **we cannot :**

- Identify the components of a complex mixture.
- Identify the components with precision and certainty.

In general, we cannot :

- Determine the purity or the strength of a drug. We can give you an idea of what is present in the sample, but we cannot determine the quantities or proportions of the components.
- Detect the hundreds of new drugs that are synthesized each year.
- Analyze samples of organic matter (like cannabis, mushrooms, or food).