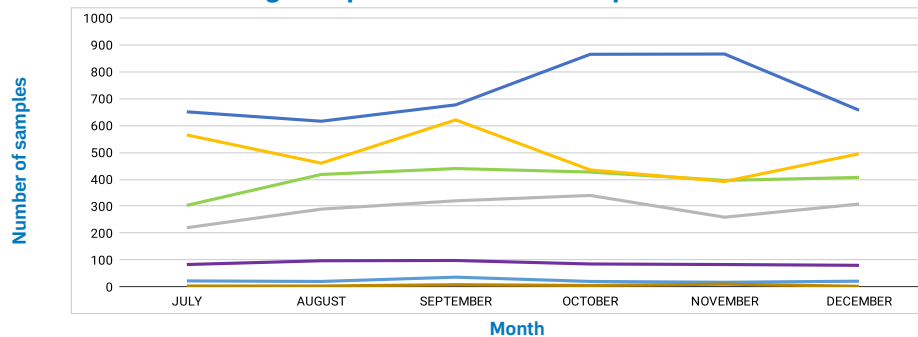


Key Findings

- In December, a total of 1,970 drug checks were performed across community drug checking sites offering FTIR services in BC.
- The overall percentage of opioids testing positive for benzodiazepines rose from 41.2% to 48.6% in December (319 of 657 samples), the highest level ever detected in a month for the second month consecutively.
- Benzodiazepine-adulteration in the opioid supply appears to be shifting from etizolam, a benzodiazepine-like substance, to other benzodiazepines such as bromazolam. Bromazolam is more consistently detected with benzodiazepine test strips, and as a result cause benzodiazepine-positivity to increase.
- In December, bromazolam was the most frequent benzodiazepine identified in opioid samples, indicating concentrations high enough to be detectable by FTIR. Bromazolam was found present using FTIR in 37 opioid samples, followed by etizolam (5 samples).
- Xylazine, an animal tranquilizer, continues to be increasingly detected by FTIR, found present in 20 opioid samples.
- The median fentanyl concentration of all samples was 14.9%, a slight increase from 14.7% last month. See page 3 for more detailed results.

Number of drug samples checked in the past 6 months



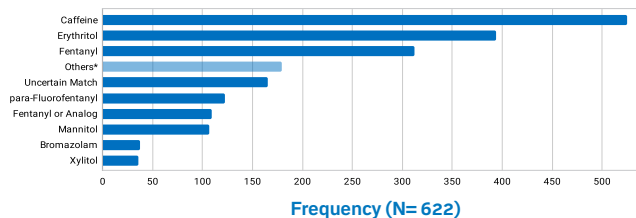
Number of samples by drug category in December

Opiod	657
Stimulant	407
Depressant	80
Psychedelic	495
Other	21
Polysubstance	2
Unknown	308

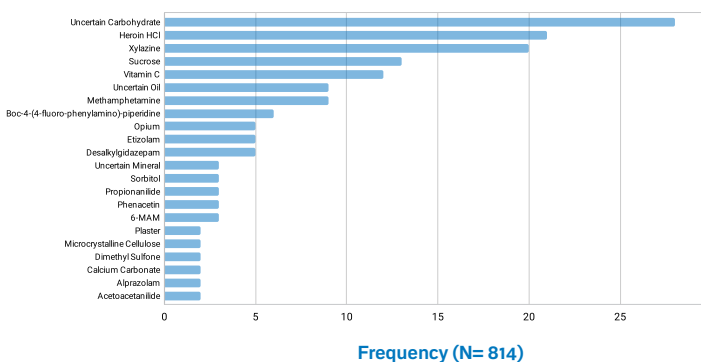
TOTAL: 1,970

Components found in drug samples in December

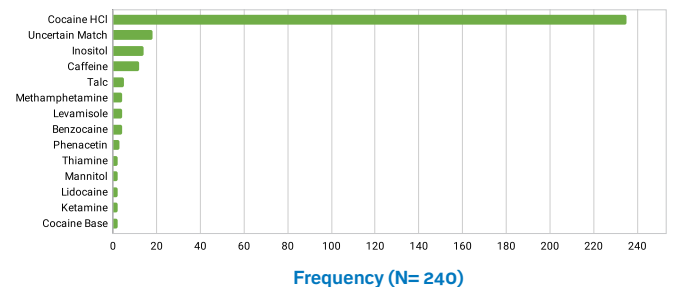
Components in opioids



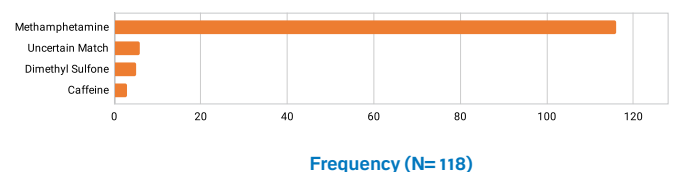
*Other components found in opioids



Components in cocaine

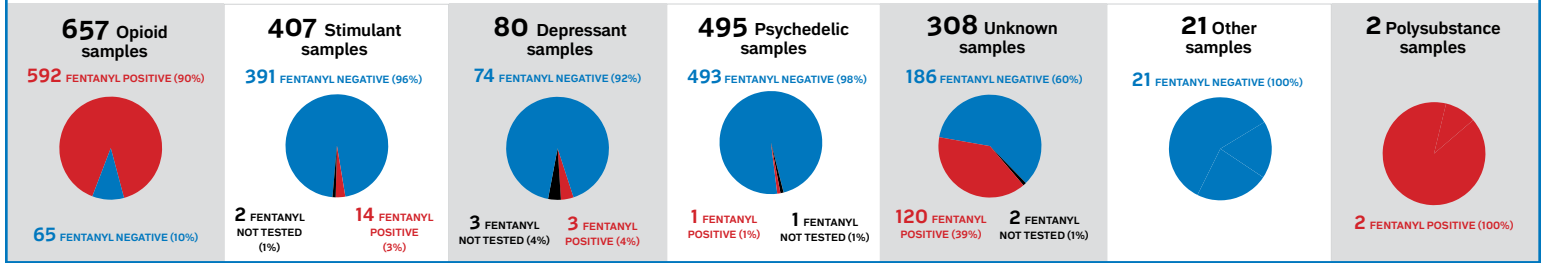


Components in methamphetamine



There were additional compounds detected a single time each. To save space, they have been omitted from these charts. For the full list of compounds detected, visit our data dashboard at www.drugcheckingbc.ca/dashboard/

Number of samples tested with fentanyl present

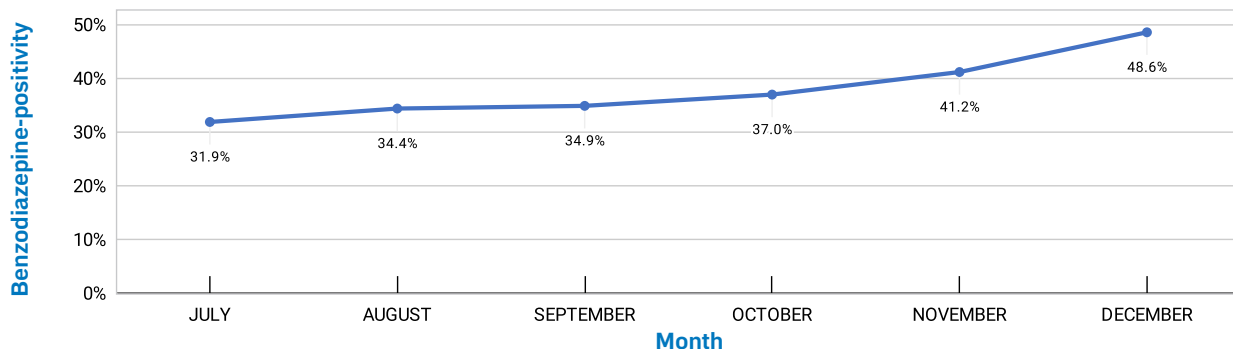


PUBLIC HEALTH NOTIFICATIONS

Date & Location	Expected Drug	Drugs Detected	Fentanyl Strip	Benzo Strip	Area Purchased	Alert Message
December 12, 2022 Vancouver	Down	Caffeine, Fentanyl, Erythritol, Xylazine	Positive	Positive	Vancouver	High concentrations of fentanyl and xylazine, as well as presence of benzodiazepines, poses high risk of overdose.
December 20, 2022 Vancouver	Crack Cocaine	Erythritol, Caffeine, Fentanyl or Analogue	Positive	Positive	Vancouver	Sample was sold as crack cocaine, but instead tested as benzodiazepine-positive down, presenting a high risk of overdose if consumed unknowingly.
December 20, 2022 Vancouver	Methamphetamine	Methamphetamine, Caffeine, Uncertain Match	Positive	Positive	Vancouver	Sample unexpectedly tested positive for presence of fentanyl and benzodiazepines, increasing risk of overdose.
December 20, 2022 Nelson and Castlegar	Down/Fentanyl	Fentanyl or Analogue	Positive	Positive	Nelson and Castlegar	High concentration of fentanyl and presence of benzodiazepines poses high risk of overdose. Sample has been associated with cases of amnesia following use.

Health authorities and community organizations issue further toxic drug alerts from sources other than drug checking. See their respective websites or social media accounts for more alerts.

Percentage of opioids testing positive for benzodiazepines in the past 6 months

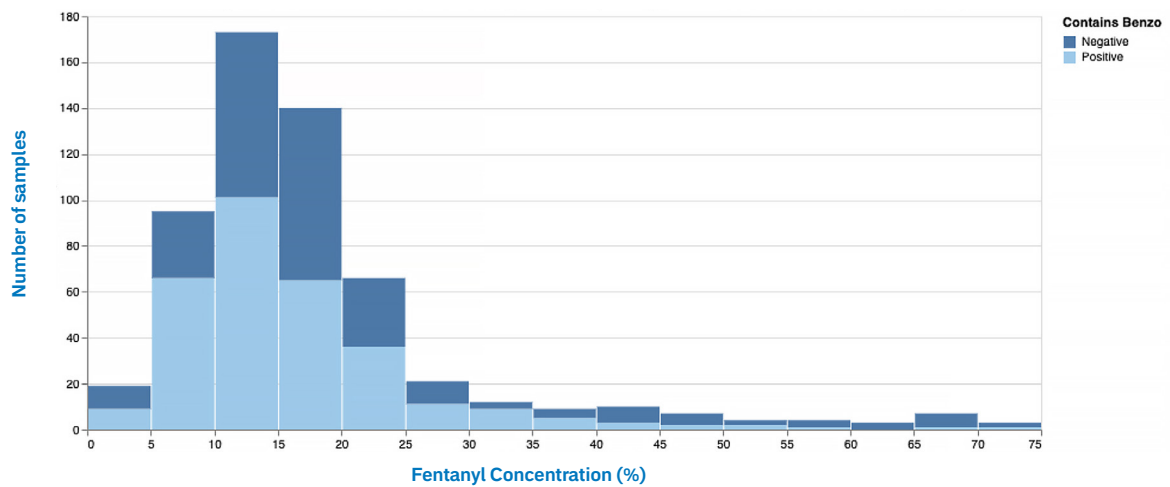


During the month of December, **48.6%** of expected opioid samples tested positive for benzodiazepines in our partner sites around BC (**319 samples of 657 checked**). Opioid samples are checked for benzodiazepine-positivity using BTNX test strips and the FTIR spectrometer. The results presented here are derived from both of these technologies and are presumptive until confirmed by a laboratory.

Fentanyl Quantification

The charts below summarize fentanyl concentrations of fentanyl-positive opioid samples brought for drug checking in British Columbia. Fentanyl concentrations were determined using FTIR and a calibrated fentanyl quantification model. Technicians at point-of-care may provide an estimated fentanyl quantification, generally an approximate range of fentanyl percentage in a mixture, but these results were calculated separately (post hoc) using the model for the purpose of this report.

Fentanyl Concentration of Opioid Drug Checking Samples in BC, December 2022



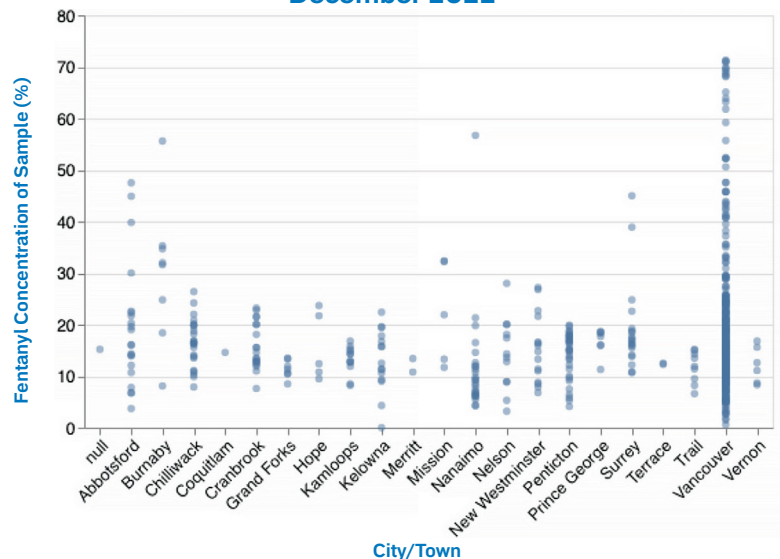
While most of fentanyl-positive opioids checked have a concentration of fentanyl between 5% and 15%, there remain many samples above 15% fentanyl-by-weight, and concentrations can approach 75% of the mixture. The median fentanyl concentration of all samples was 14.9%, a slight increase from 14.7% last month. When purchasing fentanyl from an unregulated drug supply, it is often impossible to know what the fentanyl concentration of the drugs is. Drug checking can help, but point-of-care quantification results are provided in a range since it is not possible to be precise with the available technologies. For example, a technician might say, “This sample contains caffeine, mannitol, and between 5% and 10% fentanyl.”

Drug supplies vary by location in the province. While samples from smaller communities appear to be more consistent, it is important to remember that this is a small number of drugs checked in each city or town. It is also important to note that these locations include only those participating in the BCCSU Drug Checking Project that provide data from FTIR spectroscopy. These numbers may not represent the broader supply or the supply in other settings.

It is very important to remember that the results presented here are fentanyl, not fentanyl analogues like carfentanil. Carfentanil is a potent opioid that is often present below the detection limit of the spectrometer and is therefore missed by point-of-care drug checking technologies. Your drug checking technician can explain the limitations in detail when you get your drugs checked, but always take additional harm reduction precautions, like using at an OPS if available, because potent opioids may be presented and go undetected.

If you have any questions about the results, please email us at drugchecking@bccsu.ubc.ca.

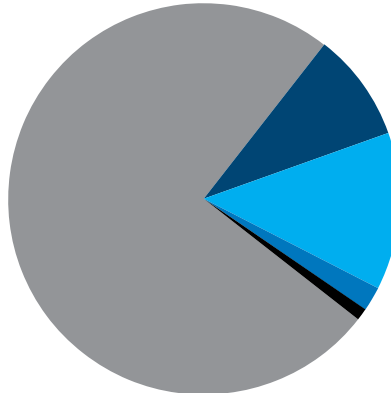
Fentanyl Concentration of Opioid Samples by City/Town, December 2022



Number of samples tested by region:

Total #: 1,970

1,476: Vancouver Coastal Health region (75%)



183: Fraser Health region (9%)


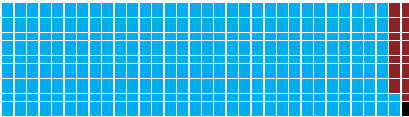
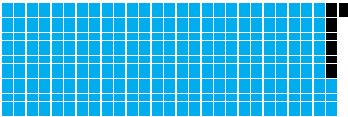

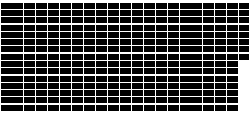
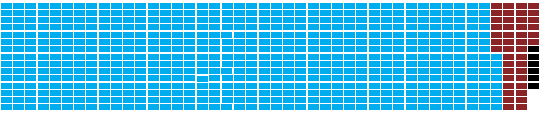

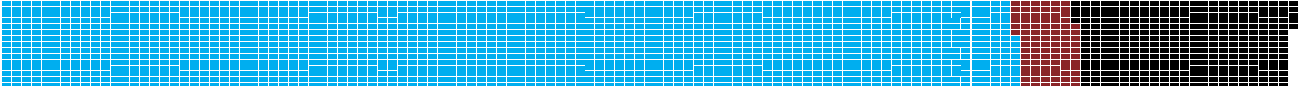
252: Interior Health region (13%)

41: Vancouver Island Health Region (2%)

18: Northern Health region (1%)

Number of samples that matched expectation

using FTIR/test strip drug checking

<p>EXPECTED DRUG: Depressant 80 Samples Tested</p>  <p>Matched: 66 Did not match: 13 Match not determined: 1</p>	<p>EXPECTED DRUG: Psychedelic 495 Samples Tested</p>  <p>Matched: 468 Did not match: 25 Match not determined: 2</p>	<p>EXPECTED DRUG: Stimulant 407 Samples Tested</p>  <p>Matched: 395 Did not match: 10 Match not determined: 2</p>	<p>EXPECTED DRUG: Polysubstance 2 Sample Tested</p>  <p>Matched: 2</p>
<p>EXPECTED DRUG: Unknown 308 Samples Tested</p>  <p>Match not determined: 308</p>	<p>EXPECTED DRUG: Opioid 657 Samples Tested</p>  <p>Matched: 608 Did not match: 43 Match not determined: 6</p>	<p>EXPECTED DRUG: Other 21 Samples Tested</p>  <p>Matched: 15 Did not match: 1 Match not determined: 5</p>	
<p>Total 1,970 Samples Tested</p>  <p>Matched: 1,554 Did not match: 92 Match not determined: 324</p>			

Please note that the presence of the expected substance does not imply purity, as samples frequently contain adulterating cutting agents

Depressant include:
benzodiazepines, etizolam,
GHB, hypnotics

Opioid include:
"down," heroin, fentanyl,
pharmaceutical opioids

Polysubstance includes:
cross-category mixtures

Psychedelic include:
MDMA and related,
2C-family, tryptamines,
ketamine, LSD

Stimulant include:
methamphetamine, "speed,"
cocaine and crack cocaine,
cathinones

Unknown includes:
samples where the individual
was unable to identify an
expected substance - this
includes found samples.

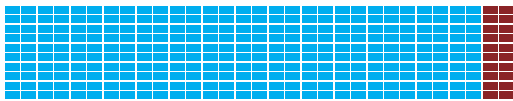
Number of opioid samples that matched expectation

using FTIR/test strip drug checking

EXPECTED DRUG:

Fentanyl

257 Samples Tested



Matched: 243
Did not match: 14

EXPECTED DRUG:

Heroin

19 Samples Tested



Matched: 15
Did not match: 4

EXPECTED DRUG:

Fentanyl and Heroin

1 Samples Tested



Did not match: 1

EXPECTED DRUG:

Opium

5 Samples Tested

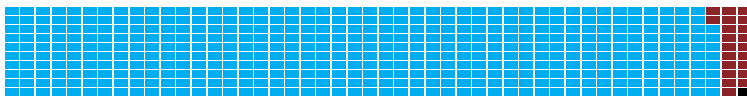


Matched: 5

EXPECTED DRUG:

Down

336 Samples Tested



Matched: 329
Did not match: 6
Match not determined: 1

EXPECTED DRUG:

Pharmaceutical

35 Samples Tested



Matched: 16
Did not match: 14
Match not determined: 5

EXPECTED DRUG:

Other Opioid

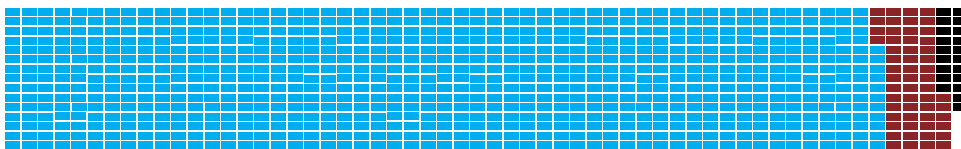
4 Samples Tested



Did not match: 4

Total

657 Samples Tested



Matched: 608
Did not match: 43
Match not determined: 6

Please note that the presence of the expected substance does not imply purity, as samples frequently contain adulterating cutting agents. 'Down' can refer to any opioid drug present in any amount.

Data represented here are collected from our partner sites across the province. Drug samples are tested using the Fourier Transform Infrared (FTIR) spectrometer in combination with fentanyl test strips and benzodiazepine test strips.

There is 5% fentanyl detection limit on the FTIR spectrometer (McCrae, 2019), and a drug check on any given sample consists of both the FTIR and BTNX fentanyl immunoassay test strip testing done in combination. When applicable, BTNX benzodiazepine immunoassay test strips are also used.

BCCSU gratefully acknowledges the contributions of the following partners:

