

# Vancouver Island Drug Checking Project

NANDU Pop-Up - September 22, 2022

On September 22, 2022, Substance: The Vancouver Island Drug Checking Project facilitated a pop-up drug checking service in Nanaimo, British Columbia. In collaboration with the Nanaimo Area Network of Drug Users (NANDU), NARSF Programs, and Island Health, Substance was able to analyze 27 samples submitted by members accessing the NANDU site. Samples were analyzed at point of care using FTIR Spectroscopy and immunoassay strips and later analyzed using Paper-Spray Mass Spectrometry in Substance's downtown Victoria location. Results were uploaded to an online portal and accessed by service users.

While establishing new relationships and strengthening existing ones, we were able to collaborate with regional partners to provide comprehensive drug checking services to the area. In the continued context of the enduring public health emergency in British Columbia, we find value in collaborating to provide critical drug checking services. This report showcases the results of the NANDU pop-up service:

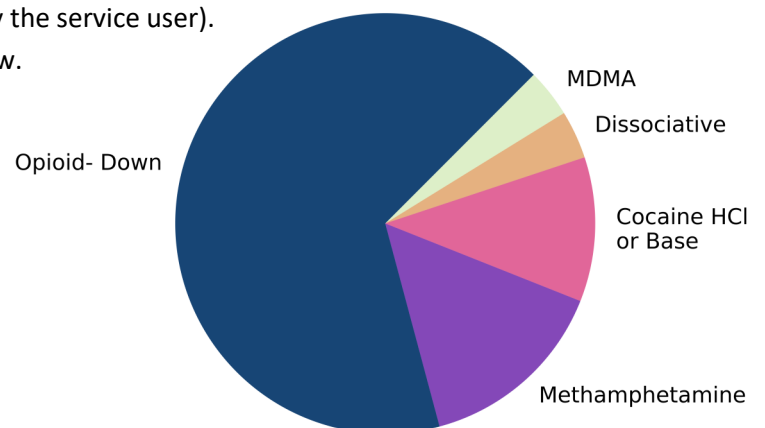
- The median fentanyl concentration found in opioid-down samples was 5.5%, with a maximum of 22.7%.
- Carfentanil was found in 5 opioid-down samples, with a median concentration of 1.03% and maximum concentration of 1.80%.
- The proportion of opioid-down samples that contained carfentanil was 13 times higher than what we typically see across Vancouver Island
- Benzodiazepines and/or etizolam were found in 67% of expected opioid-down samples.
- The median concentration of bromazolam, the most common benzodiazepine found in opioid-down samples was 4.8%, with a maximum of 20.3%.
- Xylazine, a veterinary sedative, was found in 5 opioid-down samples with a median concentration of 6.3% and a maximum concentration of 18.1%

## What did people bring to be tested?

The table below aggregates the total number of samples we tested by their "expected" substance (i.e. the drug category reported by the service user).

These data are visually represented in the pie chart below.

Expected substance	Number of Samples
Opioid Down (fentanyl)	18
Methamphetamine	4
Cocaine (HCl or Base)	3
Dissociative (ketamine)	1
MDMA	1

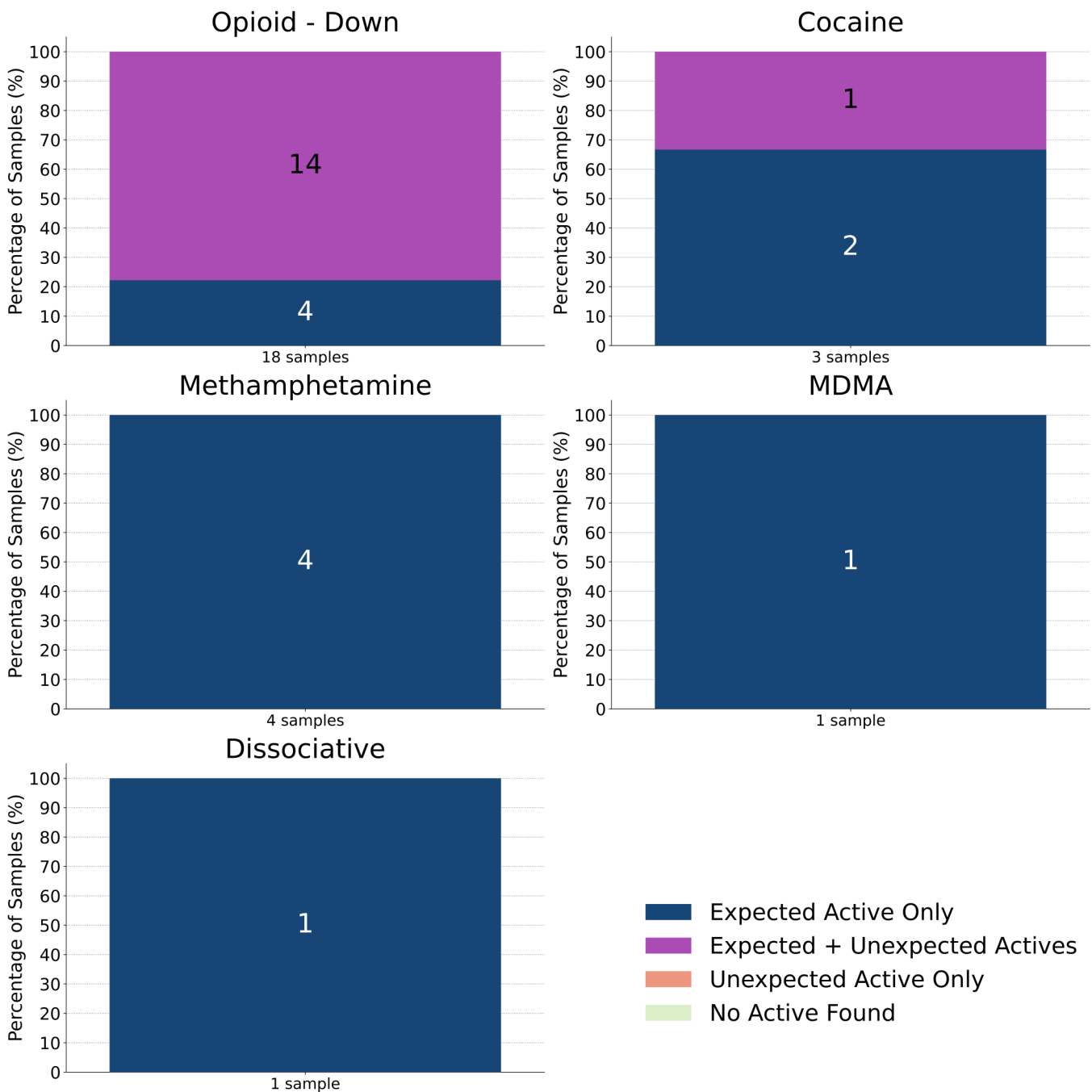


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## What did we find?

We tested each sample to determine what active ingredients, adulterants, and cutting agents were present. The majority of samples contained the expected active drug. However, we also detected a number of other notable components that may cause unexpected effects. The figures below illustrate the percentages and numbers of samples tested in each drug category, color coded by their composition. **Dark Blue** regions group samples that were simply as expected with no other notable compounds detected, **Magenta** shows samples that contained the expected drug *and* were contaminated with an unexpected active, **Salmon** groups samples that only contained an unexpected active (the expected drug was not found), and **Yellow** displays samples where no active compounds were detected.



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## What did we find?

Expanding on the figures shown on the previous page, for each drug category, we list the number of samples that contained the expected active and/or other notable components.

Opioid Down	Number of Samples
<b>Expected Active Only</b>	<b>4</b>
Fentanyl	4
<b>Expected* + Unexpected Active(s)</b>	<b>14</b>
Fentanyl*	14
Benzodiazepine (undifferentiated) <sup>1</sup>	2
Bromazolam	10
Carfentanil	5
Etizolam	1
Fluorofentanyl	2
Lidocaine	1
Xylazine	5

Methamphetamine	Number of Samples
<b>Expected Active Only</b>	<b>4</b>
Methamphetamine	4

Cocaine (HCl or Base)	Number of Samples
<b>Expected Active Only</b>	<b>2</b>
Cocaine Base	1
Cocaine HCl + 40% Talc	1
<b>Expected* + Unexpected Active(s)</b>	<b>1</b>
Cocaine Base* + 20% Phenacetin	1

MDMA	Number of Samples
<b>Expected Active Only</b>	<b>1</b>
MDMA	1

Dissociatives	Number of Samples
<b>Expected Active Only</b>	<b>1</b>
Ketamine	1

Data are preliminary. There were missing data for some samples. Instruments may not be able to detect all ingredients and certainty of interpretations may vary. Multiple substances may be present in one sample and substances may be present in trace concentrations. \*Expected active component. <sup>1</sup>Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

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## What did we find in Opioid-Down samples?

Focusing on opioid-down samples, the table below shows what we found in each sample checked, with concentrations determined via mass spectrometry. “Actives” include both expected and unexpected active compounds, while “Cuts” includes the inactive cutting agents detected. The “Sample Colour” was chosen by eye and may not reflect the true colour of the sample.

Actives	Cuts	Sample Colour
6% Fentanyl, 4% Bromazolam, 1.8% Carfentanil, 0.2% Etizolam, 9% Xylazine	Caffeine, Mannitol	Dark Green
5% Fentanyl, 6% Bromazolam, 1.6% Carfentanil, 6% Xylazine	Caffeine, Mannitol	Dark Green
5% Fentanyl, 7% Bromazolam, 0.6% Carfentanil, 5% Xylazine	Caffeine, Mannitol, Dimethyl sulfone (MSM)	Dark Green
11% Fentanyl, 5% Bromazolam, 2% Fluorofentanyl	Caffeine	Light Green
2% Fentanyl, 0.4% Bromazolam, 0.2% Fluorofentanyl	Caffeine, Mannitol	Light Green
23% Fentanyl	Erythritol	Pink
2% Fentanyl, 4% Bromazolam	Caffeine	Purple
13% Fentanyl, 7% Bromazolam	Caffeine	Purple
4% Fentanyl, 5% Bromazolam	Caffeine	Purple
19% Fentanyl	Erythritol	Magenta
5% Fentanyl, 0.6% Carfentanil, 2% Lidocaine	Caffeine, Xylitol	Brown
16% Fentanyl, 2% Bromazolam	Caffeine, Erythritol	Dark Brown
15% Fentanyl, 1.0% Carfentanil, 2% Xylazine	Caffeine, Mannitol	Dark Brown
Fentanyl (unknown concentration)*, Benzodiazepine (unknown concentration)*	Caffeine, Erythritol	Dark Brown
Fentanyl (unknown concentration)*	Caffeine, Erythritol	Dark Brown
0.7% Fentanyl	Caffeine, Erythritol	Dark Brown
0.5% Fentanyl, Benzodiazepine (unknown concentration)*	Caffeine, Erythritol	Dark Brown
13% Fentanyl, 20% Bromazolam, 18% Xylazine	Caffeine, Erythritol	Not recorded

Data are preliminary. There were missing data for some samples. Instruments may not be able to detect all ingredients and certainty of interpretations may vary. \*These results are only based on strip test results and are unconfirmed by mass spectrometry.

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## Quantification

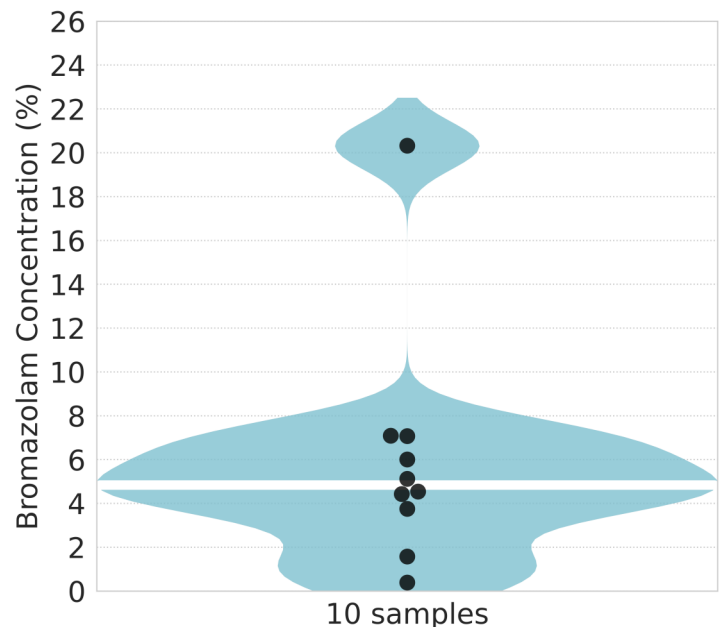
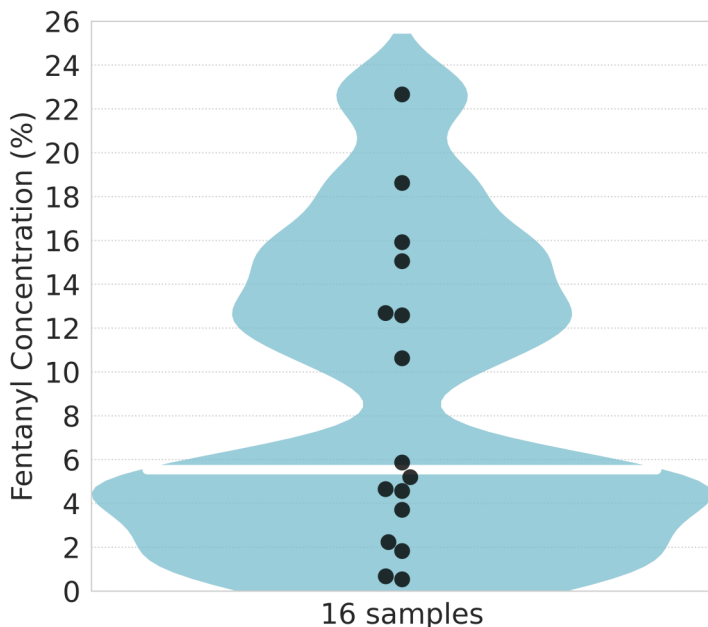
Using paper spray mass spectrometry (PS-MS) data, we were able to quantify low concentration compounds. These aggregate values are *inclusive to all expected drug categories* in which the active drugs are found. The median concentration of these drugs, as seen in Victoria over the month of September, is included for reference. Weight percentage is reported below.

Substance	# Quant.	NANDU Median	Min	Max	Victoria Median
Fentanyl	16	5.5%	0.5%	22.7%	9.6%
Bromazolam	10	4.8%	0.4%	20.3%	1.9%
Carfentanil	5	1.03%	0.64%	1.80%	0.48%
Xylazine	5	6.3%	2.4%	18.1%	3.3%
Fluorofentanyl	2	1.3%	0.2%	2.5%	5.0%
Etizolam	1	0.2%			2.2%

\*There is a maximum concentration limit that the PS-MS can quantify for each compound of interest. If a sample contains a higher percentage of a compound than the PS-MS's limits, then only the upper limit will be reported. For example, the upper limit of reporting for etizolam on the PS-MS is 25% - any sample containing more than 25% etizolam will be flagged as ">25%".

## Distribution of Fentanyl and Bromazolam Concentrations

The concentrations of fentanyl and bromazolam (the most common benzodiazepine found) for every sample quantified, are illustrated below to highlight the variability in the unregulated drug market. **Black Dots** are individual samples, **White Lines** mark the median concentration of the fentanyl/bromazolam positive samples checked, and the **width** of the colored regions is proportional to the number of samples in a concentration range.



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Amidst the ongoing overdose crisis in British Columbia, the Province of BC enacted enabling legislation to authorize both drug checking collection and testing sites under the authority of Health Canada's Urgent Public Needs Sites (UPHNS) regulation. The UPHNS process allows provinces to facilitate the establishment of overdose prevention and drug checking services without the cumbersome process of section 56(1) exemptions. The NANDU site received approval for drug checking by Island Health's Medical Health Officer through the UPHNS designation. We are grateful for this opportunity to provide pop-up services and look forward to ongoing collaborations to support critical harm reduction services in the area.

We would like to acknowledge and thank the many people who supported the NANDU pop-up including; everyone at NANDU who welcomed us and supported the services that day, NARSF Programs, the Island Health Authority, Health Canada's SUAP fundings, the University of Victoria, Vancouver Island University, and the Substance team.

*Our project respectfully acknowledges that we work as visitors on the traditional territory of the Lkwungen (Songhees), Wyomilth (Esquimalt), and WSÁNEĆ (Saanich) peoples of the Coast Salish Nation. We also acknowledge the inextricable links between research, colonization and racism against Indigenous peoples, which continue to this day. Ending the violence faced by people who use substances and the overdose crisis cannot be achieved without facing the legacy through which we have come to be in this territory.*

For more information please visit: [substance.uvic.ca](https://substance.uvic.ca)



Vancouver Island Drug Checking Project: NANDU Pop-Up September 2022. Victoria, BC: Vancouver Island Drug Checking Project; 2022.