

Substance Drug Checking

Preliminary Results for April 2024

Substance Drug Checking delivers drug checking services in Campbell River, the Comox Valley, Duncan, Port Alberni, and Victoria, BC. Our service has been operating in partnership with SOLID Outreach, AVI Health and Community Services, Port Alberni Shelter Society, Vancouver Island Mental Health Society, Duncan Lookout Housing and Health Society, Vancouver Island University, and the Island Health Authority. This free and confidential service provides information on composition of substances and harm reduction information.

Highlighted findings:

- The median fentanyl concentration found across all drug categories was 20%
- The median fluorofentanyl concentration found across all drug categories was 5%. Fluorofentanyl adulteration in opioid - down samples continued to fall, now below the adulteration rate for April 2023.
- Carfentanil was found in 6 *expected* Opioid - Down samples with a median concentration of 0.2%
- Benzodiazepines were found in 39.7% (166/418) of *expected* Opioid - Down samples
- Bromazolam, the most common benzo found within Opioid - Down samples, was found in 147 opioid-down samples with a median concentration of 7% and maximum concentration of greater than 25.0%
- Xylazine was found in 42 *expected* Opioid - Down samples with a median concentration of 0.5% and a maximum concentration of 9%

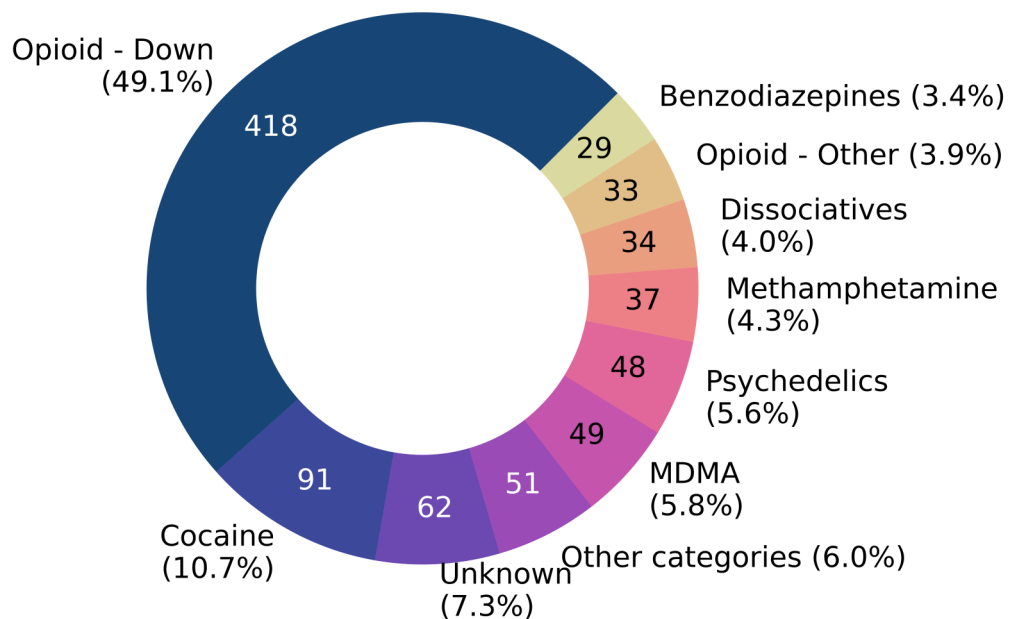
852

Samples Tested
1 - 30 Apr 2024

[Read our blog](#) for further interpretations of our April data.

What were people bringing to be checked?

Service users bring us a wide variety of substances that can be grouped into different drug classes. This pie chart aggregates the samples we checked by their “expected” substance (i.e. the drug category reported by the service user). The number of samples checked in each class is included inside each slice and the relative proportion of all samples checked is given in parentheses. These data are separated by collection location/method on the following page.

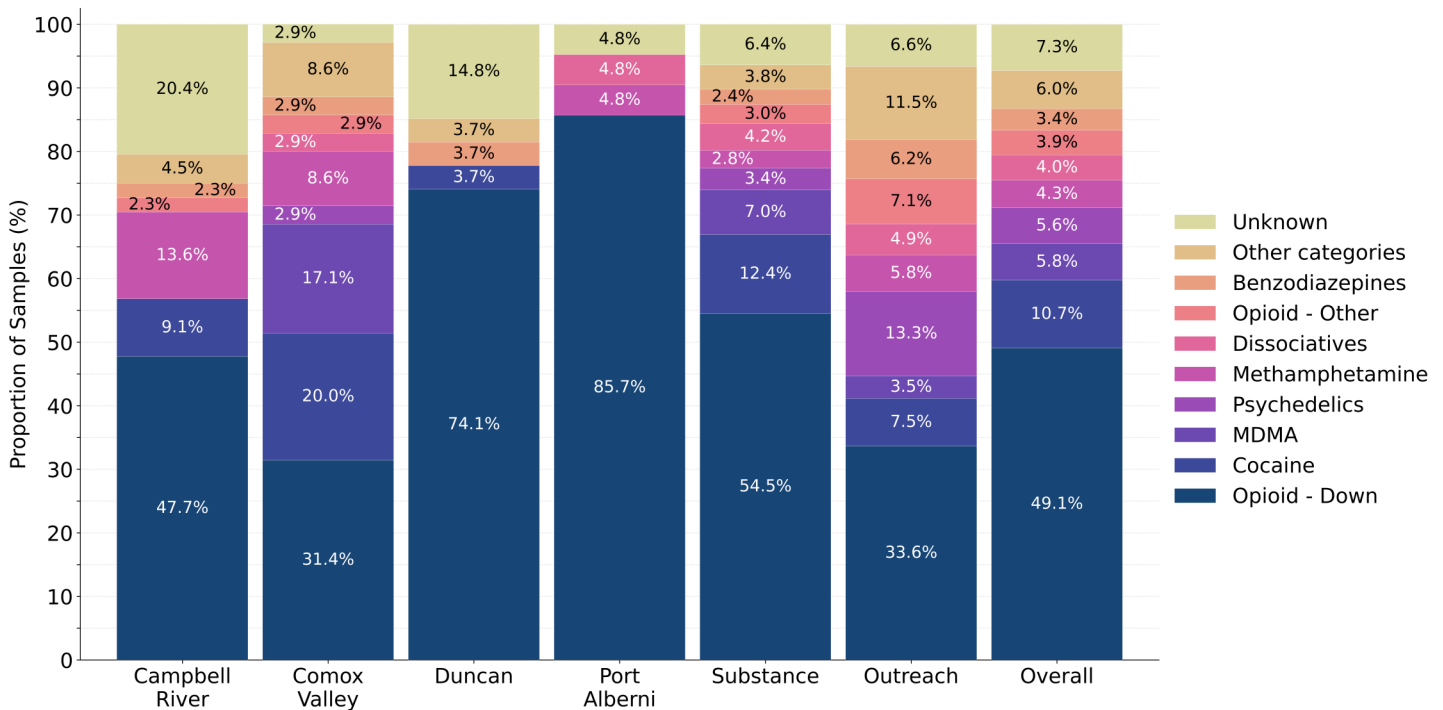


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What were people bringing to be checked by service model?

The “expected substance” data presented on the previous page can be separated by sample collection location/ method, where “Substance” samples are those brought directly to our Victoria storefront, “Campbell River”, “Comox Valley”, “Duncan”, and “Port Alberni” are samples received through our distributed drug checking model, and “Outreach” samples are those collected at supported housing sites, at overdose prevention and supervised consumption locations, and through drop-off envelopes. The relative proportions of samples checked by expected class and location are shown in the figure below; sample counts are listed in the table at the bottom of this page.



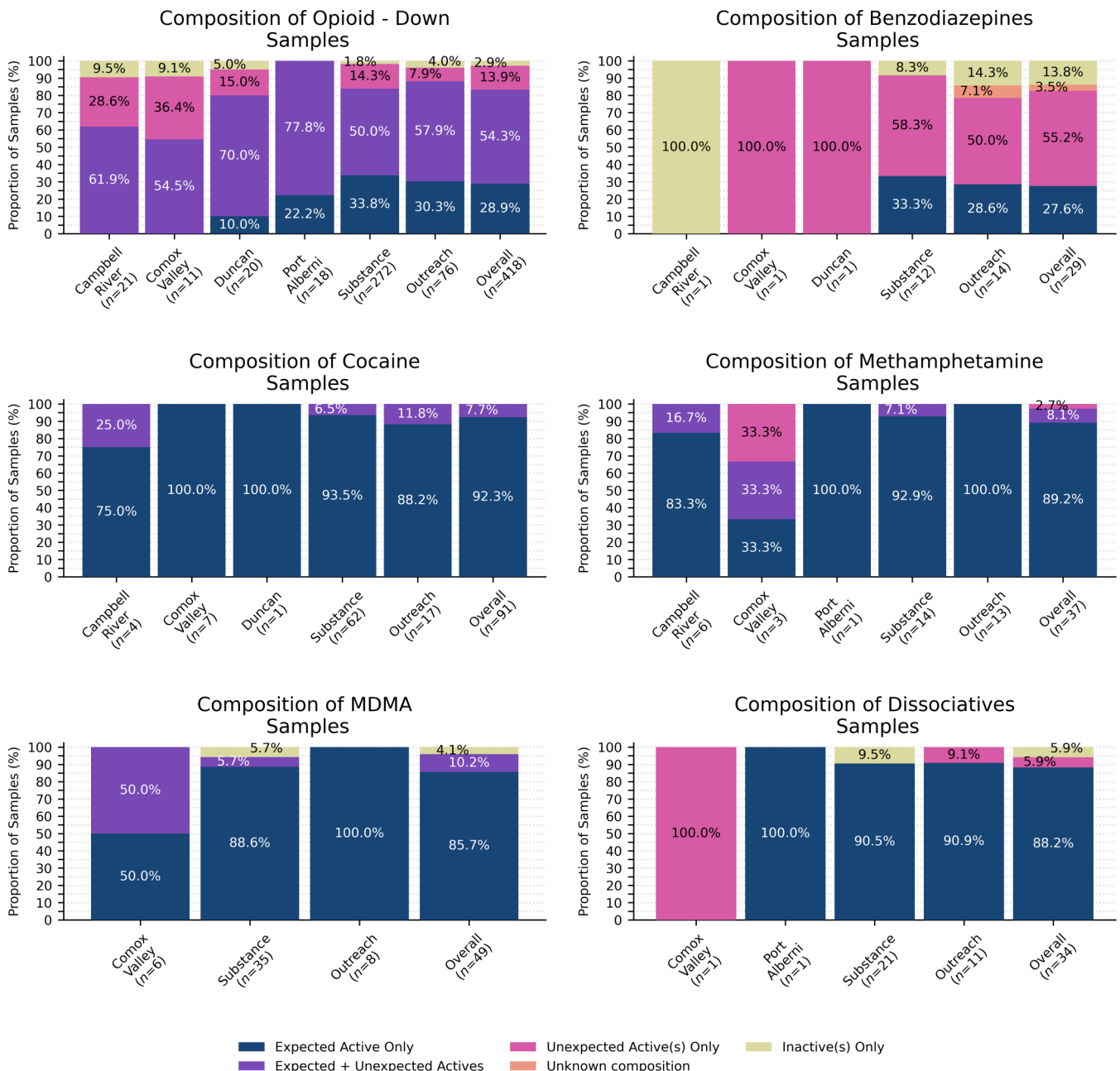
Expected Substance	Campbell River	Comox Valley	Duncan	Port Alberni	Port Hardy	Substance	Outreach	Overall
Opioid - Down	21	11	20	18	0	272	76	418
Cocaine	4	7	1	0	0	62	17	91
MDMA	0	6	0	0	0	35	8	49
Dissociatives	0	1	0	0	0	17	30	48
Methamphetamine	6	3	0	1	0	14	13	37
Psychedelics	0	1	0	1	0	21	11	34
Benzodiazepines	1	1	0	0	0	15	16	33
Other Opioids	1	1	1	0	0	12	14	29
Other	2	3	1	0	0	19	26	51
Unknown	9	1	4	1	0	32	15	62
Total	44	35	27	21	0	499	226	852

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What did we find?

We checked each sample to determine what active compounds and cutting agents were present. While a majority of samples contained the expected active drug, we also detected a number of other notable compounds that may cause unexpected effects. The figures below illustrate the proportions and numbers of samples checked in each drug category, separated by collection location/method, colour coded by their composition. **Dark Blue** groups samples that were “as expected” with no other notable compounds *detected*, **Purple** groups samples that contained the expected drug *and* other unexpected active(s), **Magenta** groups samples that only contained unexpected active(s) (the expected drug was not found), **Salmon** groups samples where we were unable to determine the composition, and **Lime** 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 and collection location/model, we list the number of samples that contained the expected active and/or other notable components. Samples where no detected actives have been excluded for brevity.

Expected Opioid - Down data continued on next page

Opioid - Down	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Expected Active Only			2	4	92	23
Fentanyl			2	4	92	23
Expected* + Unexpected Active(s)	13	6	14	14	136	44
Fentanyl*	13	6	14	14	135	44
Heroin*					3	1
Acetylcodeine					4	1
Acetylmorphine [MAM, 6-MAM]					4	1
Benzocaine					1	
Benzodiazepine (unknown type)	1		2	1	9	1
Bromazolam	11	5	12	8	79	19
Carfentanil	4				1	
Cocaine Base [crack, rock, hard]		1			1	
Cocaine HCl [powder]					1	1
Etizolam	1				1	1
Fentanyl analogue (unknown type)			1		10	2
Fentanyl or analogue					4	1
Flubromazepam					1	
Fluorofentanyl			4	9	41	17
Fluorofentanyl Base					2	4
Isotodesnitazene						1
Methamphetamine	1		4	1	3	
Methylfentanyl	1					
Metonitazene [Metonitazine]					1	
Unknown		2			3	
Xylazine		1	1		18	5
ortho-Methyl fentanyl		1	4		34	14

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. ¹“Fentanyl or analogue” and “Benzodiazepine (unknown type)” results are based on a positive benzo strip test and are unconfirmed by paper spray. Fentanyl analogue (unknown type) results occur when a sample contains a fentanyl analogue, yet our instruments are unable to determine exactly which analogue.

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Opioid - Down (Continued)	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Unexpected Active(s) Only	6	4	3		39	6
Acetaminophen [Paracetamol, Tylenol]						1
Benzodiazepine (unknown type)	1				1	
Bromazolam	5	4	1		4	1
Carfentanil						1
Cocaine Base [crack, rock, hard]						1
Codeine [T3's / T4's]						1
Fentanyl	6	1			4	1
Fentanyl analogue (unknown type)		1			4	
Fentanyl or analogue					3	
Fluorofentanyl		3	1		11	1
Fluorofentanyl Base					3	1
Ketamine		1				
Phenacetin	1					1
Tramadol						1
Xylazine					17	
ortho-Methyl fentanyl			2		18	1

Cocaine	Campbell River	Comox Valley	Duncan	Substance	Outreach
Expected Active Only	3	7	1	58	15
Cocaine Base [crack, rock, hard]	3	4		17	2
Cocaine HCl [powder]		3	1	41	13
Expected* + Unexpected Active(s)	1			4	2
Cocaine Base [crack, rock, hard]* + Phenacetin	1				2
Cocaine Base [crack, rock, hard]* + Fentanyl				1	
Cocaine HCl [powder]* + Methamphetamine				1	
Cocaine HCl [powder]* + Phenacetin + Procaine				2	

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MDMA	Comox Valley	Substance	Outreach
Expected Active Only	3	31	8
MDA		1	
MDMA	3	30	8
Expected* + Unexpected Active(s)	3	2	
MDMA* + MDA	1	2	
MDMA* + Ketamine	1		
MDMA* + 2C-B + Cocaine HCl + Ketamine	1		

Psychedelics	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Expected Active Only		1			15	17
2C-B		1			3	8
3C-P						1
4-AcO-DMT [O-Acety]psilocin]						1
4-AcO-MET					1	
4-HO-MET [Metocin, Colour]					2	
5-MeO-DMT					3	1
5-MeO-MALT					1	
DMT [Dimethyltryptamine]					2	1
DPT					1	
LSD [acid]						2
Mescaline					1	3
Methallylescaline					1	
Expected* + Unexpected Active(s)					1	3
5-MeO-DMT* + Unknown						3
Ketamine + MDMA + MDA (expected "Tucibi")					1	
Unexpected Active(s) Only						1
5-MeO-DMT Base						1

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Methamphetamine	Campbell River	Comox Valley	Port Alberni	Substance	Outreach
Expected Active Only	5	1	1	13	13
Methamphetamine	5	1	1	13	13
Expected* + Unexpected Active(s)	1	1		1	
Methamphetamine* + Bromazolam	1				
Methamphetamine* + Phenacetin		1			
Methamphetamine* + Unknown				1	
Unexpected Active(s) Only					
MDMA		1			

Dissociatives	Comox Valley	Port Alberni	Substance	Outreach
Expected Active Only		1	19	10
3-MeO-PCP				1
Fluorexetamine [FXE]				1
Ketamine		1	19	7
O-PCE [Deschloro-N-ethyl-ketamine]				1
Unexpected Active(s) Only	1			1
2-fluoro-2-oxo-PCE [2F-NENDCK]				1
MDMA	1			

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Opioid - Other	Campbell River	Comox Valley	Substance	Outreach
Expected Active Only	1	1	13	5
Acetaminophen [Tylenol]	1			3
Hydromorphone [Dilaudid, Dillies]		1	5	
Morphine			1	
Oxycodone [Oxycontin]			6	5
Tramadol			1	
Expected* + Unexpected Active(s)				1
Codeine* + Acetaminophen				1
Unexpected Active(s) Only				6
Isotonitazene				4
Metonitazene				1
N-Pyrrolidino Etonitazene				1

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Benzodiazepines	Comox Valley	Duncan	Substance	Outreach
Expected Actives Only			4	4
Alprazolam [Xanax]			1	1
Bromazolam				1
Clonazepam [Klonopin]			1	
Diazepam [Valium]			1	
Etizolam				1
Flualprazolam			1	1
Unexpected Active(s) Only			7	7
Alprazolam [Xanax]			1	1
Benzodiazepine (unknown type)				1
Bromazolam			2	3
Etizolam			1	
Fentanyl			2	
Fentanyl or analogue			1	
Flualprazolam	1		2	2
Flubromazepam				1
Sildenafil [Viagra]		1		
Unknown Composition				1
Unknown				1

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Other categories	Campbell River	Comox Valley	Duncan	Substance	Outreach
Expected Active Only	1	1	1	12	11
3-MMC [Metaphedrone]		1			1
4-MMC [Mephedrone]					2
Amphetamine			1		2
Drostanolone propionate					1
GHB				3	1
Gabapentin	1				
Lisdexamfetamine dimesylate [Vyvanse]				3	
MDPM					1
Oxandrolone					2
Phenibut				1	
Sildenafil [Viagra]				1	
Stanozolol				1	
THC				3	
Tadalafil [Cialis]				1	1
Expected* + Unexpected Active(s)				2	1
Benzocaine* + Fentanyl or analogue				1	
GHB* + GBL				1	
GHB* + GBL + Unknown					1

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Other categories (Continued)	Campbell River	Comox Valley	Duncan	Substance	Outreach
Unexpected Active(s) Only				3	14
4F-MPH					1
Diclofenac [Voltaren]				1	1
Methamphetamine					6
Methandrostenolone				1	
Methenolone acetate					1
Nandrolone					1
Oxandrolone				1	
Steroid (unknown type)					4
Testosterone caproate					1
Testosterone enanthate					1
Unknown Composition		1			
Unknown		1			

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Unknown	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Unexpected Active(s) Only	8		3	1	25	12
Acetylcodeine			1			1
Acetylmorphine [MAM, 6-MAM]			1			
Benzodiazepine (unknown type)	2		1		1	1
Bromazolam	5		1	1	4	1
Cocaine Base [crack, rock, hard]	1		1		6	2
Cocaine HCl [powder]					5	
Fentanyl	6		2	1	8	3
Fentanyl analogue (unknown type)						1
Fentanyl or analogue	1				4	1
Fluorofentanyl	2		1		2	1
Heroin			1			1
Hydromorphone [Dilaudid, Dillies]	1				2	1
Ketamine					1	
Levamisole					2	
Lidocaine						1
MDMA						2
Methamphetamine	1		1		3	1
Morphine					1	
No Library Match	1					
Oxycodone [Oxycontin]						1
Phenacetin	1					
Xylazine			1			
ortho-Methyl fentanyl					1	
Unknown Composition		1			4	
Unknown		1			4	

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. ¹“Fentanyl or analogue” and “Benzodiazepine (unknown type)” results are based on a positive benzo strip test and are unconfirmed by paper spray. Fentanyl analogue (unknown type) results occur when a sample contains a fentanyl analogue, yet our instruments are unable to determine exactly which analogue.

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Quantification

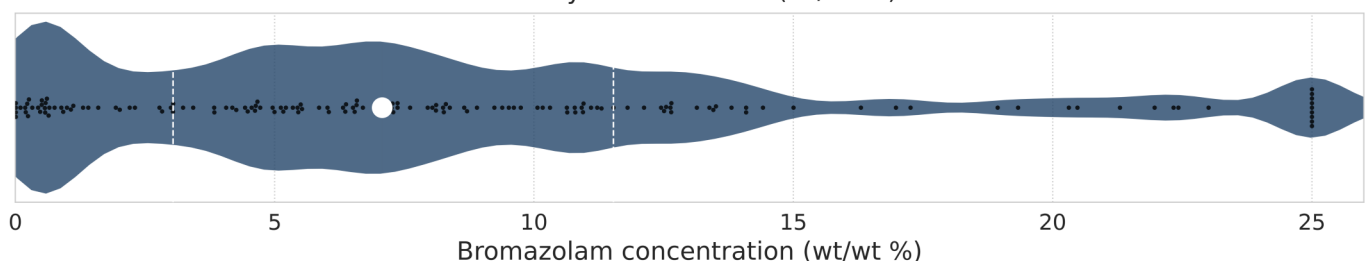
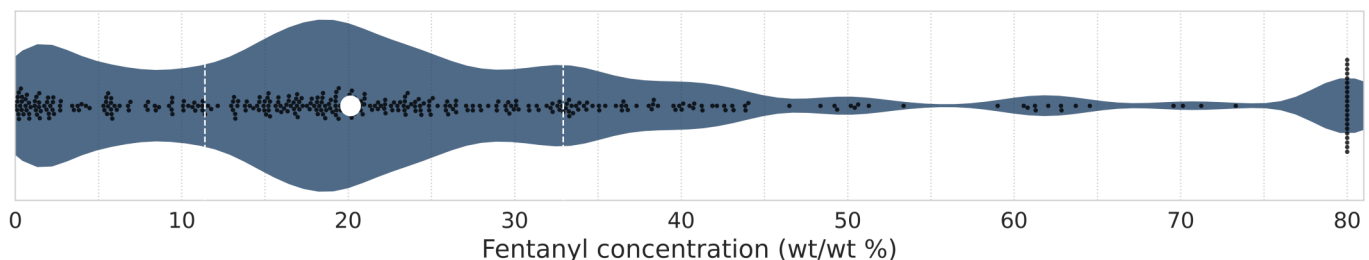
Using paper spray mass spectrometry (PS-MS) data, we were able to quantify low concentration compounds. These aggregate values are *inclusive to all expected drug categories* in which the active drugs are found. Weight percentage is reported below. "IQR" is the interquartile range: the concentration range that contains half of the quantified samples.

Compound	# Quant.	Median	Min	Max	IQR
Fentanyl	369	20.1%	0.0%	80.0%	11.4% - 32.9%
Bromazolam	153	7.1%	0.0%	25.0%	3.0% - 11.5%
Fluorofentanyl	92	4.7%	0.2%	40.0%	1.6% - 16.3%
ortho-Methyl fentanyl	57	6.4%	0.3%	77.2%	2.1% - 13.5%
Xylazine	43	0.6%	0.1%	8.5%	0.3% - 1.1%
Oxycodone [Oxycontin]	12	5.6%	0.9%	50.0%	3.2% - 9.9%
Hydromorphone [Dilaudid]	10	7.5%	3.3%	9.0%	6.6% - 7.7%
Fluorofentanyl Base	9	10.7%	3.5%	21.7%	7.9% - 16.9%
Flualprazolam	7	0.4%	0.2%	1.4%	0.3% - 0.4%
Phenacetin	7	4.3%	1.2%	44.5%	3.4% - 30.2%
Acetylcodeine	7	0.3%	0.1%	4.3%	0.1% - 0.6%

*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 fentanyl on the PS-MS is 80% - any sample containing more than 80% fentanyl will be flagged as ">80%".

Distribution of Fentanyl and Bromazolam Concentrations

The concentrations of fentanyl and bromazolam for every sample quantified across *all expected drug categories and service models* are illustrated below to highlight the variability in the unregulated drug market. **Black Dots** are individual samples, the large **White Dot** marks the median concentration, the **Dashed White Lines** bound half of the quantified samples (IQR), and the **width** of the coloured region is proportional to the number of samples in a concentration range.



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Opioid - Down Quantification by Service Model

Here we examine the regional variability in the unregulated market. The table below expands on the data presented on the previous page (*inclusive to all expected drug categories*) and focuses only on fentanyl, fluorofentanyl, carfentanil, bromazolam, and xylazine within *expected opioid-down samples*, separated by collection location/model. Weight percentage is reported; "IQR" is the interquartile range: the range that contains half of the quantified samples.

Service Model	Compound	# Quant.	Median	Min	Max	IQR
Campbell River 21 total down samples 90% (19/21) benzo-positive	Bromazolam	12	14.3%	1.1%	25.0%	11.8% - 22.4%
	Carfentanil	4	0.2%	0.1%	0.5%	0.1% - 0.5%
	Fentanyl	15	24.0%	1.5%	61.3%	20.6% - 31.1%
Comox Valley 11 total down samples 82% (9/11) benzo-positive	Bromazolam	7	9.2%	0.1%	19.3%	3.9% - 10.8%
	Fentanyl	7	5.8%	1.2%	27.9%	3.9% - 16.6%
	Fluorofentanyl	3	3.9%	1.3%	21.0%	
	Xylazine	1		4.1%		
Duncan 20 total down samples 70% (14/20) benzo-positive	Bromazolam	12	7.8%	0.7%	25.0%	5.5% - 12.6%
	Fentanyl	15	9.4%	1.2%	80.0%	1.7% - 32.2%
	Fluorofentanyl	5	3.3%	1.7%	17.7%	1.7% - 17.3%
	Xylazine	1		1.8%		
Port Alberni 18 total down samples 50% (9/18) benzo-positive	Bromazolam	7	5.4%	0.8%	13.1%	3.0% - 9.0%
	Fentanyl	15	49.2%	0.7%	80.0%	12.3% - 80.0%
	Fluorofentanyl	8	7.1%	0.7%	40.0%	2.8% - 21.1%
Substance 272 total down samples 35% (94/272) benzo-positive	Bromazolam	79	5.9%	0.0%	25.0%	2.3% - 9.8%
	Carfentanil	1		0.1%		
	Fentanyl	226	20.8%	0.1%	80.0%	13.9% - 33.2%
	Fluorofentanyl	52	5.1%	0.3%	40.0%	1.6% - 16.3%
	Xylazine	35	0.6%	0.1%	7.5%	0.3% - 1.1%
Outreach 76 total down samples 28% (21/76) benzo-positive	Bromazolam	19	10.8%	0.2%	22.0%	5.3% - 14.3%
	Carfentanil	1		0.6%		0.6% - 0.6%
	Fentanyl	66	20.0%	0.0%	80.0%	13.2% - 32.5%
	Fluorofentanyl	18	4.5%	0.3%	22.2%	1.6% - 9.4%
	Xylazine	5	0.4%	0.1%	8.5%	0.1% - 0.5%

*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 fentanyl on the PS-MS is 80% - any sample containing more than 80% fentanyl will be flagged as ">80%". Not all samples can be quantified.

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Substance Drug Checking is based out of the University of Victoria and operates community-wide drug checking services within Campbell River, the Comox Valley, Duncan, Port Alberni, and Victoria, BC. We are continuing to offer drug checking services in response to the dual public health emergencies, and exploring new ways to better reach those who may benefit from this service. We have partnered with Dr. Chris Gill and the team at Vancouver Island University to improve detection and reporting using their methods for the paper spray - mass spectrometer.

See the blog portion of our website to view our more detailed interpretations of our reports.

Our project works on Indigenous land. We provide drug checking, harm reduction education and support across many territories on what is colonially known as 'Vancouver Island.' We also act as a resource for these services across the province colonially known as 'British Columbia.' We honour and offer respect to many nations for their stewardship, care and leadership on these lands.

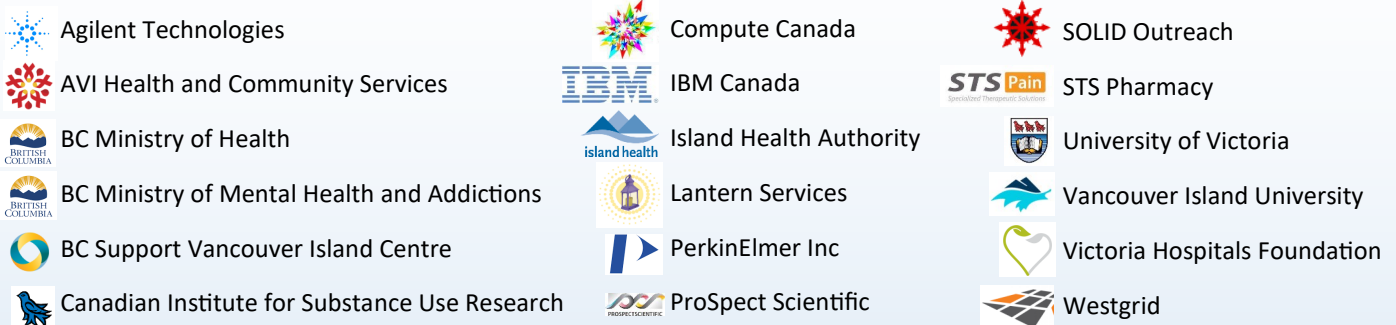
Our project originated on the territories of the lək̓ʷəŋən speaking peoples, including the Songhees and Xwsepsum (Esquimalt) Nations, and the W̱SÁNEĆ (Saanich) Nations on whose land the University of Victoria is located. Some of the territories we are honoured to work across specifically include: Halalt, Lyackson, Meluxlh (Malahat), Punelux-utth', Quw'utsun, Stz-uminus, and Ts'uubaa-asatx; Hupačasath and Tseshah; K'ómoks; and Laich-kwil-tach.

We acknowledge the inextricable links between research, colonization and racism against Indigenous peoples, which continue to this date. Ending the violence faced by people who use drugs cannot be achieved without actively working on decolonization.

For more information please visit: substance.uvic.ca

We gratefully acknowledge our partners and funders on this project

Our Partners



Our Funders

