

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

The Vancouver Island Drug Checking Project 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 10.4%
- Carfentanil was found in 9 expected opioid-down samples with a median concentration of 1.13% and a maximum concentration of 5.25%
- Benzodiazepines and/or etizolam were found in 39% (184/471) of expected opioid-down samples
- Bromazolam, the most common benzo found within opioid-down, was found in 150 down samples with a median concentration of 2.9% and maximum concentration greater than 80%
- Xylazine was found in 17 samples (16 expected opioid-down, 1 “unknown”) with a median concentration of 0.3% and a maximum concentration of 25.2%
- Opioids were detected in 8 samples expected to be cocaine base (hard/crack). One sample (from Port Alberni) contained cocaine *and* fluorofentanyl, while the other 7 samples (x3 from Duncan, x4 from Victoria) *did not* contain cocaine. These seven were found to be opioid-down samples with a median fentanyl concentration of 0.7% and maximum concentration of 15.4%

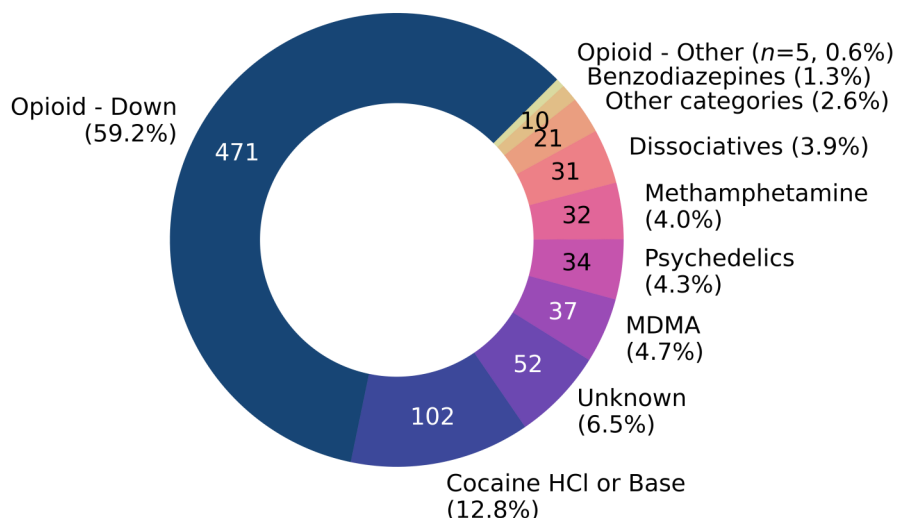
795

Samples Tested
1 - 30 April 2023

[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.

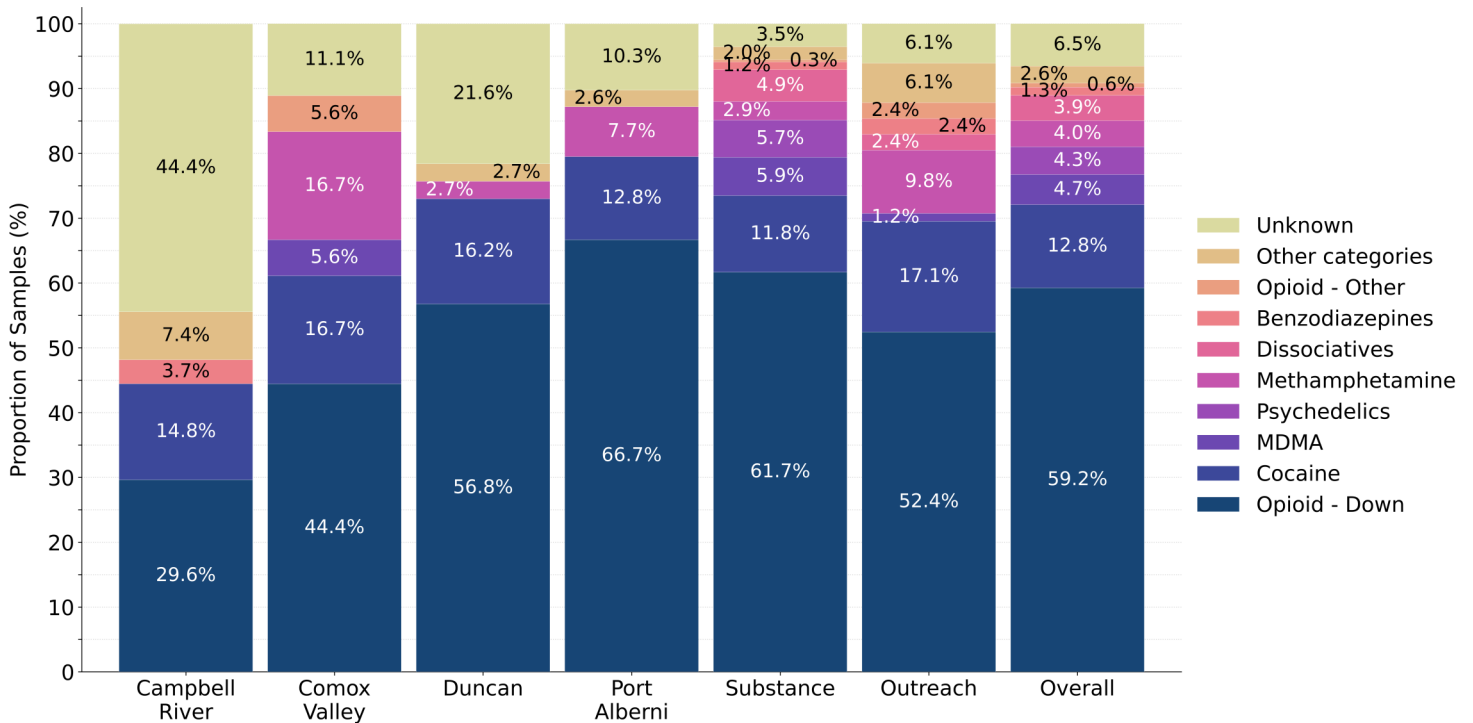


Vancouver Island Drug Checking Project

Preliminary Results for April 2023

What were people bringing to be checked by service model?

The “expected substance” data presented on the front page of this document 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 no contact drop-off envelopes. The relative proportions of samples checked by expected class and location are shown in the stacked bars below, and the sample counts are listed at the bottom of this page.



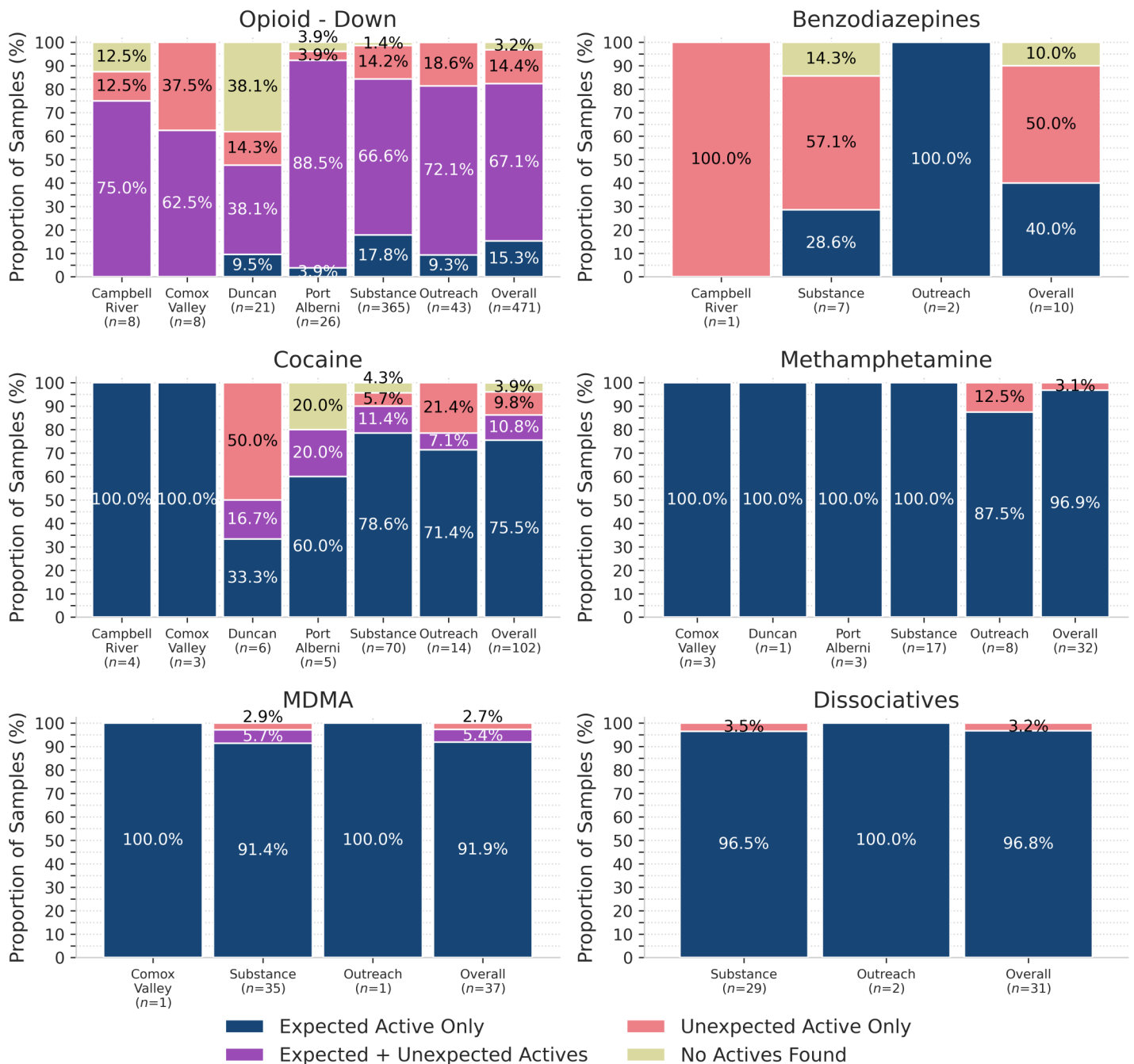
Expected substance	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach	Overall
Opioid Down (fentanyl and/or heroin)	8	8	21	26	365	43	471
Cocaine (HCl or Base)	4	3	6	5	70	14	102
MDMA		1			35	1	37
Psychedelic (2C-B, DMT, LSD)					34		34
Methamphetamine		3	1	3	17	8	32
Dissociative (ketamine)					29	2	31
Benzodiazepine	1				7	2	10
Other Opioids (Dilaudid, oxycodone)		1			2	2	5
Other (cannabis, GHB, steroids, etc.)	2		1	1	12	5	21
Unknown/Missing	12	2	8	4	21	5	52
Total samples checked	27	18	37	39	592	82	795

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

What did we find?

We checked each sample to determine what active ingredients, adulterants, and cutting agents were present. While a majority of samples contained the expected active drug, we also detected a number of other notable components 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** bars group samples that were “as expected” with no other notable compounds detected, **Magenta** bars show samples that contained the expected drug *and* other unexpected active(s), **Salmon** groups samples that only contained unexpected active(s) (the expected drug was not found), and **Lime** displays samples where no active compounds were detected.



Vancouver Island Drug Checking Project

Preliminary Results for April 2023

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	1	65	4
Fentanyl			2	1	65	4
Expected* + Unexpected Active(s)	6	5	8	23	243	31
Fentanyl*	6	5	8	23	238	29
Heroin*					6	4
5F-ADB				1		1
Acetylcodeine					4	2
Acetylmorphine					4	3
Benzodiazepine (undifferentiated) ¹	1	1	2	2	4	2
Bromazolam	2	4	6	11	99	15
Carfentanil	2			2	2	
Clonazepam					1	
Cocaine base	1					
Cocaine HCl					1	
Desalkylgidazepam					4	
Etizolam	1			1	1	
Flualprazolam				4	11	1
Flubromazepam						1
Fluorofentanyl	6		6	3	186	18
Furanyl UF-17				2		
Levamisole					1	
Lidocaine	2					
Methamphetamine				1	5	2
Morphine						1
Norfentanyl					1	
Promethazine						1
Xylazine	1			2	10	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. ¹Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

Opioid Down (continued)	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Unexpected Active(s) Only	1	3	3	1	52	8
Acetaminophen					2	
Acetylcodeine					1	
Amitriptyline					1	
Benzodiazepine (undifferentiated) ¹		1				
Bromazolam	1	2	3	1	6	2
Carfentanil	1	2				
Fentanyl				1		
Fluorofentanyl			2		45	8
Heroin					1	
Methadone	1					
Methamphetamine	1				1	
Theophylline					1	
Xylazine					2	

Methamphetamine	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Expected Active Only	3	1	3	17	7
Methamphetamine	3	1	3	17	7
Unexpected Active(s) Only					1
MDA					1

MDMA	Comox Valley	Substance	Outreach
Expected Active Only	1	32	1
MDA		2	
MDMA	1	30	1
Expected* + Unexpected Active(s)		2	
MDMA* + MDA		1	
MDMA* + MDEA		1	
Unexpected Active(s) Only		1	
MDMA (MDA expected)		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. ¹Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

Cocaine (HCl or Base)	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Expected Active Only	4	3	2	3	55	10
Cocaine Base	1	1		2	10	1
Cocaine HCl	3	2	2	1	45	9
Expected* + Unexpected Active(s)			1	1	8	1
Cocaine Base*			1	1		
Cocaine HCl*					8	1
Benzocaine			1		2	
Fentanyl				1		
Ketamine					3	
Levamisole					4	1
Phenacetin			1		1	
Unexpected Active(s) Only			3		4	3
Bromazolam			2			1
Fentanyl			3		1	3
Fluorofentanyl						2
Ketamine					3	
Procaine			1			

Benzodiazepines	Campbell River	Substance	Outreach
Expected Active Only		2	2
Alprazolam (Xanax)		1	1
Fluclotizolam		1	
Lorazepam (Ativan)			1
Unexpected Active(s) Only	1	4	
Benzodiazepine (undifferentiated) ¹	1	1	
Bromazolam + Fentanyl		1	
Etizolam		1	
Flualprazolam		1	

Dissociatives	Substance	Outreach
Expected Active Only	28	2
3-HO-PCP	1	
3-MeO-PCE	1	
3-MeO-PCP	1	
Ketamine	24	2
O-PCE (Deschloro-N-ethyl-ketamine)	1	
Unexpected Active(s) Only	1	
MDMA	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. ¹Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

Psychedelics	Substance	Substance
Expected Active Only	28	Expected Active Only (continued)
2C-B	3	Allylescaline
2C-B-FLY	1	DOM
2C-C	1	DPT
2C-E	1	DiPT
2C-I	1	Isoprosaline
2C-T-7	1	"Tucibi" (Ketamine + MDMA)
4-AcO-MET	1	LSD
4-HO-MET	1	Methallylescaline
4-HO-MiPT	1	Expected* + Unexpected Active(s)
5-MeO-DALT	1	2C-E* + 2C-I
5-MeO-DMT	1	Unexpected Active(s) Only
5-MeO-DiPT	1	2C-E (2C-B expected)
5-MeO-MiPT	2	5-MeO-MiPT + Levamisole + Procaine (2C-T-7 expected)
AMT	1	

Other	Campbell River	Duncan	Port Alberni	Substance	Outreach
Expected Active Only	1		1	3	
3-MMC				1	
Amphetamine				1	
GHB	1		1		
Isopropylphenidate				1	
Expected* + Unexpected Active(s)		1		7	1
GHB* + GBL		1		7	1
Unexpected Active(s) Only				1	4
Methamphetamine (amphetamine expected)					1
Morphine (steroids expected)				1	
Steroid (undifferentiated)					3

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. ¹Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

Opioid Other	Comox Valley	Substance	Outreach
Expected Active Only	1	1	2
Hydromorphone (Dilaudid)	1	1	
Oxycodone + Acetaminophen			2
Unexpected Active(s) Only		1	
Isotonitazene (Oxycodone + Acetaminophen expected)		1	

Unknown/Missing	Campbell River	Comox Valley	Duncan	Port Alberni	Substance	Outreach
Unexpected Active(s) Only	11	2	7	4	11	3
5F-ADB				1		
Benzodiazepine (undifferentiated) ¹				1	1	1
Bromazolam	1	1	6		1	
Chlorodehydromethyltestosterone	1					
Cocaine base	1			1	2	1
Fentanyl	1		6	2	3	2
Fluorofentanyl	1	1	4	1	2	2
GHB					1	
Gabapentin			1			
Ketamine					1	
MDA					1	
MDMA					1	
Methamphetamine	1	1		1	3	
Morphine					1	
Nandrolone	1					
Nandrolone phenylpropionate	1					
Sildenafil (Viagra)	1					
Steroid (undifferentiated)	1					
Tadalafil (Cialis)	1					
Testosterone enanthate	1					
Trenbolone enanthate	1					
Xylazine			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. ¹Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

Quantification

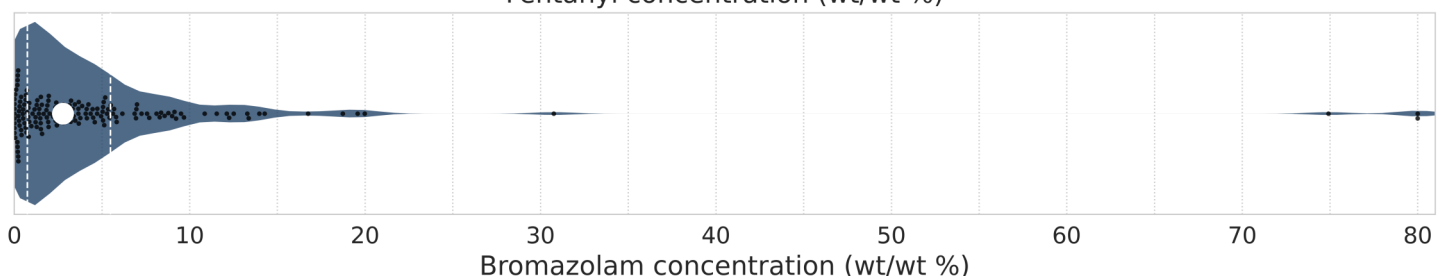
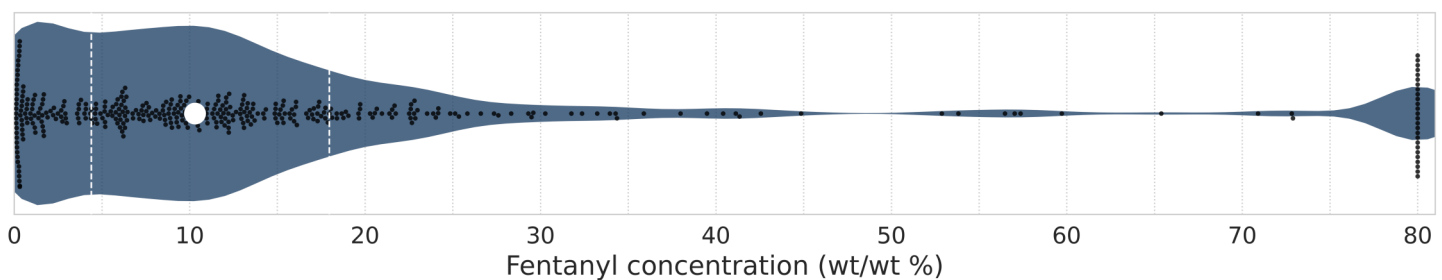
Using paper spray mass spectrometry (PS-MS) data, we were able to quantify low concentration compounds. These aggregate values are *inclusive to all expected drug categories* in which the active drugs are found. Weight percentage is reported below. "IQR" is the interquartile range: the concentration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

Compound	# Quant.	Median	Min	Max	IQR
Fentanyl	395	10.4%	0.1%	>80%*	4.4% - 18.1%
Fluorofentanyl	271	5.8%	0.2%	>80%*	1.2% - 14.8%
Bromazolam	162	2.8%	0.0%	>80%*	0.7% - 5.6%
Flualprazolam	17	0.4%	0.1%	3.5%	0.1% - 1.0%
Xylazine	17	0.3%	0.1%	25.2%	0.1% - 9.0%
Heroin	10	17.0%	2.5%	>80%*	5.9% - >80%*
Carfentanil	9	1.13%	0.26%	5.25%	0.61% - 1.43%
Acetylmorphine	7	2.0%	1.3%	4.4%	1.6% - 2.3%
Etizolam	4	-	0.2%	2.4%	0.2% , 0.9%
5F-ADB	3	18.5%	2.5%	56.8%	-

*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.



Vancouver Island Drug Checking Project

Preliminary Results for April 2023

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 quantified 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 <i>8 total down samples</i> <i>50% (4/8) benzo-positive</i>	Carfentanil	3	1.21%	0.26%	1.43%	-
	Fentanyl	5	5.9%	1.2%	57.4%	5.2% - 9.0%
	Fluorofentanyl	5	2.2%	0.2%	>80%*	1.6% - 3.9%
	Bromazolam	3	3.5%	0.6%	11.5%	-
	Xylazine	1	0.2%	-	-	-
Comox Valley <i>21 total down samples</i> <i>52% (11/21) benzo-positive</i>	Carfentanil	2	1.05%	0.61%	1.48%	0.83% - 1.26%
	Fentanyl	3	21.7%	0.1%	27.3%	10.9% - 24.5%
	Bromazolam	5	13.3%	0.4%	31.3%	5.6% - 24.1%
Duncan <i>21 total down samples</i> <i>52% (11/21) benzo-positive</i>	Fentanyl	9	1.1%	0.2%	22.6%	0.4% - 8.5%
	Fluorofentanyl	6	14.1%	0.2%	21.0%	10.9% - 17.4%
	Bromazolam	8	5.2%	0.0%	74.9%	4.3% - 6.0%
Port Alberni <i>26 total down samples</i> <i>73% (19/26) benzo-positive</i>	Carfentanil	2	3.19%	1.13%	5.25%	-
	Fentanyl	23	8.8%	0.2%	29.3%	2.9% - 13.3%
	Fluorofentanyl	3	23.1%	7.2%	>80%*	-
	Bromazolam	11	4.7%	0.0%	30.8%	0.1% - 7.3%
	Xylazine	2	0.2%	0.1%	0.3%	-
Substance <i>365 total down samples</i> <i>33% (122/365) benzo-positive</i>	Carfentanil	2	0.57%	0.31%	0.84%	-
	Fentanyl	301	11.0%	0.1%	>80%*	4.9% - 19.0%
	Fluorofentanyl	224	6.1%	0.2%	72.1%	1.2% - 14.9%
	Bromazolam	105	2.4%	0.0%	>80%*	0.8% - 5.1%
	Xylazine	12	4.0%	0.1%	25.2%	0.2% - 11.6%
Outreach <i>43 total down samples</i> <i>47% (20/43) benzo-positive</i>	Fentanyl	33	10.6%	0.4%	>80%*	7.8% - 16.8%
	Fluorofentanyl	22	3.3%	0.2%	21.4%	1.2% - 8.9%
	Bromazolam	17	2.9%	0.0%	19.6%	0.3% - 6.9%
	Xylazine	1	10.5%	-	-	-

*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.

Vancouver Island Drug Checking Project

Preliminary Results for April 2023

The Vancouver Island Drug Checking Project 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.

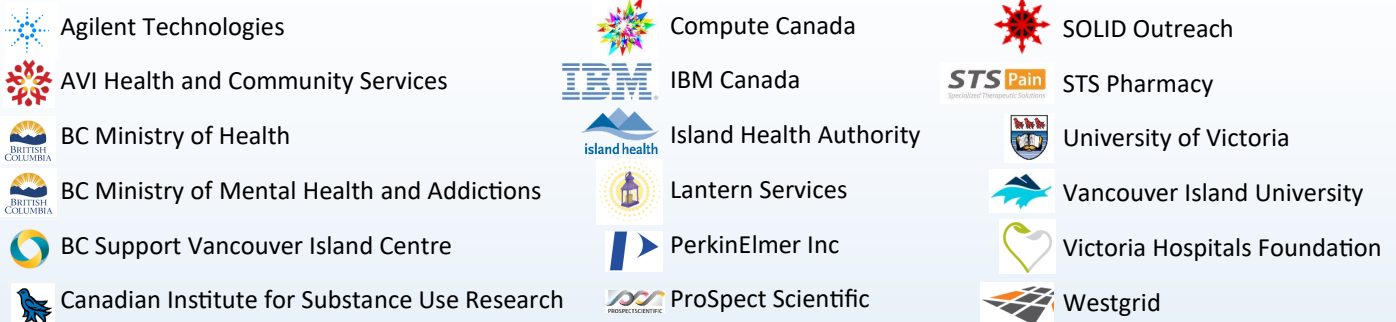
See the blog portion of our website to view our more detailed interpretations of our reports.

Our project 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

We gratefully acknowledge our partners and funders on this project

Our Partners



Our Funders

