Vancouver Island
Drug Checking Project
Preliminary Results for October 2022

The Vancouver Island Drug Checking Project delivers drug checking services in Campbell River, the Comox Valley, 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, Lantern Services, Dr. Chris Gill and the team at Vancouver Island University, and the Island Health Authority. This free and confidential service provides information on composition of substances and harm reduction information.

554

Samples Tested
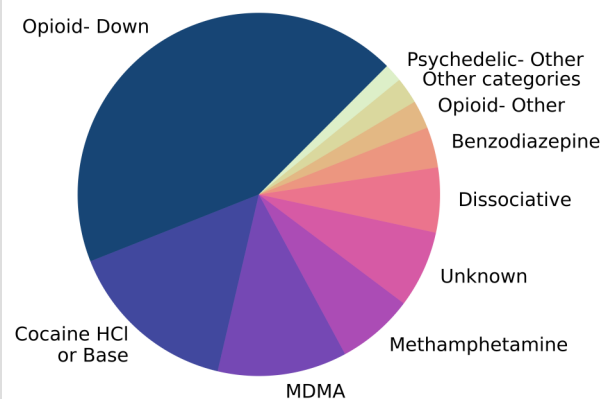1 - 31 October 2022

Highlighted findings:

- The median fentanyl concentration found, across all expected drug categories, was 13.9%, with a maximum of over 80%

- Carfentanil was found in 4 expected opioid-down samples, with a median concentration of 0.23% and maximum concentration of 0.56%

- Benzodiazepines and/or etizolam were found in 46% of expected opioid-down samples

- The median concentration of bromazolam, the most common benzodiazepine found across all expected drug categories, was 1.7%, with a maximum of over 80%

- Xylazine, a veterinary sedative, was found in 7 expected opioid-down samples with a median concentration of 0.2% and a maximum concentration of 32.2%

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

What were people bringing to be tested?

Service users bring us a wide variety of substances that can be grouped into different drug classes. 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 and are separated by collection location/method on the following page.

| Expected substance	Number of Samples
Opioid Down (fentanyl and/or heroin)	241
Cocaine (HCl or Base)	85
Psychedelic (2C-B, DMT, LSD, MDMA/MDA)	73
Methamphetamine	38
Dissociative (DXM, ketamine)	32
Benzodiazepine (alprazolam, diazepam, etizolam)	20
Other Opioids (Dilaudid, oxycodone)	14
Other (GHB, THC, "research chemicals")	13
Unknown/Missing	38

What were people bringing to be tested 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", and "Port Alberni" are samples received through our distributed drug checking model, and "Outreach" samples are those collected at pop-up events (Cowichan OPS/Lookout Housing and Health Society in Duncan, Oceanside Task Force on Homelessness in Parksville), other supported housing sites, at overdose prevention and supervised consumption locations, through no contact drop-off envelopes, and via mail-in envelopes.
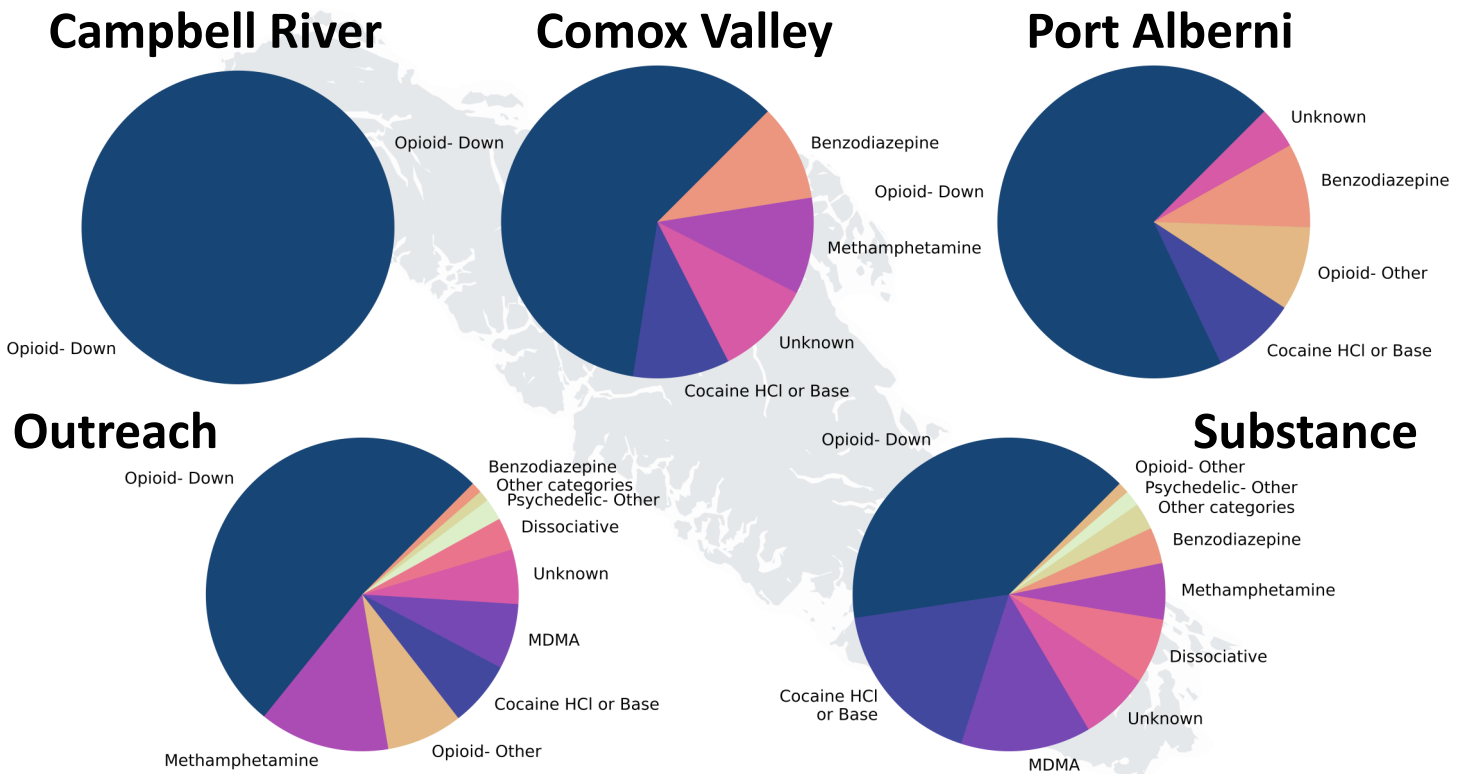
Expected substance	Campbell River	Comox Valley	Port Alberni	Substance	Outreach	Overall
Opioid Down (fentanyl and/or heroin)	1	6	16	172	46	241
Cocaine (HCl or Base)		1	2	76	6	85
Psychedelic (2C-B, DMT, LSD, MDA, MDMA)				65	8	73
Methamphetamine		1		25	12	38
Dissociative (DXM, ketamine)				29	3	32
Benzodiazepine		1	2	16	1	20
Other Opioids (Dilaudid, oxycodone)			2	5	7	14
Other (GHB, THC, "research chemicals")				12	1	13
Unknown/Missing		1	1	31	5	38
Total samples checked	1	10	23	431	89	554

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, separated by collection location/method, 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.
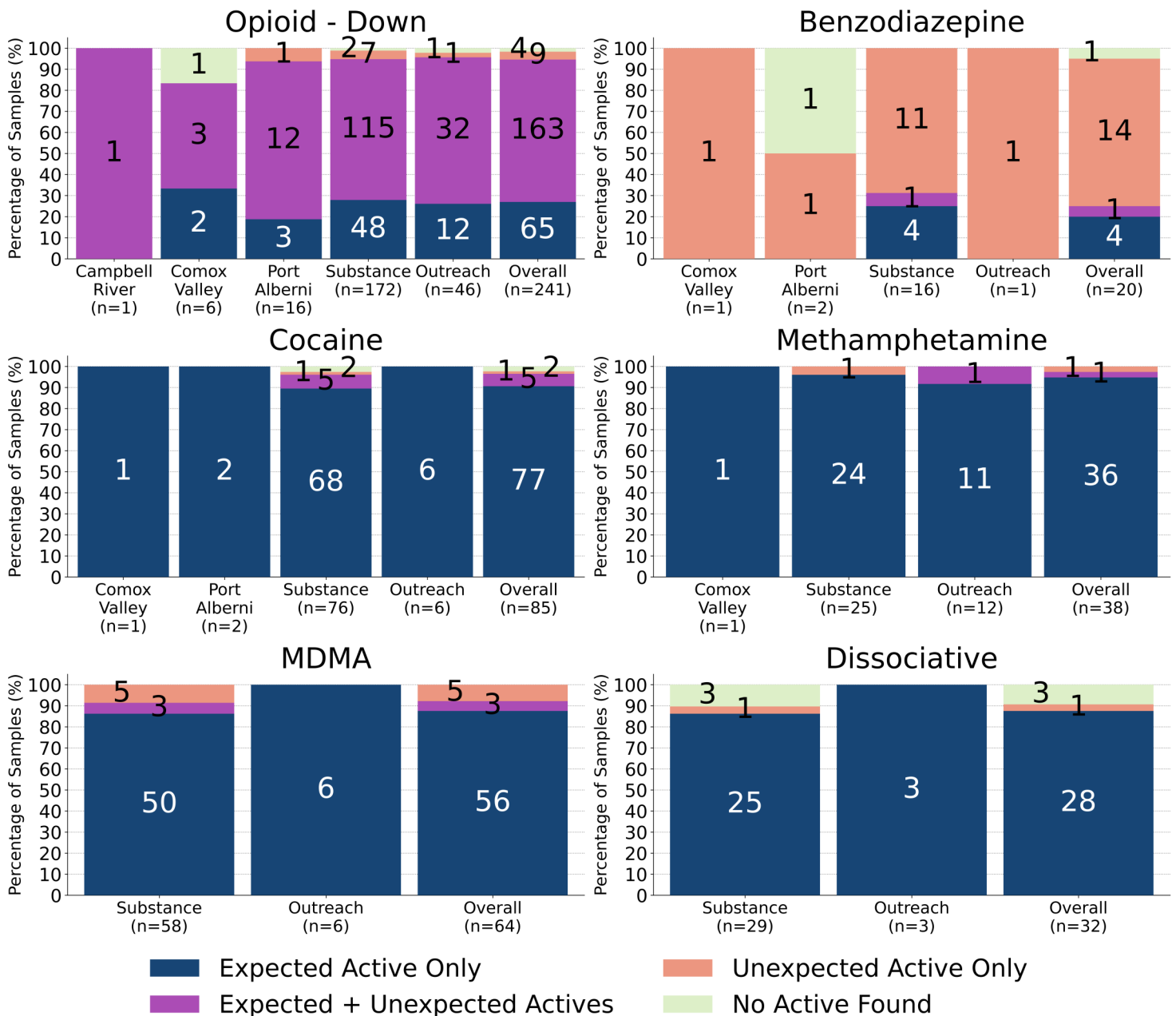
What did we find?

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.

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

Opioid Down	Campbell River	Comox Valley	Port Alberni	Substance	Outreach
Expected Active Only		*2*	*3*	*48*	*12*
Fentanyl		2	3	48	12
Expected* + Unexpected Active(s)	*1*	*3*	*12*	*115*	*32*
Fentanyl*	1	3	12	100	29
Heroin*			1	16	6
Acetylcodeine			1	16	4
Acetylfentanyl				6	4
Acetylmorphine			2	8	6
Benzocaine				1	
Benzodiazepine (undifferentiated)[1]	1	1	3	8	4
Bromazolam		2	2	39	14
Carfentanil			3	1	
Clonazepam			1		
Cocaine HCl			1		1
Etizolam			1	14	3
Flualprazolam			2	1	1
Flubromazepam			4	10	3
Fluorofentanyl			3	63	17
Isotonitazene					1
Lidocaine					4
Meclonazepam					1
Methamphetamine				1	
Metonitazene					1
Morphine					1
Norfentanyl				2	
Xylazine			2	6	1
Unexpected Active(s) Only			*1*	*7*	*1*
Bromazolam				3	
Fluorofentanyl				5	
Hydromorphone				2	1
Methamphetamine			1		
Sufentanil				2	

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Cocaine (HCl or Base)	Comox Valley	Port Alberni	Substance	Outreach
Expected Active Only	*1*	*2*	*68*	*6*
Cocaine Base		2	11	2
Cocaine HCl	1		57	4
Expected + Unexpected Active(s)*			*5*	
Cocaine HCl*			5	
Levamisole			4	
Phenacetin			1	
Unexpected Active(s) Only			*1*	
Fentanyl			1	

Benzodiazepines	Comox Valley	Port Alberni	Substance	Outreach
Expected Active Only			*4*	
Bromazolam			2	
Lorazepam			2	
Expected + Unexpected Active(s)*			*1*	
Alprazolam*			1	
Etizolam			1	
Flualprazolam			1	
Unexpected Active(s) Only	*1*	*1*	*11*	*1*
Benzodiazepine (undifferentiated)[1]	1			
Bromazolam			1	
Diclazepam			1	
Etizolam		1		1
Flualprazolam			9	

Methamphetamine	Comox Valley	Substance	Outreach
Expected Active Only	*1*	*24*	*11*
Methamphetamine	1	24	11
Expected + Unexpected Active(s)*			*1*
Methamphetamine*			1
Fentanyl			1
Unexpected Active(s) Only		*1*	
Flubromazepam		1	
Fluorofentanyl		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. [1]Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.*

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Psychedelics

	Substance	Outreach
Expected Active Only	*55*	*8*
2C-B	1	2
5-MeO-MiPT	1	
LSD	3	
MDA	1	1
MDMA	49	5
Expected* + Unexpected Active(s)	*3*	
MDA	3	
MDMA	3	
Unexpected Active(s) Only	*7*	
5-MeO-MiPT	2	
MDA	4	
Ketamine	1	

Opioid Other

	Substance	Outreach
Expected Active Only	*5*	*4*
Hydrocodone	1	
Hydromorphone	2	4
Oxycodone + Acetaminophen	2	
Unexpected Active(s) Only		*2*
Isotonitazene		1
Metonitazene		1
N-desthyl isotonitazene		1

Dissociatives

	Substance	Outreach
Expected Active Only	*25*	*3*
Dextromethorpham (DXM)	1	
Ketamine	24	3
Unexpected Active(s) Only	*1*	
3-HO-PCP	1	

Other

	Substance	Outreach
Expected Active Only	*5*	*1*
Amphetamine		1
Cannabidiol (CBD)	1	
Cannabis	1	
GHB	1	
THC	2	
Unexpected Active(s) Only	*1*	
Cathinones (Undifferentiated)	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. [1]Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.

Unknown/Missing

|	Comox Valley	Port Alberni	Substance	Outreach
Unexpected Active(s) Only	*1*	*1*	*23*	*3*
Bromazolam			2	1
Cephalexin			1	
Cocaine Base			7	
Cocaine HCl		1		
Etizolam				1
Fentanyl		1	8	2
Flualprazolam				1
Fluorofentanyl			6	1
Heroin			2	
Hydromorphone			2	
Ketamine			3	
Methamphetamine			1	
MDMA	1		1	
Morphine			1	
Phenacetin			1	1

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.

Substance	# Quant.	Median	Min	Max
Fentanyl	211	13.9	0.1%	>80%*
Fluorofentanyl	96	3.3%	0.1%	>80%*
Bromazolam	64	1.8%	0.1%	>80%*
Heroin	25	>80%*	6.0%	>80%*
Etizolam	21	1.8%	0.2%	>25%*
Flubromazepam	18	2.7%	0.1%	10.4%
Acetylmorphine	16	1.5%	1.1%	4.4%
Xylazine	7	0.2%	0.1%	32.2%
Carfentanil	4	0.23%	0.10%	0.56%

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 bromazolm for every sample quantified, separated by collection location/model, 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.
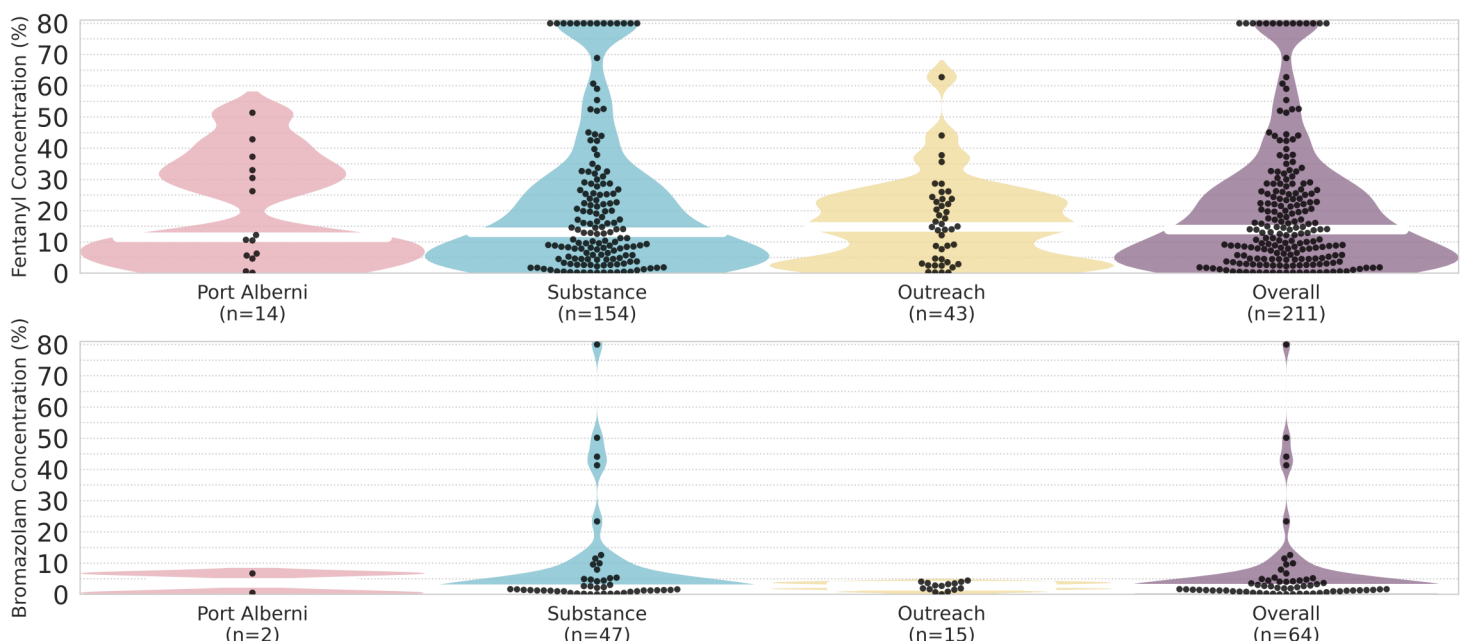
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The Vancouver Island Drug Checking Project is based out of the University of Victoria and operates community-wide drug checking services within Campbell River, the Comox Valley, Port Alberni, and Victoria, BC. In October, we ran pop-up drug checking events in Duncan at the Cowichan OPS operated by Lookout Housing and Health Society, and at the Oceanside Task Force on Homelessness in Parksville, supported by Society of Organized Services & NARSF. 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.
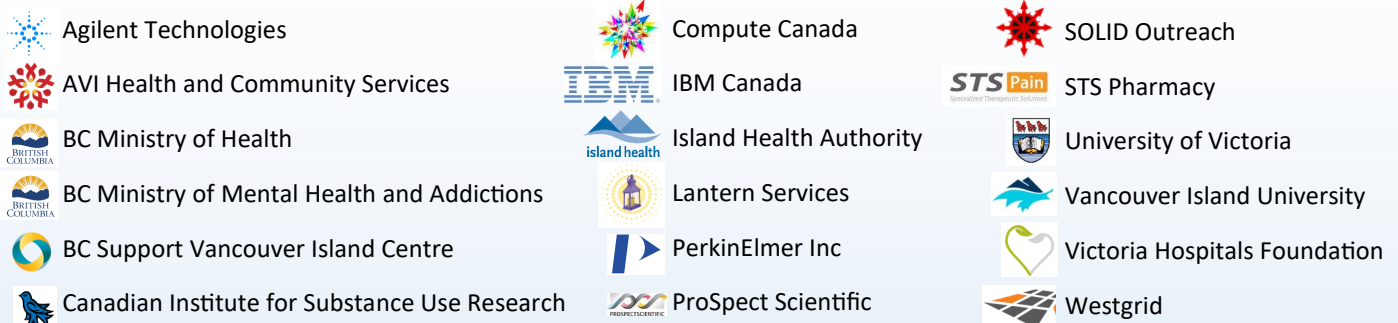
See the blog portion of our website to view our more detailed interpretations of our reports.

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

Agilent Technologies

AVI Health and Community Services

BC Ministry of Health

BC Ministry of Mental Health and Addictions

BC Support Vancouver Island Centre

Canadian Institute for Substance Use Research

Compute Canada

IBM Canada

Island Health Authority

Lantern Services

PerkinElmer Inc

ProSpect Scientific

SOLID Outreach

STS Pharmacy

University of Victoria

Vancouver Island University

Victoria Hospitals Foundation

Westgrid

Our Funders

Health Canada Substance Use and Addictions Program

Vancouver Foundation

Michael Smith Foundation for Health Research

Natural Sciences and Engineering Research Council

Canadian Institutes of Health Research