Vancouver Island Drug Checking Project

Preliminary Results for March 2022

The Vancouver Island Drug Checking Project delivers drug checking services in Victoria, BC. Our service has been operating in partnership with SOLID Outreach, AVI Health and Community Services, 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.

Highlighted findings:

- Carfentanil was found in one expected opioid-down sample
- 96% of expected opioid-down samples contained fentanyl
- The median fentanyl concentration found was 10.7%, with a maximum of over 80%
- Benzodiazepines and/or etizolam were found in 54.4% of expected opioid-down samples
- The maximum concentration of etizolam found was >25%, in an expected opioid-down sample

501

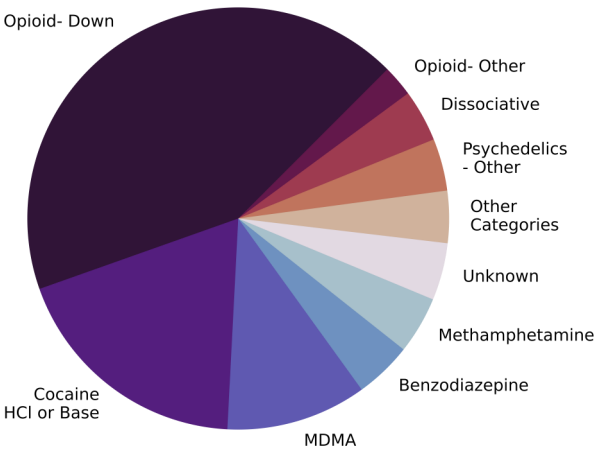
Samples Tested
1 - 31 March
2022

[Read our blog](#) for further interpretations of our March 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)	215
Cocaine (HCl or Base)	94
Psychedelic (MDMA, MDA, LSD, 2C-B)	74
Benzodiazepine (alprazolam, diazepam, etizolam)	22
Methamphetamine	22
Dissociative (ketamine)	20
Other Opioids (Dilaudid, oxycodone)	12
Other (GHB, cannabinoids, "research chemicals")	20
Unknown/Missing	22



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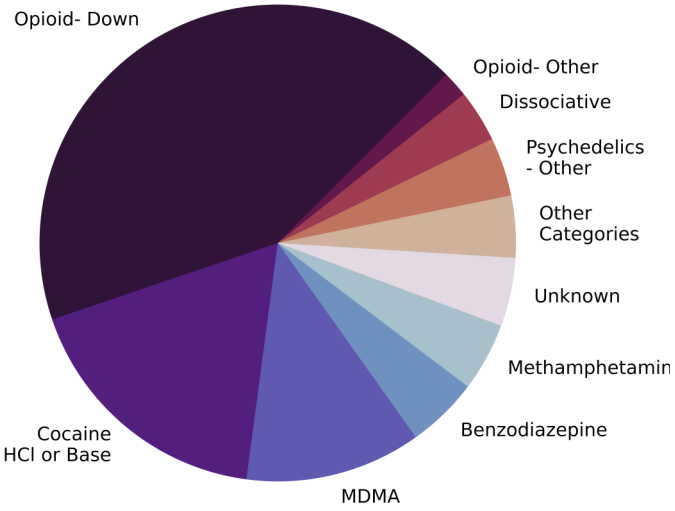
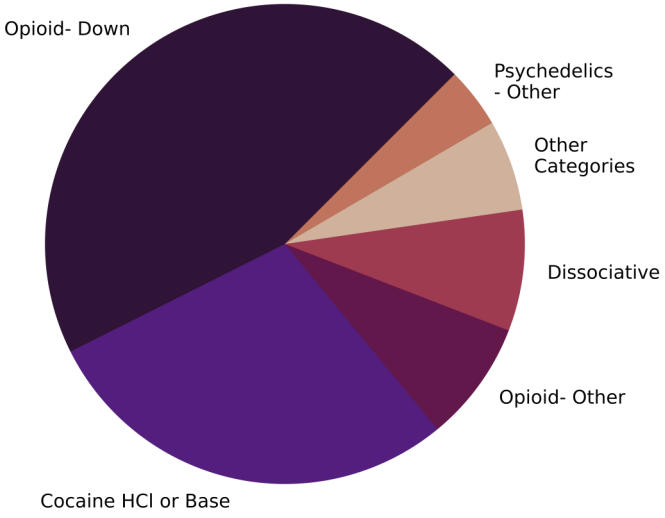
What were people bringing to be tested by service model?

A majority of the samples that we check are brought in to our Victoria storefront by service users, however we also collect and receive samples though various outreach efforts. 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 storefront, while “Outreach” samples are those collected at supported housing sites, at overdose prevention and supervised consumption locations, through no contact drop-off envelopes, and via mail-in envelopes. These data are tabulated and visualized below.

Substance



Outreach



Expected substance	Substance	Outreach	Overall
Opioid Down (fentanyl and/or heroin)	193	22	215
Cocaine (HCl or Base)	80	14	94
Psychedelic (MDMA, MDA, LSD, 2C-B)	72	2	74
Benzodiazepine (alprazolam, diazepam, etizolam)	22	0	22
Methamphetamine	21	1	22
Dissociative (ketamine)	16	4	20
Other Opioid (Dilaudid, oxycodone)	8	4	12
Other (GHB, cannabinoids, “research chemicals”)	19	1	20
Unknown/Missing	21	1	22
Total samples checked	452	49	501

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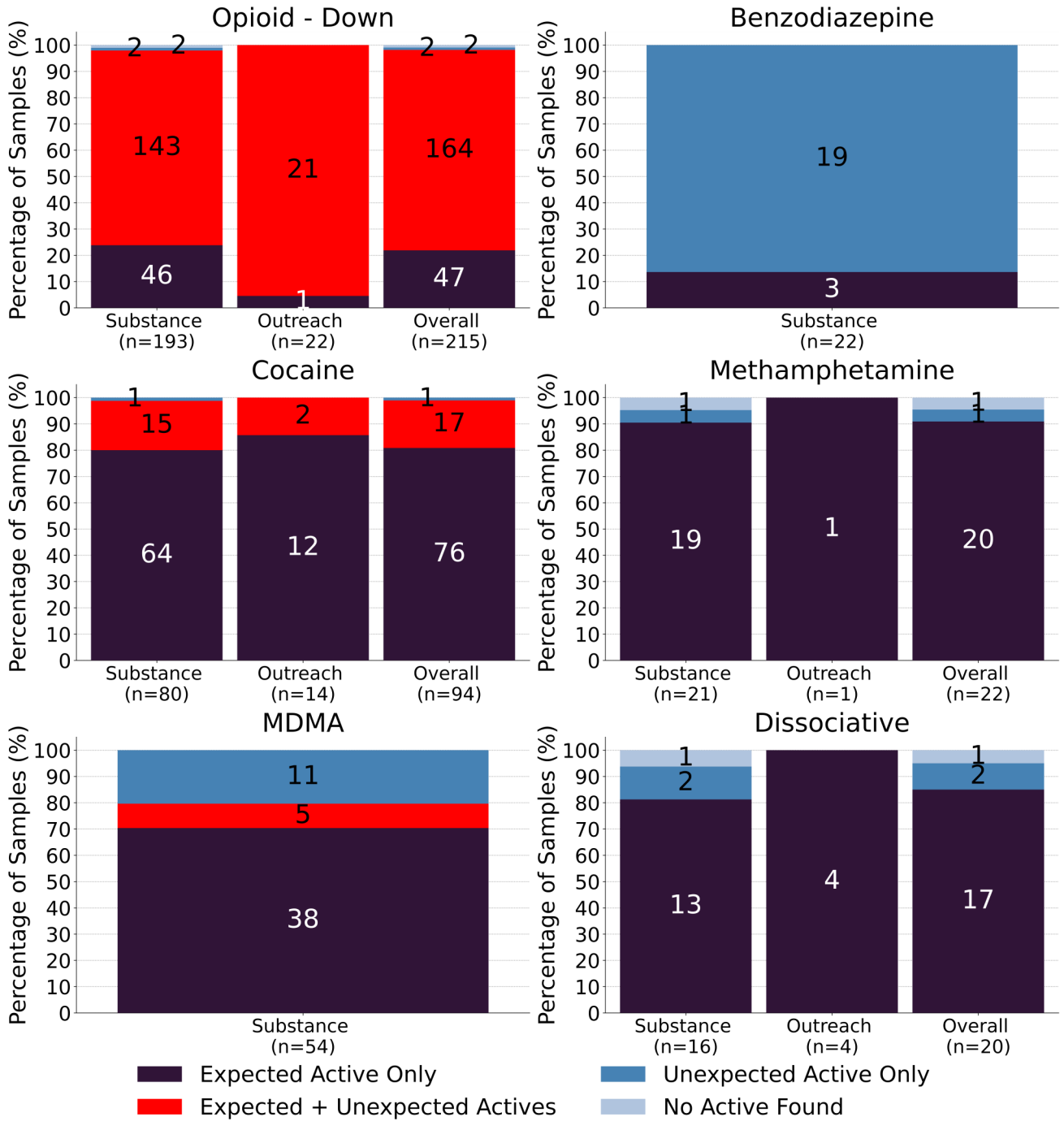
What did we find?

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, separated by collection location/method, color coded by their composition. **Dark Purple** regions group samples that were simply as expected with no other notable compounds detected, **Red** shows samples that contained the expected drug *and* were contaminated with an unexpected active, **Dark Blue** groups samples that only contained an unexpected active (the expected drug was not found), and **Light Blue** 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.

Cocaine (HCl or Base)	Substance	Outreach
Expected Active Only	***64***	***12***
Cocaine Base	9	1
Cocaine HCl	56	11
Expected* + Unexpected Active(s)	***15***	***2***
Cocaine Base*	4	
Cocaine HCl*	11	2
Benzocaine	1	
Etizolam		1
Fentanyl	2	1
Levamisole	10	
MDA	1	
Methamphetamine		1
Phenacetin	3	
Unexpected Active(s) Only	***1***	
Etizolam	1	
Fentanyl	1	

Opioid Other	Substance	Outreach
Expected Active Only	***5***	***4***
Hydromorphone	4	3
Morphine	3	3
Oxycodone	2	
Unexpected Active(s) Only	***1***	
Acetaminophen	1	

Opioid Down	Substance	Outreach
Expected Active Only	***46***	***1***
Fentanyl	46	1
Expected* + Unexpected Active(s)	***143***	***21***
Fentanyl*	143	19
Heroin*	4	2
Acetaminophen	2	
Acetylcodeine	1	2
Acetylmorphine	1	2
Alprazolam	1	
Benzocaine	1	1
Benzodiazepine (undifferentiated)[2]	23	4
Carfentanil	1	
Cocaine Base	1	
Cocaine HCl	3	
Etizolam	62	11
Flualprazolam	17	
Flubromazepam	4	
Flubromazolam	2	1
Fluorofentanyl	25	3
Hydromorphone	2	1
Isotonitazene	1	
Lidocaine	5	
Morphine	3	
Phenacetin	3	
Xylazine	14	1
Unexpected Active(s) Only	***2***	
Cocaine HCl	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. [1]May be due to limitations of technology to detect certain substances. [2]Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.*

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Methamphetamine	Substance	Outreach
Expected Active Only	***19***	***1***
Methamphetamine	19	1
Unexpected Active(s) Only	***1***	
Acetaminophen	1	
Fentanyl	1	

Psychedelics	Substance	Outreach
Expected Active Only	***54***	***2***
2C-B	12	
2C-T-7	1	
4-AcO-DMT		1
4-HO-MET	1	1
5-MeO-MiPT	1	
DMT	2	
LSD	9	
MDMA	38	
Expected* + Unexpected Active(s)	***5***	
MDA	5	
MDMA*	5	
Unexpected Active(s) Only	***13***	
4-HO-MET	1	
Cannabidiol	2	
MDA	8	
MDMA	1	

Unknown/Missing	Substance	Outreach
Unexpected Active(s) Only	***14***	***1***
Acetaminophen	2	1
Benzocaine	1	
Cocaine Base	2	
Fentanyl	4	
Ketamine	1	
MDMA	1	
Methamphetamine	3	
Oxycodone	1	
THC	3	

Dissociatives	Substance	Outreach
Expected Active Only	***13***	***4***
Ketamine	13	4
Unexpected Active(s) Only	***2***	
Fluorodeschloroketamine	1	
MDA	1	

Other	Substance	Outreach
Expected Active Only	***10***	***1***
2-FMA	1	
3-MMC	2	1
Cannabidiol	3	
GHB	3	
THC	3	
Unexpected Active(s) Only	***7***	
Amphetamine	1	
Cannabis	4	
Meprobamate	1	
MDMA	1	

Benzodiazepines	Substance
Expected Active Only	***3***
Alprazolam	1
Lorazepam	1
Nitrazolam	1
Unexpected Active(s) Only	***19***
Acetaminophen	1
Etizolam	8
Fentanyl	1
Flualprazolam	7
Flubromazolam	2
MDA	1
Zolpidem	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]May be due to limitations of technology to detect certain substances. [2]Benzodiazepine (undifferentiated) results are based on a positive benzo strip test and are unconfirmed by paper spray.*

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Quantification

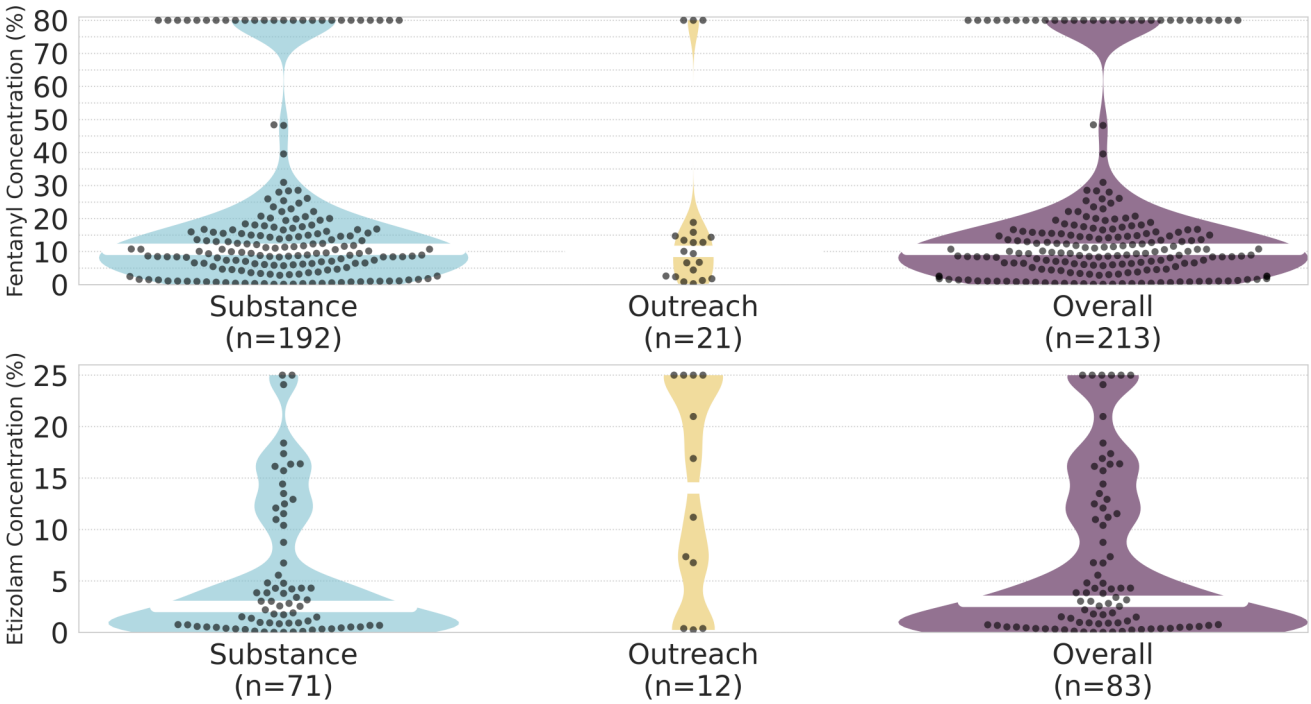
Using paper spray mass spectrometry (PS-MS) data, we were able to quantify low concentration compounds. These aggregate values are inclusive to all expected drug categories in which the active drugs are found. Weight percentage is reported below.

Substance	# Quant.	Median	Min	Max
Fentanyl	214	10.7%	0.1%	>80%*
Etizolam	83	3.0%	0.1%	>25%*
Fluorofentanyl	28	3.8%	0.2%	13.3%
Flualprazolam	24	0.4%	0.1%	2.0%
Xylazine	15	0.2%	0.1%	20.8%
Flubromazolam	5	0.1%	0.1%	1.0%
Heroin	3	>80%*	30.7%	>80%*
Isotonitazene	2	0.9%	0.9%	0.9%
Carfentanil	1	0.10%	-	-

**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 Etizolam Concentrations

The concentrations of fentanyl and etizolam 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/etizolam 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 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

- 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
- 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

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