Community Drug Checking Services in British Columbia/Yukon: An Environmental Scan
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Suggested Citation

Cover Images
Top row (left-right): Blood Ties Four Directions Centre, Mountainside Harm Reduction Society, Get Your Drugs Tested.
Middle row (left-right): Substance Drug Checking Victoria, The Preventing Overdose UNDoing Stigma (POUNDS) Project, AVI Health and Community Services Courtenay.
Bottom row (left-right): ASK Wellness Society Penticton, UBCO’s Harm Reduction Team, ANKORS West Kootenay.
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Executive Summary

This report provides an overview of community drug checking in British Columbia (BC) and the Yukon as of the fall of 2022. The intent of this scan is to describe the existing capacities and potential as well as possible gaps to inform the future of community drug checking.

We have identified 19 organizations providing drug checking through nearly 40 access points in BC, and one organization in the Yukon, from June to October 2022. This was the first year to see drug checking sites operating in every health region in BC. Each health region had multiple access points, with an average of eight access points per region. According to drug checking reporting from 2022, over 28,000 drug checks were completed that year. That corresponds to a rate of 533 drug checks per 100,000 in BC. The monthly average of samples received at each site varied, ranging from around a dozen to nearly 900 samples per site. The scan illustrates how there are varied models of service delivery to respond to the unique needs of communities. One model frequently implemented in BC is a service with many access points that may have restricted availability (hours of operation, days per week with services available) but increased reach to smaller communities and large geographic regions. For example, Interior Health hosts over half of the forty provincial drug checking access points to best serve a range of communities throughout a large geographical region while accounting for 11% of the tests conducted provincially. Meanwhile, in Vancouver and Victoria two full-time storefront sites are providing the majority (over 75%) of drug checking in BC/Yukon. This combination of multiple access points throughout the regions along with high-capacity sites is perhaps the current model in BC/Yukon to further develop.

The combination of infrared absorption (FTIR) spectroscopy with fentanyl and benzodiazepine immunoassay test strips is the primary service model being provided while other technologies are also being utilized and explored. Confirmatory checking with technologies additional to FTIR and immunoassay test strips instruments is limited to approximately 1% of samples, with the exception of Substance Drug Checking that provides results from mass spectrometry analysis on every sample received. Service providers identify the facilitators and limitations of existing responses as well as recommendations and hopes for the future.
Drug Checking in BC and the Yukon

History of Drug Checking in BC and Yukon

The purpose of this report is to provide an overview of community drug checking in BC and the Yukon as of Fall 2022. With increasing interest in the potential of drug checking, notably within the context of the province’s overdose responses, the intent of this report is to provide a summary of drug checking services as they existed during a period of time in BC, and how a provincial drug strategy could build on existing programs, services and resources.

Drug checking in BC has a long, inspiring history. Most notably, since 2003 the AIDS Network Outreach & Support Society (ANKORS) have been leaders and innovators in festival drug checking at the Shambhala electronic dance music (EDM) festival and other events. Throughout these last twenty years, Chloe Sage and many, many volunteers have demonstrated both the feasibility of drug checking as a harm reduction service as well as the value of grassroots services led by those who most benefit from the services themselves. Indeed, any drug checking in BC rests on these foundations and core principles.

There is an equally lengthy history of recommendations for drug checking in BC as a harm reduction response to overdose and the unpredictability of the unregulated drug markets. Thirty years ago, in 1993, BC experienced the so-called China White overdose crisis. The Province tasked Chief Coroner Vince Cain to undertake the Task Force into Illicit Narcotic Overdose Deaths in BC where he recommended the expansion of harm reduction services in BC to include “street drug testing and analysis”; specifically, to “provide assistance in determining the quality of drugs on the street, and in disseminating that information to both health care professionals and the addict population” (p. 23). And in 2005, the BC Ministry of Health included drug checking in its harm reduction guide recommending “street drug testing and early warning systems” as an integral part of a comprehensive harm reduction response.

Illicit drug overdose in BC was declared a provincial public health emergency in 2016, a declaration that continues to this day (Government of BC, 2016a). That year, the province also issued a Ministerial Order to support extraordinary measures such as overdose prevention services to respond to the crisis. BC’s Joint Task Force on Overdose Prevention and Response identified drug checking services within its comprehensive response to the overdose crisis (Government of BC, 2016b). As one step towards drug checking within overdose responses, Vancouver Coastal Health introduced fentanyl immunoassay test strips into the harm reduction services offered at Insite in 2016 (BC Ministry of Mental Health and Addictions, 2017). Test strips were then expanded to other sites within Vancouver Costal Health in 2017. Additional drug checking technologies were introduced in Vancouver’s Downtown Eastside starting in 2017 with the acquisition of an FTIR, purchased using funds from the City of Vancouver’s Opioid Contingency Fund, as part of the BC Centre on Substance Use (BCCSU) initial drug checking pilot (BC Ministry of Mental Health and Addictions, 2017). By the end of 2017, the BCCSU would release an evidence review on drug checking as an important step to informing public health on the potential and limitations of possible drug checking technologies (Kerr & Tupper, 2017).
In 2017 to 2018, Health Canada would invest millions of dollars in two drug checking pilot projects in BC through its Substance Use and Addictions Program (SUAP) funding competition. The BCCSU initiated a provincial pilot with harm reduction organizations across BC to implement and evaluate community-based drug checking services using FTIR spectroscopy and fentanyl immunoassay test strips as the primary technologies. The University of Victoria’s pilot project, Substance Drug Checking, focused on Vancouver Island and explored multiple technologies (FTIR, powder-based Raman, surface-enhanced Raman, gas chromatography coupled with mass spectrometry, magnetic resonance, and various types of immunoassay test strips), including a collaboration with Vancouver Island University to apply mass spectrometry within community drug checking (Wallace et al., 2022). These five-year pilot projects expire in 2022 (BCCSU) and 2023 (University of Victoria).

Drug checking is often described as operating in a legal gray area and federal sanctioning has been limiting its development and reach. In BC, the Ministerial Order under the Provincial Health Services Act of 2016 would facilitate sanctioning of drug checking sites as overdose prevention services (OPS). Then in 2021, the province enhanced sanctioning utilizing Health Canada’s Class Exemption during the pandemic to create B.C. Standards for Distributed Drug Checking Sites to sanction Urgent Public Health Needs Sites (UPHNS) for drug checking activities with the significant inclusion of sanctioning processes for secure sample transport. BC and the Yukon are the two jurisdictions within Canada to declare illicit drug overdose to be a public health emergency and in BC drug checking is primarily sanctioned as UPHNS or as OPS often with additional UPHNS sanctions for collaborating sites or events. There are few sites and services now needing to access the typically cumbersome and lengthy processes to securing federal Section 56 Exemptions in the regions.

In 2022, there would be two renewed calls for drug checking at a provincial level in BC. The province's Chief Coroner released the Death Review Panel Report with the following recommendation:

*Ensure that high-quality and fast drug checking services are available and accessible across the province, so that: people have better knowledge about non-pharmaceutical drugs they consume; and health authorities can establish improved illicit drug market surveillance, identify novel dangerous adulterants, and provide early warnings about changes in the illicit drug supply.*

This followed the 2018 recommendation from the “BC Coroners Service Death Review Panel: A Review of Illicit Drug Overdoses” for “the need to improve safer drug-use through the creation of accessible provincial drug checking services using validated technologies.” Also in 2022, the Select Standing Committee on Health provided the province with their report “Closing Gaps, Reducing Barriers: Expanding the response to the toxic drug and overdose crisis” in which they advocate that “drug checking be treated in the same way as other health care services, by ensuring availability throughout BC and providing standards that require consistent quality care and safety for users” (Legislative Assembly of BC, 2022, p. 8). The report specifically recommends:
Urgently ensure the availability of province-wide, standardized (in terms of resourcing, operating, and evaluating parameters) harm reduction services—including overdose prevention and drug checking services ... (p. 11).

In January 2022, Yukon’s Health and Social Services Minister declared a substance use health emergency following a drastic increase in overdose related deaths in the territory (Government of Yukon, 2022). With both BC and Yukon experiencing unprecedented rates of overdose and public health authorities enacting public health emergency measures, we sought to include both regions in this review.

**In This Environmental Scan**

In this report, we focus on “community drug checking”. Previously we have defined community drug checking as “a model of drug checking that is implemented within communities to provide an ongoing service to the whole population which may be unique from event or festival site models” (Wallace et al., 2022). Based on this definition, we have excluded a discussion on festival, events-based, and pop-up drug checking which do not provide ongoing services. Further, sites that offer only fentanyl immunoassay test strips, not in combination with other technologies, are also not included. This is because fentanyl immunoassay test strips alone only provide indication of the presence of fentanyl, not a robust checking result that offers further compositional information. In BC and the Yukon (and elsewhere), community drug checking has been implemented as a response to overdose and the shift to illicit fentanyl in the unregulated drug market from the previous predominance of heroin. The implementation of these services began as a patchwork of responses but is now much more extensive. While there has been increasing roles and responsibilities by regional health authorities, there is no dedicated funding stream available to most services and minimal or no overall coordination, planning or monitoring of the existing services at a provincial/territorial level. The intent of this scan is to provide a snapshot of what exists to hopefully facilitate such developments in ways that build on the existing capacities and potential of the amazing work being done in our communities.

Recognizing the rapidly changing and evolving landscape of drug checking services, this environmental scan summarizes the number and location of drug checking sites and related drug checking activity in the province of BC and Yukon territory from June to October, 2022. Because the authors are from a drug checking project and active in the drug checking community, coalitions and activities, we were already aware of the existing programs and who to contact in the different regions.

Emails were sent to the primary contacts in the drug checking groups with a basic survey to collect information on their sites and services. We further collaborated with the BCCSU to ensure we were reaching all of the sites contributing to their reporting. The emails also invited photos of the sites be submitted. Much of the information was already publicly available on either the host organizations’ websites or through the regular reporting from the BCCSU and Vancouver Island Drug Checking Project. In addition, 2022 annual drug checking data from both the BCCSU and Substance Drug Checking were incorporated to provide the most recent drug checking service data from across the province. The objective was to
collate all of this available information from our colleagues to create this summary report for planning purposes.

## Sites and Services

Overall, we confirmed that from June to October, 2022 there are 19 organizations providing drug checking through close to fifty access points in BC, and one organization in the Yukon. To be included in the count of a drug checking access point, a site would have drug checking services that could be accessed on a regular basis, whether it was through daily hours of operation or through pop-up services available through a recurring weekly, bi-weekly, or monthly schedule. In BC, there are now drug checking leads within a couple of health authorities and health authorities are increasingly investing in drug checking either through contracting out these services to local organizations or directly operating sites within their regions. The BCCSU partners with all the health authorities along with the community sites to share data and support training and implementation. Notably, Get Your Drugs Tested does not receive public funds while being the busiest site in the province.

In addition to drug checking access points, many organizations also offered festival, events-based, and pop-up drug checking. These types of drug checking events are not included in the final count of access points because they are temporary and events-based in nature. Community based drug checking services are operating in every regional health authority in BC, and have been since 2022. Most drug checking organizations are operating from a fixed site embedded within—or co-located with—supervised consumption sites/overdose prevention (SCS/OPS) sites with a few co-located in other health, harm reduction, and housing or sheltering sites. From these locations, drug checking was offered as part of a range of services available. The SCS/OPS sites hosting drug checking services also offered services beyond supervised consumption, including connection to housing, employment support, physical and mental health services, peer support groups, and treatment. In BC, there are also two organizations operating from storefront sites in which the site is primarily dedicated to drug checking and other services, such as the distribution of harm reduction supplies and naloxone training, are ancillary.
Table 1: Geographic Location of Community Drug Checking Organizations and Access Points in BC and Yukon (June to October, 2022)

<table>
<thead>
<tr>
<th>Region</th>
<th>Organization</th>
<th># of Access Points</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraser Health</td>
<td>Mountainside Harm Reduction Society</td>
<td>5</td>
<td>Abbotsford, Chilliwack, Hope</td>
</tr>
<tr>
<td></td>
<td>Purpose Society</td>
<td>1</td>
<td>New Westminster</td>
</tr>
<tr>
<td></td>
<td>Safepoint Supervised Consumption Site</td>
<td>1</td>
<td>Surrey - Central</td>
</tr>
<tr>
<td>Interior Health</td>
<td>ANKORS West Kootenay</td>
<td>6</td>
<td>Nelson, Trail, Grand Forks, Castlegar</td>
</tr>
<tr>
<td></td>
<td>ANKORS East Kootenay</td>
<td>1</td>
<td>Cranbrook</td>
</tr>
<tr>
<td></td>
<td>ASK Wellness Society Penticton</td>
<td>6</td>
<td>Penticton, Princeton</td>
</tr>
<tr>
<td></td>
<td>ASK Wellness Society Kamloops</td>
<td>2</td>
<td>Kamloops, Merritt</td>
</tr>
<tr>
<td></td>
<td>UBCO HaRT</td>
<td>6</td>
<td>Kelowna, Vernon</td>
</tr>
<tr>
<td>Northern Health</td>
<td>POUNDS</td>
<td>1</td>
<td>Prince George</td>
</tr>
<tr>
<td></td>
<td>Northwest ICMT</td>
<td>1</td>
<td>Terrace</td>
</tr>
<tr>
<td>Island Health</td>
<td>CMHA – Mid Island Branch</td>
<td>1</td>
<td>Nanaimo</td>
</tr>
<tr>
<td></td>
<td>Substance Drug Checking</td>
<td>1</td>
<td>Victoria</td>
</tr>
<tr>
<td></td>
<td>Port Alberni Shelter Society</td>
<td>1</td>
<td>Port Alberni</td>
</tr>
<tr>
<td></td>
<td>AVI Courtenay</td>
<td>1</td>
<td>Courtenay</td>
</tr>
<tr>
<td></td>
<td>VIMHS</td>
<td>1</td>
<td>Campbell River</td>
</tr>
<tr>
<td>Vancouver Costal Health</td>
<td>Insite</td>
<td>1</td>
<td>Vancouver</td>
</tr>
<tr>
<td></td>
<td>Overdose Prevention Society</td>
<td>1</td>
<td>Vancouver</td>
</tr>
<tr>
<td></td>
<td>PHS/MOPS</td>
<td>1</td>
<td>Vancouver</td>
</tr>
<tr>
<td></td>
<td>GYDT</td>
<td>1</td>
<td>Vancouver</td>
</tr>
<tr>
<td>Yukon</td>
<td>Blood Ties Four Directions</td>
<td>1</td>
<td>Whitehorse</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>20</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

As seen above in the table, several organizations offer multiple access points as they rotate between sites throughout the week or month and we estimate that there are 40 drug checking access points in BC/Yukon from June to October, 2022. These access points are also supplemented by periodic pop-ups and festival/event drug checking. The host sites included SCS/OPS, shelters, harm reduction service points, a university campus and health and social service sites. Rotating sites may have limited operating hours and less service
availability overall, but are able to reach multiple communities and are integrated within
different sites. For example, in both the Interior and Fraser health regions there may be one
organization travelling between multiple communities to cover a larger geographical region.

Table 2: Frequency of Community Drug Checking in BC and Yukon in 2022

<table>
<thead>
<tr>
<th>Region</th>
<th># of Organizations</th>
<th># of Access Points</th>
<th># of tests *</th>
<th>% of BC total</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver Coastal</td>
<td>4</td>
<td>4</td>
<td>16,722</td>
<td>59%</td>
<td>1,326</td>
</tr>
<tr>
<td>Island Health</td>
<td>5</td>
<td>5</td>
<td>6,536</td>
<td>23%</td>
<td>738</td>
</tr>
<tr>
<td>Interior Health</td>
<td>5</td>
<td>21</td>
<td>3,191</td>
<td>11%</td>
<td>378</td>
</tr>
<tr>
<td>Fraser Health</td>
<td>3</td>
<td>7</td>
<td>1,501</td>
<td>5%</td>
<td>74</td>
</tr>
<tr>
<td>Northern Health</td>
<td>2</td>
<td>2</td>
<td>385</td>
<td>1%</td>
<td>126</td>
</tr>
<tr>
<td>BC TOTAL</td>
<td>19</td>
<td>39</td>
<td>28,335</td>
<td>100%</td>
<td>533</td>
</tr>
<tr>
<td>Blood Ties (Yukon)</td>
<td>1</td>
<td>1</td>
<td>137</td>
<td></td>
<td>313</td>
</tr>
<tr>
<td>BC/Yukon Total</td>
<td>20</td>
<td>40</td>
<td>28,472</td>
<td></td>
<td>531</td>
</tr>
</tbody>
</table>

* Data on number of community drug tests done in 2022 provided by the BCCSU and Substance Drug Checking

A review of 2022 service data was also conducted to determine how much drug checking is
being provided in BC/Yukon. Over 28,000 drug checks were completed in 2022. If
additional mail-in samples from Get Your Drugs Tested are included, we estimate that close
to 30,000 drug checks were provided in BC/Yukon that year. This translates into about 78
drug checks daily, 550 a week, or close to 2,400 a month.

Over half (59%) of all drug checks in BC occur in Vancouver’s Downtown Eastside primarily
due to the high level of service from the Get Your Drugs Tested busy storefront site that
operates seven days a week and includes mail-in services and pop-ups. Get Your Drugs
Tested is the only drug checking service that is open every day of the week for 8 hours a day,
including holidays. About a quarter (23%) of drug checking occurs on Vancouver Island
where Substance Drug Checking operates a model that includes mail-in services as well as
festival, event, and pop-up drug checking in addition to their busy Victoria storefront that
operates six days a week. Interior Health has over 20 drug checking access points providing
over 3,000 drug checks in 2022. While Interior Health hosts over half of the forty provincial
drug checking access points these sites account for 11% of the total provincial drug checks
which illustrates the differences in some sites being opened limited days and hours in
smaller communities compared to the two full-time services in Vancouver and Victoria.
Fraser Health provided about 1,500 drug checks across seven access points. Northern
Health was still being established in 2022, but still saw 385 samples at two access points.

Overall in BC, there was a rate of 533 drug checks per 100,000 in BC. When presented as a
rate of service, we see how Blood Ties Four Directions in Yukon was providing a similar rate
of service to Interior Health as they delivered less tests to a smaller population. The rates varied greatly by health authority ranging from 74 to 1,326 per 100,000.

Various factors affected the total number of samples checked at each site, including population density in geographic service area, service delivery features used to increase the scale and reach of services, and how long the service has been in operation. The monthly average of samples received at each site varied greatly, ranging from around a dozen a month to nearly 900 samples a month according to responses from the sites. The two sites receiving the highest number of samples are located in the most densely populated service areas, have been in operation since at least 2019, are operating from dedicated fixed site locations, and included strategies to support the scale and reach of services, such as mail-in services and festival, event, and pop-up drug checking.

According to survey responses, all sites expected to see an increase in the number of samples received in the future. Organizations newly offering drug checking services discussed the potential for growth as the sites become more established and people learn about the availability of the service. Longer running sites discussed seeing a general trend of sample numbers increasing over time and expected the trend to continue in the future. Many organizations noted additional factors that are expected to support growth in the number of samples received, such as moving to a larger space with additional services, adding additional drug checking instruments, increasing the amount of pop-up and events-based drug checking, adding mobile services, and accepting samples through the mail. Conversely, organizations also expressed factors that they expected may reduce the number of samples they would be able to check in the future, such as maintenance to drug checking technology and unsustainable funding resulting in restricted hours of operation and scaled-back services.

Service Delivery Features to Improve Scale, Reach, and Availability of Services

Many organizations integrated strategies of sample collection and service delivery to support the reach of and availability of services beyond their fixed sites.

Pop-ups and Events

Some organizations offer regularly scheduled or occasional pop-up drug checking at harm reduction service sites or events. Three organizations with fixed site locations reported having a regular schedule of harm reduction service points where they offered pop-up drug checking on a weekly, bi-weekly, or monthly basis. These pop-up locations are located both in the same city or

Mountainside Harm Reduction Society provides mobile drug checking services at various locations throughout the Fraser Valley as well as at music festivals within the Fraser Health Authority.
town as the fixed drug checking site as well as in neighbouring towns. Eight organizations are offering pop-up drug checking services at events in their region. Music festivals are the most common type of event identified, but other event specific drug checking occasions include drug user organization meetings, International Overdose Awareness Day events, Pride events, health fairs, events on campus, and at encampments. The distance travelled by the organization for the events varied greatly, depending on the event. Some events occurred within the same town as the drug checking organization while other events required travelling to neighbouring regions. Organizations who are set up to provide occasional or regular pop-ups and events-based drug checking are able to expand the reach of their services. This is significant for populations that have less access to drug checking services due to proximity to fixed site locations, and for circumstances where there is a temporary influx of concentrated substance consumption (such as at festivals).

By Appointment

Two fixed-site drug checking locations noted that they have service closure or restricted hours of operations on certain days due to budget and staffing constraints. To accommodate access to services during these times, individuals are able to make an appointment for drug checking outside of regular hours of operations.

Sample Drop Off Sites

In response to limited hours of operation or service availability, some organizations have coordinated ways for samples to be dropped off at partnering services to be collected and tested at a later time during operating hours. Five organizations describe having sites at partnering organizations in the community where individuals can drop off samples which would later be picked up by the drug checking organization. Many of the drop off locations are organizations offering health and social supports and harm reduction services and are located both within the same city/town as the drug checking organization or in neighbouring communities. In addition, some organizations that are embedded within other services offer a secure way for the co-located organization to collect samples outside of the regular hours of drug checking operations.

Mail In

Receiving samples by mail was another approach that some organizations are using to increase access to drug checking services across the province. Two organizations have formally implemented mail in services and set up procedures for accepting samples by mail and advertised it as part of their service model. Two other organizations noted that they do not accept samples by mail but do provide envelopes with postage to individuals who are interested in mailing in samples to other sites accepting samples by mail. An additional two organizations expressed hopes to expand their service model to develop procedures for accepting mail in samples in the future, but did not currently include this service as part of their service model.
Remote Interpretations

One project, Substance Drug Checking, developed a distributed service model that linked multiple sites with FTIRs to a single technician online who remotely provided results throughout the large region, removing the need for trained technicians in these smaller communities.

Technologies

There are a number of different drug checking technologies used in community based drug checking services in BC and all services offer a combination of technologies to help address the inherent limitations of each device and to provide a more complete result.

The technologies being used across all organizations in BC and the Yukon are a combination of FTIR spectroscopy and both fentanyl and benzodiazepine immunoassay test strips. This pairing of technologies was originally introduced in BC and the Yukon through the BCCSU Drug Checking Project as the suggested model for drug checking. The BCCSU Drug Checking model also included elements of training, software development and coordinated reporting. FTIR is frequently used as a drug checking instrument due to its comparatively low cost, portability, and ability to offer some quantification of sample components. In addition, it requires very little sample preparation and does not destroy the sample presented (Wallace et al., 2021). However, its application can be limited due to low sensitivity to components present in lower concentrations (Ti et al., 2020).

Fentanyl and benzodiazepine immunoassay test strips are low cost, portable and quickly produce results. However, they can only detect the presence of the targeted substance (fentanyl or a benzodiazepine). The strips are unable to quantify the amount of fentanyl or benzodiazepine present and cannot detect other components of the sample. Further, the benzodiazepine immunoassay test strips cannot detect all types of benzodiazepine and related analogues. Furthermore, although many fentanyl analogues are successfully detected with the fentanyl test strips, they cannot be distinguished and have potencies that span a very large range. Because of the strengths and limitations of each technology, it has been suggested that these instruments paired together could produce more effective drug checking than using only one of the instruments (BCCSU, 2019; McCrae et al., 20202; Ti et al., 2020).

Some sites used additional technologies in conjunction with FTIR spectroscopy and immunoassay test strips as part of their drug checking service. Substance Drug Checking uses multiple additional technologies as a suite of drug checking instruments, including
Raman spectroscopy and paper spray mass spectrometry (PS-MS). Raman spectroscopy as a community drug checking instrument has similar benefits as FTIR spectroscopy: it is comparatively low cost, portable, offers limited sample quantification, requires very little sample preparation and does not destroy the sample presented (Gozdzialski et al., 2021; Gozdzialski et al., 2022; Wallace et al., 2021). However, this technology also has some limitations when it comes to identifying and quantifying substances that are present in low concentrations (Wallace et al., 2021). The PS-MS technology is not portable, has a higher initial cost, requires sample preparation, and has significant ongoing consumable and maintenance costs. However, the strength of the technology is that it is able to identify components present in trace concentrations and provides a concise quantification (Borden et al., 2022; Vandergrift & Gill, 2019). In an ongoing collaboration, Vancouver Island University first introduced PS-MS technology to Substance Drug Checking in 2022, where it is still used in daily operations.

**Confirmatory Checking**

Confirmatory testing describes the process of accessing additional technologies that can unambiguously provide the identity of the components in a mixture, regardless of their concentration. This process introduces technology with diverse capabilities, most often GC-MS, LC-MS, some types of direct MS, and high-field NMR, to complement results obtained from instruments that may have certain limitations for providing precise quantification or detection of low concentration components.

Because the majority of organizations in BC exclusively use portable FTIR spectroscopy and fentanyl and benzodiazepine immunoassay test strips, there are benefits to accessing confirmatory checking instruments and services such as mass spectrometry or nuclear magnetic resonance spectroscopy. These instruments can provide more comprehensive information where FTIR spectroscopy and immunoassay test strips may have limitations, such as the identification of components present in trace amounts and accurate quantification of components.

Currently in BC and Yukon, options for confirmatory testing appear to be limited to two possible sources: Health Canada’s Drug Analysis Service (DAS Labs) and Substance Drug Checking. DAS Labs continues to be one source of lab-based confirmatory drug checking in BC (and elsewhere in Canada) and three organizations mentioned sending samples to DAS Labs for confirmatory checking. The second source, Substance Drug Checking, provides confirmatory testing using PS-MS technology. At least six organizations in BC identified sending samples to Substance Drug Checking for validation of the results they have obtained with their technologies, and for confirmatory testing to identify components that other technologies may have limitations in detecting. In addition to current inter-agency collaboration to access additional drug checking technologies, UBCO’s Harm Reduction Team identified that in the coming year they are hoping to add additional technologies to their service including Raman spectroscopy, Gas Chromatography coupled with Mass Spectrometry (GC-MS), and an Infrared Microscope.

While point-of-care drug checking has significantly expanded across the province, access to confirmatory checking has been limited. Reporting from the BCCSU confirms access to DAS
Labs is not available to all sites. Indeed, in 2022 less than 300 samples received confirmatory checking from DAS Labs, or 1.3% of all samples being reported by BCCSU’s provincial drug checking project. Substance Drug Checking includes PS-MS technology within point-of-care testing for all samples they receive, and for confirmatory testing for all sites on Vancouver Island that they are linked with through the distributed model of operations. Because this service was established exclusively for Vancouver Island, Substance Drug Checking confirmatory PS-MS testing is limited to sites within this region.

**Time in Operation**

As has been noted, drug checking in BC is a quickly evolving and expanding service. Organizations were asked how long they had been in operation. The longest drug checking organization (ANKORS) has been offering drug checking in some form since 2003, beginning with reagent testing in 2003 and then transitioning to spectroscopy based drug checking in 2018. 11 of organizations have been operating for between 2 to 4 years. Over a third (8/20) of the drug checking organizations have newly begun service operations in 2022. Of the sites beginning operations in 2022, all are located outside of urban centers, demonstrating a recent uptick in drug checking services within non-urban centers within the province. With drug checking organizations growing in BC and the Yukon, sites that have been established and running for a longer period of time – such as ANKORS and Substance Drug Checking – have been able to provide an essential expertise that has helped support the education and scale up of the technician workforce through sharing knowledge and skills.

**Hours of Operation**

The availability of drug checking according to the operating hours of each organization varied greatly and reflected the operating models of the organizations. The two organizations operating from storefront locations offered the most operating hours, open at minimum 7 hours a day, at least 5 days a week. Outside of these organizations, operating hours became more variable and often limited. In some cases, organizations operating from sites embedded within other services sometimes described limitations to offering daily drug checking related to availability of staff that are trained to operate technologies. Organizations operating from embedded sites often offered real time, in-person drug checking once or twice weekly while samples could be collected outside of these hours to test at a later time. In addition, some embedded drug checking services are restricted to operating in a pop-up style, holding infrequent and irregular hours when staff availability made it possible. Finally, organizations that rotated between sites had numerous venues where drug checking services would be offered on a regular rotating schedule of one service
day a week, every two weeks, or once a month. While a rotating site model of operation demonstrated practicality for expanding reach of drug checking services to additional organizations or neighboring communities, the limited availability and frequency of operating hours is a consideration for scale of drug checking.

**Staffing**

Drug checking organizations reported having either dedicated technician roles and/or having individuals on staff that balanced technician responsibilities with additional roles within the organization. About half of the organizations described staffing models where a dedicated drug checking technician operated the service. The number of trained technicians on staff ranged from 1 to 8 and depending on the size of the service the number of technicians per shift ranged from 1–3.

Within the other half of organizations, technician responsibilities are integrated into existing roles within harm reduction spaces including in SCS/OPS and shelters. In some cases, organizations described that the availability of drug checking services was contingent on the capacity of staff whose primary focus was meeting responsibilities and expectations of their other roles.

In addition to dedicated technician roles, many of these organizations also have staffing roles to support service delivery, such as service coordination and additional harm reduction service delivery. In one of the busy storefront locations there was a harm reduction worker role who did not operate the spectrometers but engaged with service users, did the intake of the sample, conducted immunoassay test strips, and provided the results back after the technician completed the tests.

Finally, the distributed model of Vancouver Island’s remote-technician approach have sites in which harm reduction workers loaded the samples on the FTIR, completed the immunoassay test strips and engaged with service users. From there, the FTIR data interpretation is completed by a remote technician located at another service site.

**Reporting**

Drug checking organizations used various methods of reporting out results in two main formats: individualized personal reporting and public reporting.

**Individual Reporting**

All organizations offered individualized reporting in-person for those who accessed the service. These results reflect the individual’s results for the sample(s) brought in for testing. For many organizations, service users are also able to retrieve their personal drug checking results by phone, text message, or email. Some organizations offered result retrieval through a web portal (including access through a smartphone app).
Public Reporting

In some cases, organizations offered methods of reporting drug checking results publicly as a way of circulating information generated at the drug checking site. Approaches to public reporting included highlighting results from individual samples and offering aggregate results from a specific period of time. Organizations used community bulletin boards in service spaces (such as SCS/OPS or harm reduction service points) or online drug alerts to circulate information on individual samples determined to be noteworthy. The BCCSU provides public reporting on all samples they receive through an online database that offers qualitative and quantitative information for each sample. Get Your Drugs Tested offers public reporting through an online catalogue of every sample they receive with qualitative and quantitative descriptions. On Vancouver Island, Substance Drug Checking provides aggregate reporting, including weekly, monthly, and annual reports for their Victoria location and the Vancouver Island drug checking locations they are linked with through a distributed model of operations.

Facilitators and Limitations

Drug checking organizations in BC and Yukon were asked to identify factors that facilitated and limited their capacity to deliver drug checking services in their communities.

The most frequently mentioned facilitator of drug checking services is the established and ongoing connections that organizations have with the communities that they work with and whom access their services. The benefits of community connections were often framed within experiences of being co-located or embedded within harm reduction organizations that have a history of delivering services within the community. Due to this previous experience, these organizations were described to have developed trusting relationships with service users as well as strong local community support for the service. These established settings supported service user access to new drug checking services.

Having people with lived and living experience implement and provide the services was mentioned as a facilitator as well as having staff who are passionate about harm reduction and interested in learning drug checking. Another notable facilitator was ongoing collaboration and partnership between drug checking sites across the province, including the sharing of knowledge and ideas between drug checkers.

Several limitations to drug checking were mentioned. Service development and growth is limited by lack of secure and sustainable funding, lack of staffing, limited training for staffing, and a lack of access to confirmatory testing. Also mentioned was the lack of service standardization and a cohesive direction for drug-checking provincially. Further, operating within existing government restrictions and policy exemptions makes the future of the service seem unstable and unsustainable. All of these limitations function within the overall barriers related to stigma and criminalization which continue to be significant factors impacting people who use drugs and sometimes result in a hesitancy to access and provide drug checking services.
Recommendations For the Future of Drug Checking in BC/Yukon

When service providers were asked, several recommendations were made on how to enable greater scale and reach of drug checking including:

- A provincial strategy that addresses the barriers and facilitators of drug-checking services, including standardization, while acknowledging the unique needs of different communities
- A supportive policy environment that extends beyond the limits of sanctioning, for the expansion of secure and sustained drug checking services.
- Expand the number of sites, services, instruments, and staff; notably to reach small and rural areas.
- Funding for diversified models of service delivery to increase access to drug checking. This may include expanded options for mobile, outreach, event-based and pop-up drug checking services.
- Additional funding for increased staffing to facilitate increased service hours.
- Greater access to training and resources, including training on new drug checking technologies.
- Greater promotion and advertising of drug checking sites and service availability.
- Greater access for Indigenous communities including more collaboration with First Nations Health Authority.

There are also recommendations to further enhance drug checking within the region including:

- Improved and expanded access to confirmatory testing to improve drug checking efficiency and reduce the time needed to mail away a sample to a different provincial region for confirmatory testing.
- Inter-organization collaboration to improve technician skills, building drug checking databases, and circulating information regarding trends in the unregulated supply.
- Greater opportunities for people with lived and living experience to have leadership roles within drug checking service implementation and operations.
- Renewed exploration of most appropriate technologies and systems from the perspectives of service providers and service users.
<table>
<thead>
<tr>
<th>Organization</th>
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</table>
| **ANKORS East Kootenay**  
(Cranbrook) | ANKORS East Kootenay offers FTIR spectroscopy and immunoassay test strip based community drug checking as well as a diverse range of health and harm reduction services. |
| **ANKORS West Kootenay**  
(Nelson, Castlegar, Trail and Grand Forks) | ANKORS offers FTIR spectroscopy and immunoassay test strip community drug checking services throughout the West Kootenay region. Drug checking services are mostly offered from a fixed site in Nelson along with mobile drug checking and outreach services within Nelson, Castlegar, Trail, Grand Forks, offered on a biweekly basis. Many drug checking services operate in collaboration with an OPS or shelter and alongside additional harm reduction services. ANKORS has also supported drug checking at Shambhala Music Festival for many years. |
| **ASK Wellness Society Penticton**  
(Penticton and Princeton) | ASK Wellness Society Penticton operates an outreach based model of FTIR Spectrometer drug checking. The spectrometer provides service to multiple sites in Penticton along with Princeton once a month. In the future the organization hopes to be open more days a week with longer hours and have an expanded team, which will be contingent on funding. |
| **ASK Wellness Society Kamloops**  
(Kamloops and Merritt) | The ASK Wellness Society Community Drug Checking Service, in partnership with Interior Health Authority and the BC CCSU, provides free and anonymous drug checking using FTIR technology. The results continue to lead to immediate drug alerts sent out by the Interior Health Authority and are designed to reduce the immediate risk to individuals using substances and mitigate the continued rise of overdose rates across the Province. |
### Appendix A: Drug Checking Organizations in BC and Yukon (June to October, 2022)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>AVI Health and Community Services Courtenay (Courtenay)</strong></td>
<td>AVI Health and Community Services is a harm reduction organization that has been in the community for over 20 years that provides harm reduction supplies and information, education, naloxone training, outreach and other supports to people who use substances and are living with, affected by or at high risk for HIV and Hepatitis C. They offer drug checking with an FTIR spectrometer and strip tests with mail-in to PS-MS at Substance.</td>
</tr>
<tr>
<td><strong>Blood Ties Four Directions (Whitehorse)</strong></td>
<td>Blood Ties Four Directions offers a varied range of supports, including drug checking using FTIR and strip tests. Additional services include a drop in center, a drug user group, naloxone training, housing support, community outreach, and a supervised consumption space.</td>
</tr>
<tr>
<td><strong>Canadian Mental Health Association (CMHA) Mid Island Branch (Nanaimo)</strong></td>
<td>CMHA provides point-of-care drug-checking services within an OPS in Nanaimo and serves the surrounding area. The service is anonymous and open to everyone. Service users receive fact-based information based on their samples from a trained drug checking technician utilizing the FTIR combined with fentanyl and benzodiazepine test strips. The drug-checking initiative's primary goal is to empower people who use drugs to make informed decisions about the drugs they intend to use.</td>
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<td>Get Your Drugs Tested (Vancouver)</td>
<td>This organization provides FTIR and test strip services in the Vancouver area and by mail across Canada since June of 2019. All results are posted on their website with pictures and compositional information from drug checking results. GYDT receives a high number of samples and provides training services to other organizations interested in FTIR drug checking. They also offer event-specific services that include drug checking, naloxone training, and answering harm reduction questions.</td>
</tr>
<tr>
<td>Insite (Vancouver)</td>
<td>Insite offers FTIR spectroscopy in combination with immunoassay test strips within a supervised consumption site in the Downtown Eastside of Vancouver.</td>
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<tr>
<td>Molson Overdose Prevention Site (Vancouver)</td>
<td>Molson Overdose Prevention Site offers FTIR spectroscopy and immunoassay test strip based community drug checking services within an overdose prevention site.</td>
</tr>
<tr>
<td>Mountainside Harm Reduction Society (Chilliwack, Abbotsford, Mission and Hope)</td>
<td>Mountainside Harm Reduction Society provides mobile drug checking services at various locations throughout the Fraser Valley as well as at music festivals that fall within the Fraser Health Authority. The organization offers services at various locations including health and harm reduction service points, drug user organization meetings, and music festivals. The organization is actively training additional drug checking technicians to expand services. Mountainside Harm Reduction Society is fully operated and staffed by people with lived and living experience.</td>
</tr>
<tr>
<td>Overdose Prevention Society (Vancouver)</td>
<td>The Overdose Prevention Society offers FTIR spectroscopy and immunoassay test strip based community drug checking services within an overdose prevention site.</td>
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<tr>
<td><strong>Port Alberni Shelter Society</strong> (Port Alberni)</td>
<td>The Port Alberni Shelter Society’s Overdose Prevention Site program provides witnessed consumption and overdose reversal, drug testing, referrals to treatment programs, harm reduction supplies, naloxone kits and training on opioid overdose reversal and naloxone administration. Drug checking includes an FTIR, test strips and is linked to the Substance distributed model with confirmatory testing done with PSMS at Substance.</td>
</tr>
<tr>
<td><strong>Terrace Northwest Intensive Case Management Team (ICMT)</strong> (Terrace)</td>
<td>The Terrace Northwest Intensive Case Management Team offers FTIR spectroscopy and immunoassay test strip based community drug checking services within an overdose prevention site and offers a range of health and social support services.</td>
</tr>
<tr>
<td><strong>The Preventing Overdose UNDoing Stigma (POUNDS) Project</strong> (Prince George)</td>
<td>The POUNDS Project Prince George Drug offers FTIR analysis, fentanyl and benzo strip testing, as well as harm reduction messaging and services. Operating out of the back office at Two Doors Down, the OPS and drop-in centre, folks can come to the site to get their drugs checked before using the safe injection site, or drop off their sample and come back later to get their results.</td>
</tr>
<tr>
<td><strong>Purpose Society</strong> (New Westminster)</td>
<td>Purpose Society offers FTIR spectroscopy and immunoassay test strip based community drug checking services as well as a range of health and social support services.</td>
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<tr>
<td><strong>Safepoint Supervised Consumption Site</strong> (Surrey)</td>
<td>Safepoint Supervised Consumption Site offers FTIR spectroscopy and immunoassay test strip based community drug checking services.</td>
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<tr>
<td><strong>Substance Drug Checking (Victoria)</strong></td>
<td>Substance Drug Checking offers community drug checking through a combination of FTIR spectroscopy, immunoassay test strips, Raman spectroscopy and PS-MS technologies. Services are offered from a storefront location and samples can be submitted in person or through the mail. Substance seeks to better understand how drug checking can support those impacted by and responding to the overdose crisis and unregulated supply, with attention to principles of harm reduction and social justice and the impacts of current drug policy.</td>
</tr>
<tr>
<td><strong>UBCO’s Harm Reduction Team (HaRT) (Vernon and Kelowna)</strong></td>
<td>UBCO’s Harm Reduction Team (HaRT) offers pop up, outreach and fixed site harm reduction services. Rotating locations for service include an overdose prevention site, health and harm reduction service points, a shelter and the UBC Okanagan campus. UBCO’s HaRT also offers pop-up drug checking services at music festivals and community events. The organization hopes to meet community demand for the service by introducing additional drug checking technologies and expanding their team, the reality of which will be determined by additional funding.</td>
</tr>
<tr>
<td><strong>Vancouver Island Mental Health Society (VIMHS) (Campbell River)</strong></td>
<td>VIMHS offers FTIR spectroscopy and immunoassay test strip based community drug checking services within an overdose prevention site as well as a range of harm reduction supports.</td>
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</table>
Appendix B: Location of Drug Checking Service Points in BC and Yukon (June to October, 2022)
References


References


