Understanding substance use patterns, preferences and needs:
Informing safe(r) supply and safer use services
Project overview

BACKGROUND:

Toxic drug supply

In April 2016 British Columbia (BC) declared a public health emergency due to the rise in overdoses and overdose deaths (BC Ministry of Health, 2016). In BC the proportion of deaths where fentanyl (a toxic opioid) or its analogues was identified has increased to above 80% (BC Coroners Service, 2021). Despite scaling up interventions including opioid agonist treatment, overdose prevention services/supervised consumption sites (OPS/SCS) and take-home naloxone, deaths have continued at an unacceptable rate (BC Coroners Service, 2021).

COVID-19

In 2020, the arrival of COVID-19 and public health measures to reduce virus transmission led to a more unpredictable and toxic drug supply (Canadian Centre for Substance Use & Addiction & Canadian Community Epidemiology Network, 2020). The public was told to physically distance (Bartholomew et al., 2020; Dunlop et al., 2020); attendance at OPS/SCS declined (BC Centre for Disease Control, 2021), and guest policies at some housing sites reduced the ability to witness substance use (BC Centre for Disease Control, 2021), thus there was an increase in people using drugs alone (BC Centre for Disease Control, 2021). There has been an increased detection of benzodiazepines being sold with opioids, specifically Etizolam, which increases the risk of an overdose (BC Centre for Disease Control, 2021). In 2020, the annual number of illicit drug toxicity deaths were tragically the highest number BC ever recorded at 1,734 deaths and the 2021 annual rate is likely to exceed 2020 (BC Coroners Service, 2021).

Safe(r) supply

Evidence from previous safe(r) supply programs providing injectable heroin or hydromorphone under medically supervised conditions resulted in high retention rates and improved health and social outcomes (Boyd et al., 2017; Jozaghi, 2014; Oviedo-Joekes et al., 2019). Interim clinical guidance was released by the BC Centre on Substance Use in March 2020 to support health care providers to prescribe substances in order to reduce the risk of overdose and withdrawal among people who use drugs (PWUD) (BC Centre on Substance Use, 2020). However, uptake by physicians has been slow and inequitable across the province (Woo, 2020); while PWUD report oral medication may be inappropriate for their needs, in type of substance, dose and preferred mode of use (Bernard & Steacy, 2021; Stewart, 2020;Ranger et al., 2021). The devastating impact of the toxic drug supply will continue until a regulated supply of opioids and stimulants of known dose is available and in a formulation that is acceptable to PWUD.

Smoking opioids

Smoking drugs has traditionally been promoted as a safer mode of using drugs than injecting (Stöver & Schäffer, 2014). Fentanyl, an opioid 50-100 more toxic than morphine (Volpe et al., 2011), is prevalent in the street opioid supply and identified in over 80% of illicit drug toxicity deaths (BC Coroners Service, 2021). Fentanyl has a rapid onset of action including when smoked, so overdose may occur rapidly (Mayer et al., 2018; Rook et al., 2006). The BC Coroner reported an increase in illicit drug toxicity deaths

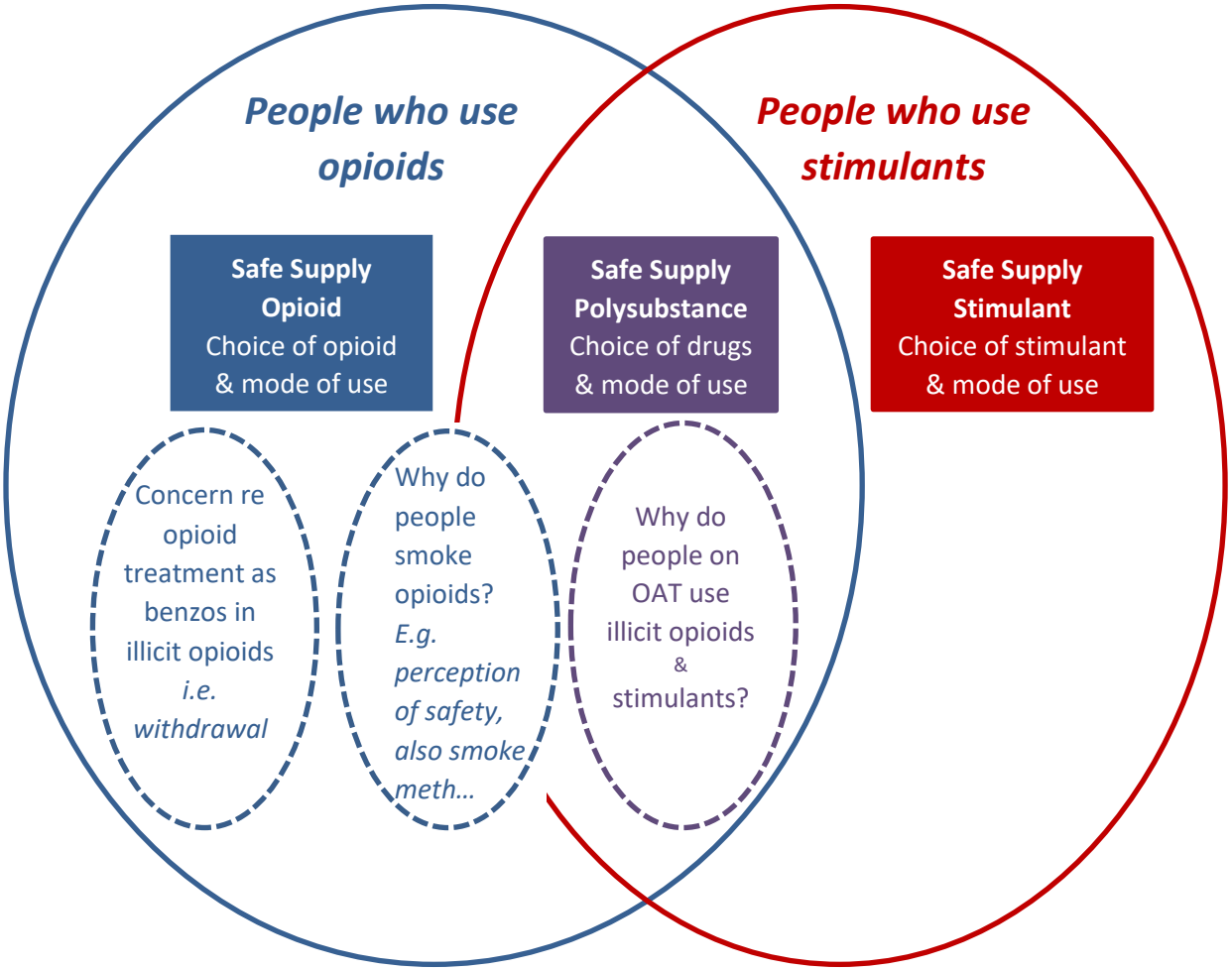
where smoking was identified as the mode of consumption (BC Coroners Service, 2021). Additionally, through the annual harm reduction client survey we identified an increase in people who use opioids reporting smoking rather than injecting (Parent et al., 2021).

Opioid Agonist Therapy/Opioid Substitution Treatment & Illicit opioid use

One of the objectives of opioid agonist therapy (OAT)/opioid substitution treatment (OST) programs is to significantly reduce or remove peoples' reliance on the illicit supply of opioids given the toxicity and associated harms. However, through the literature and our annual harm reduction client survey, we identified a large proportion of people on OAT/OST who continue to use illicit opioids and stimulants. While some speculate that this is due to insufficient doses and/or the absence of mind and body altering properties characteristic of illicit substances (Fischer et al., 2002;Marchand et al.,2022), it is unclear why many use illicit opioids and/or stimulants while on OAT/OST. It is important that we understand peoples' reasoning behind this if we are to design safe(r) supply programs that effectively eliminate peoples' reliance on the toxic drug supply.

PROJECT RESEARCH QUESTIONS:

Figure I: Guiding research questions and topics



Our research questions are:
1) If PWUDs were prescribed a continuous supply of pharmaceutical grade opioids, which opioid would they choose? Why?
2) If PWUDs were prescribed a continuous supply of pharmaceutical grade stimulants, which stimulant would they choose? Why?
3) How would PWUDs choose to use their preferred pharmaceutical grade opioid or stimulant (smoke, snort, inject, swallow, other)?
4) As half of illicit opioids currently contain benzodiazepine-like substances, are there concerns about benzodiazepine withdrawal upon a potential transition to safe(r) supply and OAT/OST?
5) Why do many people who use opioids primarily choose to smoke opioids? Is there a perception that smoking is safer than other modes of substance use? What are the experiences of people who smoke opioids in accessing harm reduction services?
6) What are PWUDs experiences around concurrent substance use? What substances do they use concurrently and why?
7) Why do some people on OAT/OST continue to use illicit opioids and stimulants?

PROJECT COMPONENTS:

Project Components	**Status**	
	Data collection	**Data analysis**
Quantitative		
1. 2019 harm reduction client survey	✓	✓
2. 2021 harm reduction client survey	✓	✓
Qualitative		
1. Focus groups	✓	✓
2. One-on-one interviews	✓	✓

*For results from 2019 harm reduction client survey, see Appendix I

We are conducting a mixed methods exploration of preferences for stimulant and opioid safe(r) supply, why people smoke opioids and why people use illicit substances while being on OAT/OST. To provide an acceptable safe(r) supply of drugs as an alternative to the toxic drug supply, we must identify which opioids and stimulants PWUD prefer/are willing to use, the characteristics (e.g. age, gender and geography) of those who prefer various opioids and stimulants and the preferred mode of use. To determine this we must ask the experts – PWUD.

Quantitative Component

The BC harm reduction survey is completed by clients aged 19 and older at participating harm reduction supply distribution sites in rural, suburban and urban regions across the province. The survey is developed and modified annually in collaboration with people with lived and living experience. Findings from the 2019 survey have been used to develop the 2021 survey questions. The 2021 survey is currently in the field and analyses will begin soon. The survey contains questions about: participant demographics, current substance use (in past 3 days), experiencing and witnessing an overdose, using

alone, etc. The analysis of the 2021 survey will add to the brief findings from the 2019 survey to determine substance and mode of consumption needs and preferences and differences in needs and preferences based on participant demographics.

Findings from these quantitative results will inform the qualitative interviews and focus groups with people who use opioids and stimulants, people who smoke opioids and people who use illicit substances on OAT to further explore the 'what, how, and where' of peoples' needs and preferences for obtaining safe(r) supply; reasons for preferences, acceptance of alternatives and solicit additional suggestions to make safe(r) supply accessible to various groups.

Qualitative Component

The qualitative component will use convenience sampling, followed by purposeful sampling to ensure the diversity of the sample in region of residence and demographics. Interviews will be facilitated by a semi-structured question guide developed by the research team, which includes an advisory board of people with lived and living experience. The data analysis will use a thematic approach and a coding framework will be developed to sort the data into identified themes and iteratively refine the findings. A report, plain language summary and infographic and manuscripts will be developed for publication. All knowledge translation deliverables will receive input from our advisory board of people with lived and living experience.

Advisory Boards

Our research will be guided by two advisory groups. A peer advisory group composed of people with lived or living experience of substance use from across BC will meet regularly. Peers will be employed in all stages of the project including: designing data collection tools, recruitment, coordinating and facilitating interviews and focus groups, providing input on findings and knowledge translation materials. A larger advisory group composed of clinicians, researchers, frontline workers, regional representatives from across BC and representatives from the peer advisory team will meet periodically and members will be involved in various capacities (e.g. input on study design, data collection tools, analyses, knowledge translation products).

Appendix I: Results from 2019 harm reduction client survey

These results informed questions included in the 2021 harm reduction client survey and will be guiding the qualitative component of this study.

In 2019 the survey was completed by 621 people who use drugs.

Opioid Preference

A brief question asked respondents about their preferred down/opioid.

Figure 1

13. If you use down, what would you prefer to use? (Select one)

❑ Heroin ❑ Fentanyl ❑ Morphine ❑ Oxycodone
❑ Hydromorphone (Dilaudid) ❑ Methadone/Methadose ❑ Buprenorphine/naloxone (Suboxone)
❑ I don't use down ❑ Prefer not to say

Results: Of 405 people who used opioids and reported a preference, most 234 (57.8%) reported preferring heroin, 133 (32.8%) preferred fentanyl, 38 (9.4%) reported preferring prescription opioids - morphine, oxycodone, hydromorphone, methadone or Suboxone (buprenorphine/naloxone). While a larger proportion of people under 29 preferred fentanyl, more people in all age groups reported a preference for heroin. See table 1

Table 1. Reported heroin and fentanyl preference by age group

Age Category	Heroin (N=234)	Fentanyl (N=133)	Total (N=367)
≤29	46 (54.8%)	38 (45.2%)	84 (23.5%)
30-39	75 (58.1%)	54 (41.9%)	129 (36.1%)
40-49	54 (66.7%)	27 (33.3%)	81 (22.7%)
≥50	52 (82.5%)	11 (17.5%)	63 (17.6%)

Click here for full infographic

An article has been submitted to the International Journal of Drug Policy and the authors are responding to the reviewers' comments.

Smoking Opioids

Through the harm reduction client survey, an increase in smoking both heroin and fentanyl compared to 2018 was identified.

Results: In 2019, 73% of people who used heroin reported smoking and 67% of those using fentanyl reported smoking. See Table 2

Table 2. Mode of utilizing heroin and fentanyl, 2018 and 2019

Substance use reported	2018	2019
Heroin **use in prior 3 days**	44%	44%
Heroin use via smoking	57%	**73%**
Heroin use via injecting	49%	50%
Fentanyl **use in prior 3 days**	39%	46%
Fentanyl use via smoking	59%	**67%**
Fentanyl use via injecting	52%	48%

An analysis of 2019 HRCS data found in people who use opioids variables significantly, and independently associated with smoking opioids were:

- living in smaller/rural community,
- being a woman,
- aged under 40,
- using alone, and
- using crystal methamphetamine

Click here for full infographic

An article has been submitted to Substance Abuse, Treatment, Prevention and Policy; the authors are responding to the reviewers' comments.
A previous analysis of 2018 HRCS identified significant lower take-home naloxone kit possession among those who preferred inhaling or snorting drugs, compared to those who injected drugs.

Opioid Agonist Treatment & Illicit Substance Use

The 2019 HRCS included 307 participants who used opioids and stimulants concurrently and 267 participants who used opioids and/or stimulants separately. Of those who used opioids and stimulants concurrently, 138 (45%) participants were prescribed OAT in the last 6 months. Of these 138 and who used OAT in the last 3 days, 93% used stimulants and illicit opioids along with OAT. Of those who used opioids and/or stimulants separately, 24% were prescribed OAT in the last 6 months, and of these who used OAT in the last 3 days 40% used stimulants and illicit opioids along with OAT. In both groups, about half used illicit substances in addition to OAT – suggesting that people are seeking effects or benefits from the illicit supply that they may not receive from OAT.

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