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Access and barriers to safer supply prescribing during a toxic drug emergency: a mixed methods study of implementation in British Columbia, Canada

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Abstract

Background In March 2020, British Columbia, Canada, introduced prescribed safer supply involving the distribution of pharmaceutical grade alternatives to the unregulated toxic drug supply. Prior research has demonstrated positive impacts on overdose mortality, but with limited reach to people who use substances. Objectives of this study were to (1) identify barriers to accessing safer supply prescribing among people who use substances; and (2) determine whether and how barriers differed between people with and without prescriptions, and between urban and rural settings.

Methods We conducted a participatory mixed-methods study guided by the Consolidated Framework for Implementation Research. Participants (≥ 19 years old) had received a safer supply prescription or were seeking one (survey $n = 353$; interviews $n = 54$).

Results Participants who had a prescription were more likely to be living in a large urban centre, compared to medium/smaller centres and rural areas (78.5% vs. 65.8%, standardized mean difference = 0.286). Participants who did not have a prescription were more likely to report an array of structural, interpersonal, and health-related barriers (compared to those who had a prescription). In interviews, participants linked experiences of barriers to stigma and criminalization, low availability of services, lack of information and prescribers, not being able to get what they need, and anxieties, worries and doubts stemming from personal circumstances. There were no notable differences between large urban centres and medium/smaller centres and rural areas in the presence of specific types of barriers.

Conclusions Findings demonstrate restricted access to safer supply prescribing outside of large urban centres and provide future targets for enhancing implementation. Attention is needed to promote equity and counter systemic barriers in the implementation of responses to the ongoing toxic drug emergency.

Keywords Substance use, Overdose, Safer supply, Public health, Harm reduction, Implementation science

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Background

North America is witnessing unprecedented levels of harm due to an increasingly unpredictable and toxic drug supply that is contaminated with fentanyl, fentanyl analogues and benzodiazepines. In the United States, overdose deaths involving opioids caused an estimated 81,806 deaths in 2022 [1]. In Canada in 2023, an estimated 22 people die per day due to opioid toxicity, with a total 44,592 deaths since 2016 [2]. While levels of harm are not as high elsewhere, there are growing concerns related to the public health implications of changing drug markets; for example, with increasing appearance of synthetic opioids (including nitazenes), benzodiazepines, and xylazine in United Kingdom and European drug markets [3–6]. As governments and communities strive to respond to the ongoing emergency, novel policies and practices are being created and implemented. In Canada, these have included initiatives involving the prescription of pharmaceutical grade alternatives to the unregulated drug supply. This study reports findings from a participatory, mixed-methods evaluation of the implementation of prescribed safer supply in British Columbia (BC), Canada in 2020–21.

Following the onset of COVID-19 in 2020, the number of overdose deaths in Canada increased substantially [7, 8]. Research has documented the impacts of the pandemic on substance-related harms, with people who use substances reporting that public health directives regarding physical distancing, reduced capacity at harm reduction sites, and other closures led to a decrease in supports for safer use [9], concomitant with increased use and fluctuations in potency and cost of substances [10]. At this time, programs involving the prescription of tablet and injectable hydromorphone were implemented across Canada in supported housing and shelter sites to support self-isolation and physical distancing in response to COVID-19 outbreaks [11–13].

In BC in 2020, which has experienced among the highest overdose mortality rates in Canada, the government released interim Risk Mitigation Guidance as a harm reduction response to the toxic drug supply and to support people who use substances in adhering to the public health orders related to physical distancing and self-isolation [14]. The Guidance provided clinical direction for the prescription of opioids (tablet hydromorphone and sustained-release oral morphine), stimulants (dextroamphetamine and methylphenidate), and benzodiazepines (clonazepam and diazepam) to persons who required assistance to self-isolate, and/or were using substances and at high risk for withdrawal, overdose, or other substance-related harms.

The Guidance was introduced in BC as an emergency measure, 5 years into a declared public health emergency due to the toxic drug supply and at a time when

pandemic-related disruptions to the illicit drug market, health services, and harm reduction services were anticipated. Given the unpredictable and toxic drug supply in North America, calls have been made for access to a supply of substances of known composition, recognizing the insufficiency of OAT and other existing treatments alone to reduce overdose deaths and support health [15–17]. Such initiatives fall under the umbrella of safer (or safe) supply: “a legal and regulated supply of drugs with mind/body altering properties that traditionally have been accessible only through the illicit drug market” (p. 4) [18]. The Guidance in BC supported safer supply prescribing as a means for providing access to a regulated supply and represents the first population-based prescribed safer supply initiative.

Alongside continued clinical research investigating the effectiveness of alternative medications and clinical protocols, there is a need for structured evaluation of implementation of prescribed safer supply policies and programs. A population-based controlled study of safer supply prescribing through 2020–21 found that receipt of opioids on one or more days was associated with a 61% reduction in all-cause mortality and a 55% reduction in overdose mortality in the subsequent week (findings were not statistically significant for stimulants) [19]. However, only a small minority of people with substance use disorders in BC gained access to prescriptions during the study period (estimated at 7.6% and 2.5% of people with opioid use disorder and stimulant use disorder, respectively), signaling the importance of examining the barriers at play in implementation. Particular attention is needed to examining differences in access between urban and rural settings given elevated odds of drug toxicity deaths combined with gaps in services in rural communities [20, 21].

Toward the aim of understanding and enhancing implementation, we conducted a mixed methods study of safer supply prescribing in BC through 2020–21. We combined principles of participatory research [22] with an implementation science approach [23] to: (1) identify barriers to accessing safer supply prescribing among people who use substances; and (2) determine whether and how barriers differed between people with and without prescriptions, and between urban and rural settings.

Methods

This study forms part of a broader evaluation of the implementation and impacts of the Risk Mitigation Guidance in BC [24]. The full evaluation includes a population-based controlled analysis of the effect of prescriptions on all-cause and overdose mortality and acute care visits using administrative health data, combined with primary data collection (i.e., surveys and interviews) with people who use substances, service providers, and health

planners to evaluate facilitators and barriers to implementation and self-reported impacts on health [24]. This study used a convergent mixed methods design, combining a cross-sectional survey and qualitative interviews with people who attempted to access safer supply prescribing. Consistent with a participatory approach, people who use(d) substances were involved in all phases of the study including design, data collection, analysis, and dissemination [25].

We used the Consolidated Framework for Implementation Research (CFIR) to organize the study and design data collection tools [23]. The CFIR offers a structured overview of factors involved in implementation, grouped into five inter-related domains: *outer context* (broader contextual factors, such as criminalization, stigma and structural violence), *inner context* (characteristics of service organizations, such as infrastructure and available resources), *implementation process* (service delivery models and roll-out), *intervention characteristics* (available medications and regulations around prescribing), and *individual characteristics* (characteristics of service recipients). The study was approved by the Research Ethics Board at the University of Victoria (20–0293).

Setting

Surveys were conducted October 2020–October 2021 and interviews from November 2020–December 2021. The recruitment strategy relied on convenience and snowball sampling. Posters and flyers with a toll-free study phone number and email address were shared on social media and distributed through drug user groups, non-profit organizations, harm reduction services, OAT and primary care clinics, and through peer research associate networks in BC. Recruitment and data collection were done primarily virtually; in-person options were available in selected cities at drug user group offices and shelters in accordance with COVID-19 public health guidelines. Attention was paid during recruitment to obtaining diverse representation by sex/gender, rural/urban setting, substance types, and Indigenous identity [24].

Participants

Eligible participants resided in BC, were 19 or older, had used illicit drugs in the past 6 months, had received a safer supply prescription or were seeking one (i.e., were trying to get a prescription or were planning to do so in the next 2 weeks). Prospective participants who reached out to the study team completed a 5-minute eligibility screen. Participants provided verbal informed consent prior to completing the 45-minute survey ($n=353$). A subset of participants was invited and consented to be contacted for an in-depth, 1-hour interview ($n=54$). Selection was based on ensuring representation by gender, region, and prescription type. Participants provided

verbal informed consent for the interview. The time between the survey and interview varied from 1 to 128 days (median=33.5 days, IQR=19–51 days). Participants were compensated \$20 per survey and \$30 per interview.

Data sources

Surveys and interviews were conducted by trained research associates, including people who use(d) substances. Surveys included items on access to safer supply prescribing, related barriers (covering the five CFIR domains), and sociodemographic characteristics. Participants were able to skip any question. The interview guide was informed by the five CFIR domains [26] in relation to experiences of trying to access safer supply prescribing, interactions with providers and settings, the process of obtaining a prescriber, and the impacts of organizational and policy context.

Key measures

Using the survey data, we created variables representing prescription status (yes vs. no, where no refers to participants who were trying to get a prescription or planning to do so). Setting was operationalized as large urban centres vs. medium centres, smaller centres or rural areas, by applying 2021 Canadian Census definitions for population centre size to classify the self-reported city, town, or area where participants' resided [27]. Participants could identify barriers to accessing safer supply prescribing from a list of 23 co-created with people who use(d) substances. Participants were also invited to report barriers via free text response. Barriers were collapsed to 14 dichotomous variables (yes vs. no; not mutually exclusive), including coded free-text responses. These are grouped according to the five CFIR domains for analysis and interpretation.

Additional participant characteristics, captured via survey, included age, gender (man, woman, or non-binary, transgender, Two-spirit or other), Indigenous self-identification (yes vs. no), education (did not complete high school, high school degree, or some college/university), relationship status (partnered/living separately, partnered/cohabiting, or single), housing stability (yes vs. no or unsure), and prescription type (opioid, stimulant, and benzodiazepines; not mutually exclusive).

Analysis

Consistent with the convergent mixed methods design, separate statistical and qualitative analyses were followed by an integrative analysis [28]. For the survey data, differences in reported barriers were explored by prescription status (yes vs. no) and by setting (large urban centre vs. medium/smaller centre or rural area). Analyses excluded participants missing on residence ($n=15$; there were no missing values for prescription status). Bivariate

associations were assessed with standardized mean differences (SMD) [29] to avoid potential misinterpretations associated with statistical significance [30]. SMD are interpreted as effect sizes using recommended thresholds (small=0.2, medium=0.5, large=0.8) [31]. Stata version 15.1 was used for statistical analyses.

Interviews were recorded, transcribed, and imported into NVivo (Version 12) to facilitate coding. The qualitative analysis team reviewed transcripts to develop initial codes. The coding framework was informed by the five CFIR domains, with codes developed inductively to keep themes close to the data [32]. Three research associates coded the data, which the qualitative team reviewed and further conceptualized. Codes were compared to develop

key themes related to access and barriers, with attention to differences by prescription status and setting [32, 33]. Given the time elapsed between the survey and interview, changes in prescription status were possible (some participants who were trying or planning to get a prescription at the time of the survey had obtained one by the time of the interview, while others were no longer trying; some participants who had a prescription at the time of the interview no longer had it). Prescription status at the time of the interview (yes vs. no) was used for the thematic analysis. For the integrative analysis, findings were compared across the two datasets (i.e., from the statistical and thematic analyses) for the five CFIR domains. Results are presented in a joint display as recommended, and summarized narratively to identify points of congruence, expansion, and discordance [28].

Table 1 Survey and interview sample characteristics

Characteristics	Survey participants (N=353)	Interview participants (N=54)
Age in years, Mean [SD]	40.1 [10.4]	39.0 [9.4]
Gender, n (%)		
Man	195 (58.7)	30 (58.8)
Non-binary/Transgender/Two-Spirit/Other	7 (2.1)	2 (4.0)
Woman	130 (39.2)	19 (37.3)
Missing	21	3
Identify as Indigenous, n (%)		
Yes	131 (40.9)	15 (31.3)
No	189 (59.1)	33 (68.8)
Missing	33	6
Education, n (%)		
Did not complete high school	137 (41.4)	16 (31.4)
High school degree or equivalent	88 (26.6)	15 (29.4)
Some college/university	106 (32.0)	20 (39.2)
Missing	22	3
Relationship status, n (%)		
Partnered, living separately	47 (14.3)	7 (13.7)
Partnered, cohabiting	81 (24.7)	18 (35.3)
Single	201 (61.1)	26 (51.0)
Missing	24	3
Residence, n (%)¹		
Medium/smaller centre or rural area	73 (21.6)	12 (23.1)
Large urban centre	265 (78.4)	40 (77.9)
Missing	15	2
Current housing is stable, n (%)		
Yes	184 (55.4)	25 (48.1)
No/unsure	138 (44.6)	27 (51.9)
Missing	21	2
Type of safer supply prescription, n (%)²		
Opioids	224 (63.5)	34 (63.0)
Stimulants	68 (19.3)	17 (31.5)
Benzodiazepines	9 (2.6)	0
No prescription	91 (25.8)	14 (25.9)

¹ Based on 2021 Canadian Census definitions for population centre size

² Not mutually exclusive (proportions do not sum to 100%)

Results

Of the 453 people screened for eligibility, 390 were eligible and 353 consented and completed a survey; 26 initially eligible persons could not be reached for their scheduled survey or later declined, 11 were later excluded for not meeting study criteria. Seventy-five participants were selected and agreed to be contacted for an interview; of these, 54 were interviewed (17 could not be reached and 3 later declined).

Mean age of survey respondents was 40.1 years, ranging from 20 to 75 (Table 1). Most (58.7%) identified as men, 39.2% as women, and 2.1% as non-binary, transgender, Two-spirit, or another gender. 40% identified as Indigenous (30% First Nations, 11% Métis, and 2% reported multiple First Nations, Metis and/or Inuit identities). Most (58.6%) had a high school education or higher and were single (61.1%). Most (78.4%) resided in large urban centres, and 44.6% had unstable housing. Three quarters (74.2%) had a prescription at the time of the survey, most commonly for opioids (63.5%). Remaining participants were trying to get a prescription. Characteristics of interview participants reveal diversity in representation by gender, region, and prescription status, as intended.

Those who had a prescription were more likely to be living in a large urban centre, while those who did not have a prescription were more likely to be living in a medium/smaller centre or rural area (Table 2). The difference in prescription status by setting represents a small effect size (SMD=0.286). The following sections summarize experiences of access and barriers to safer supply prescribing for each CFIR domain (see Table 3 for a joint display of statistical results and exemplar quotes).

Outer context: substance use stigma and criminalization

Barriers related to the outer context of safer supply prescribing reflect the pandemic, stigma, criminalization,

Table 2 Prescription status (at the time of the survey) by setting ($n=338$)¹

Prescription status	Setting		SMD
	Large urban centre ($n=265$) n (%)	Medium/smaller centre or rural area ($n=73$) ¹ n (%)	
Yes	208 (78.5)	48 (65.8)	0.286
No	57 (21.5)	25 (34.2)	

¹ Excludes 15 participants who were missing on residence

victimization, and structural violence. Among survey participants, 63.3% ($n=214$) reported that fear of stigma or past experiences of stigma in health care acted as a barrier, 40.5% ($n=137$) cited COVID-19-related barriers (including clinic closures or fear of infection), 37.3% ($n=126$) cited safety concerns (such as the clinic being in an unsafe location, fear of running into certain individuals, fear of being robbed or targeted by police), and 6.2% ($n=21$) reported fear that children would be taken. All barriers were more common among participants who did not have a prescription relative to participants to who had one, with SMD in the small range (0.2–0.3). There were no notable differences between large urban centres and medium/smaller centres or rural areas in the prevalence of barriers, with negligible SMD (≤ 0.1).

Across survey and interview datasets and regardless of setting and prescription status, there was congruence around substance use stigma in health care settings being a major issue. Interview participants spoke in depth to the theme of *substance use stigma and criminalization* and expanded on the survey findings by highlighting stereotypes and the demoralizing nature of stigmatizing encounters in health care (e.g., “Who wants to go see somebody every day to be looked down on?”). Participants spoke to deeply entrenched stereotypes about substance use encountered in health care, including presumptions of drug seeking behavior (e.g., “I wouldn’t go to the doctor asking for this stuff”) and misuse of prescriptions. Participants described wanting the minimum requirement of being treated with respect when accessing health care (e.g., “I wouldn’t fault them for little things as they are not being assholes”). Such encounters were described more intensely by participants living in medium/smaller centres or rural areas (e.g., “Don’t even go to the hospital. Like it’s not even worth it”, “... if you go to the hospital they treat you like shit”). Although endorsed relatively rarely by survey participants, fear of family policing (child protection) services was a particularly intense barrier among those who experienced it. A point of discordance between datasets emerged for barriers related to COVID-19, which were endorsed by approximately 40% of survey participants but rarely mentioned during interviews.

Inner context: it’s hard to get

Barriers related to the inner context of safer supply prescribing reflect issues with clinic infrastructure, culture, and other features that affect service accessibility and acceptability. Over half of survey participants reported barriers associated with the lack of accessibility of prescribing (including services being too far, inconvenient hours, or long wait times; 55.3%, $n=187$), and a quarter reported the lack of privacy (25.7%, $n=87$) at clinics. Participants who did not have a prescription were more likely to endorse barriers associated with service accessibility (69.5%) compared to those who had a prescription (51.8%), a SMD in the small-to-medium range (0.388). There was no difference by prescription status in the proportions reporting lack of privacy as a barrier, and no differences by setting in either barrier (SMD ≤ 0.1).

Across datasets there was congruence in the low accessibility of safer supply prescribing as a feature of the inner context. Interview participants consistently spoke to the theme of prescriptions being *hard to get* (e.g., “I’ve heard there’s like a 400-person waiting list right now”). Additionally, they described challenges related to medium/smaller centres and rural areas, noting limited bus service, travel distances, and inclement weather as barriers (e.g., “They live about 116 kilometers away [referring to doctors]”). Phone and virtual services served as a facilitator in these settings (e.g., “you don’t see doctors face to face much just because it’s a smaller town”). Where travel time and distance were also reported to be challenges in large urban centres, this was attributed to clinics not being located near shelters or in neighbourhood where homeless people live. Interview findings also expanded on survey findings by connecting the lack of privacy to implementation of safer supply prescribing through OAT clinics (e.g., “it’s only OAT providers providing this sort of care. ... if we could get more [General Practitioners] on board, this would be amazing for people who want to maintain a level of privacy”). Others linked these aspects of inner context to stigma within the organizational culture of clinics (e.g., “They can be very judge-y... And I think that’s maybe a reason why not very many people might be going for this is because... You don’t want to feel like you’re being judged, right?”).

Implementation process: no information, few prescribers

Barriers related to the implementation process of safer supply prescribing encompass features of service models and their roll-out in communities, including access to information and resources. Survey participants reported barriers associated with getting negative reactions from health care workers when they asked for a prescription (32.8%, $n=111$) and lack of information on where to go to or who to talk to (28.4%, $n=96$). These barriers were more common among participants who did not have a

Table 3 Experiences of barriers to safer supply prescribing

Barriers endorsed in the survey (n = 338)			Exemplar quotes from interviews (n = 54) ¹	
Outer context			Theme: Substance use stigma and criminalization	
Fear of, or past experiences of, stigma in health care	Had a prescription	60.2%	0.278	Who wants to go see somebody every day to be looked down on? (2486, had a prescription, large urban centre)
	No prescription	73.2%		
	Large urban centre	63.8%	0.044	I wouldn't go to a doctor like asking for this stuff because I would feel like they'd almost... just kind of like "Oh yeah, no, just, just another addict trying to get drugs," right? ... kind of more that mentality... I find that, that that's a lot out here. (2865, no prescription, medium/smaller centre/rural area)
	Medium/small centre/rural area	61.6%		
COVID-19	Had a prescription	37.1%	0.286	I just think it's lack of knowledge and ... stigma... A lot of people that I talk to, they're like "Don't even go to the hospital. Like it's not even worth it" I've heard from some people it's gotten better, I've heard from some people it's gotten worse. But from my experience, it's not that great there. (2865, no prescription, medium/smaller centre/rural area)
	No prescription	51.2%		
	Large urban centre	39.6%	0.085	[In region] they're terrible... They were very judgmental and it's really, really hard to deal with them... Everybody thinks they're better than everyone, right? Well, here it's just as true too but, more like if you go to the hospital they treat you like shit. If you go to a substance abuse clinic, they're okay but [in region] since it's a small town... they all just talk shit... (2361, no prescription, large urban centre)
	Medium/small centre/rural area	43.8%		
Safety concerns	Had a prescription	34.0%	0.278	
	No prescription	47.6%		
	Large urban centre	36.2%	0.100	I won't fault them for little things because they're already just doing amazing because they're not huge assholes. That's how low the bar has been set. (3039, had a prescription, large urban centre)
	Medium/small centre/rural area	41.1%		
Fear children would be taken	Had a prescription	4.7%	0.235	
	No prescription	11.0%		
	Large urban centre	6.0%	0.033	
	Medium/small centre/rural area	6.9%		
Inner context			Theme: It's hard to get	
Poor service accessibility	Had a prescription	51.8%	0.388	[The doctors] live about 116 km away... there isn't someone who's just there all the time, or like 9 to 5, Monday through Friday... make it easily more accessible. Not have to wait a week to see somebody... I've heard there's like a 400-person waiting list right now. [Laughs] (2446, had a prescription, medium/smaller centre/rural area)
	No prescription	69.5%		
	Large urban centre	55.5%	0.014	Why do we assume that people with addictions are going to be able to access clinics that are open from 1 to 3 each day or whatever in rural communities. A lot of people who use drugs have jobs... if we're really going to help people with their healthcare, it needs to be available when and where they need it. (3636, had a prescription, medium/smaller centre/rural area)
	Medium/small centre/rural area	54.8%		
Lack of privacy	Had a prescription	24.6%	0.105	There's a couple [of prescribers]. They do most of it through video phone conference at a clinic... you don't see doctors face to face much just because it's a smaller town, there's not many people prescribing that here... (3720, had a prescription, medium/smaller centre/rural area)
	No prescription	29.3%		
	Large urban centre	25.7%	0.008	It's only OAT providers providing this sort of care. So if it was able to be done – and it is able to be done by GPs as far as I understand – if we could get more of them on board, this would be amazing for people who want to maintain a level of privacy... (3552, had a prescription, large urban centre)
	Medium/small centre/rural area	26.0%		
Implementation process			Theme: No information, few prescribers	
Negative reaction from a health care provider	Had a prescription	29.3%	0.305	A couple of [friends] have said like "Yeah, I went in there. I was like "What about the Dilaudid thing?" And they were like "Yeah, no. That won't work for you." [Laughs] ... Okay, anyways. Carry on. Yeah. "It's not for you." (2890, no prescription, setting missing)
	No prescription	43.9%		
	Large urban centre	34.3%	0.150	Participant: I spoke to my doctor about it. And then um, I was told by [clinic] that if I already had a methadone doctor I was not allowed to switch doctors to get a doctor that would prescribe it to me... So I was stuck. I couldn't get it.
	Medium/small centre/rural area	27.4%		
Lack of information	Had a prescription	21.9%	0.584	Interviewer: what happened when you asked your doctor?
	No prescription	48.8%		Participant: Um, she said point blank: "No." She doesn't give it. She doesn't believe in it. (2524, no prescription, medium/smaller centre/rural area)
	Large urban centre	28.3%	0.010	I honestly thought it was just like a Vancouver thing... because if I had of known that it was all of BC... I think I would... have tried to... go to a normal doctor and ask (2865, no prescription, medium/smaller centre/rural area)
	Medium/small centre/rural area	28.8%		We have a shortage of doctors... One in four [people in BC] are unconnected to a [GP], and the rest are walk-in clinics, which as we know, are not able to prescribe opiate-based, or narcotic-based, drugs... So we are quite limited in what we have. (3552, no prescription, large urban centre).

Table 3 (continued)

Barriers endorsed in the survey (n = 338)			Exemplar quotes from interviews (n = 54) ¹	
Intervention characteristics				Theme: Can't get what I need
Desired medication not available	Had a prescription	42.2%	0.280	And they're going to take people that only take dillies like me and will not want to give me dillies because I'm not on fentanyl, I'm not on something worse (3806, had a prescription, large urban centre). A lot of people won't take the Dexedrine because like I said before they don't wanna wait for the time-release. (4000, no prescription, large urban centre). It's a step in the right direction, but not nearly enough potency... The doctors need more authority to prescribe stronger narcotics... [Safer supply prescribing is] not what I need and it's not what I want. But it's what will have to do for now... It's not smokeable (2446, had a prescription, medium/smaller centre/rural area) They make it hard for people like me because I get a pension from WorkSafe because I got hurt at work. That pension negates me from like a lot of the social programming. I can't get housing, I can't get medications covered. It's like a big, huge clusterfuck. (3794, had a prescription, large urban centre)
	No prescription	56.1%		
	Large urban centre	44.9%	0.061	
	Medium/small centre/rural area	48.0%		
Cost	Had a prescription	14.1%	0.401	
	No prescription	30.5%		
	Large urban centre	18.1%	0.008	
	Medium/small centre/rural area	17.8%		
Individual characteristics				Theme: Anxieties, worries and doubts
Health concerns	Had a prescription	39.1%	0.639	Was going out in public. You don't really want to go out when you look sick or anything. (2361, had a prescription, large urban centre) I think my doctor, personally my doctor is a pretty cool guy. But I think I would be okay. I just don't know why. I think I was just more worried about, like, what if he thinks that... I always have that thing in my head "what if he thinks that I just want them for – I just want more drugs?" You know? I always have that in the back of my head. (2890, no prescription, setting missing) Because our lives are pretty, you know, full turmoil and what not. (3794, had a prescription, large urban centre) It's the only reason I haven't got my supply yet... I think just work [is holding me back] and... wanting to go through my GP but having doubts as well that she'll do it. Are they supposed to? How does it work? Does she have to, or no?... I'm not really sure. In my past, every GP I've had has come with a disclaimer that they won't prescribe opiates. Like it's been 3 now. (3494, no prescription, large urban centre)
	No prescription	69.5%		
	Large urban centre	45.7%	0.073	
	Medium/small centre/rural area	49.3%		
Don't trust health care	Had a prescription	28.5%	0.348	
	No prescription	45.1%		
	Large urban centre	32.5%	0.009	
	Medium/small centre/rural area	32.9%		
Too busy	Had a prescription	24.6%	0.490	
	No prescription	47.6%		
	Large urban centre	28.7%	0.148	
	Medium/small centre/rural area	35.6%		
Don't think it will work	Had a prescription	19.1%	0.264	
	No prescription	30.5%		
	Large urban centre	21.5%	0.042	
	Medium/small centre/rural area	23.3%		

SMD = standardized mean difference; GP = general practitioner

¹ Prescription status designations refer to the time of the interview, which could differ from status at the time of the survey

prescription (relative to those who did), with SMD in the small-to-medium range (0.3–0.6). A small SMD (0.150) emerged in the proportions reporting negative reactions from healthcare providers by setting, higher in large urban centres, with a negligible difference across settings in the proportions reporting lack of information as a barrier (SMD < 0.1).

Interview participants elaborated on the theme of *no information and few prescribers* when speaking to experiences related to implementation. Integrating across datasets, the interview data expanded on the notion of negative reactions, describing being turned away due to high demand and/or provider clinical judgement (e.g., "It's not for you"), or being refused by their OAT prescriber (e.g., "She said point blank: "No." ... She doesn't believe in it"). When turned away, participants described varied responses, from giving up to persisting until they

got a prescription. As noted, this occurred in the context of a lack of information about safer supply prescribing, particularly for those who did not have a prescription. The magnitude of the difference in information-related barriers by prescription status (SMD = 0.584) suggests that this was a particularly important barrier affecting access to prescriptions. While common across settings, the lack of information in medium/smaller centres and rural areas was connected to perceptions that prescribing was only available in large cities (e.g., "I honestly thought it was just like a Vancouver thing"). This is congruent with the survey finding that prescription receipt was associated with living in large urban centre. Not being able to find a prescriber was a dominant theme in the interview data. While ability to find a prescriber was not directly asked in the survey, it is conceptually captured in the barriers related to getting a negative reaction when

asking for safer supply medications and the lack of information on where or how to get a prescription, reported by 33% and 28% respectively.

Intervention characteristics: can't get what I need

Barriers related to intervention characteristics reflect issues with the prescriptions themselves, including medication types, form, and cost. Just under half of survey participants identified lack of desired medications (in terms of types or forms/route of consumption; 45.6%, $n=154$) as a barrier, while 18.1% ($n=61$) cited cost. Participants who did not have a prescription were more likely than those who had one to report both types of barriers, with SMD in the small-to-medium range (0.2–0.4). Again, there were no differences in the endorsement of these barriers by setting (SMD \leq 0.1).

Interview participants also spoke to the theme of, *I can't get what I need*. Integrative analysis revealed a congruence between datasets around limited medication types and forms as a dominant barrier. Interview data expanded on issues related to the types of drugs and desired forms or routes of consumption. Participants highlighted that the available stimulant medications are not adequate replacements (e.g., “A lot of people won't take Dexedrine”). They also spoke to the challenges associated with the low potency of available opioid medications, and the lack of access to formulations that can be smoked, snorted, or injected (e.g., “it's a step in the right direction but not nearly enough potency... It's not smokeable”). Safer supply prescribing could also be denied to those whose drug of choice was the same as the medications on offer, as illustrated by a participant who relayed a challenge in accessing opioids because their unregulated drug of choice was hydromorphone rather than fentanyl (e.g., “[they] will not want to give me dillies because I'm not on fentanyl, I'm not on something worse”). Interview data also clarified that cost-related barriers could arise when service recipients were unsure of whether medications were covered by insurance, or when pensions and other sources of financial assistance conflicted with government programs covering medication costs.

Individual characteristics: anxieties, worries, and doubts

Barriers in this domain refer to the personal characteristics and circumstances of service recipients that hamper access to safer supply prescribing. Health concerns (stress, mental and physical health problems, mobility issues) were commonly reported as barriers (46.5%, $n=157$), along with not trusting health care providers (32.5%, $n=110$), being too busy (30.2%, $n=102$), or thinking that it will not work for them (21.9%, $n=74$). Participants who did not have a prescription were more likely to report all personal barriers compared to those who had a prescription, with SMD ranging from small to medium

(0.3–0.6). A small SMD (0.15) emerged in the proportions reporting too busy by setting, higher in medium/smaller centres and rural areas. There were no differences in the endorsement of other personal barriers by setting (SMD \leq 0.1).

In interviews, participants elaborated on the theme of *anxieties, worries and doubts*. The datasets were congruent in showing a dominance of health concerns as a barrier. In the survey findings, the magnitude of the difference in health-related barriers by prescription status (SMD=0.639) suggests that this was a particularly salient deterrent to obtaining a prescription. Interview findings expand on the role of health as a barrier and offer greater depth in describing anxieties and worries. Participants described concerns around going out in public to pick up medications when they looked sick, particularly given the context of the pandemic, and around what their doctor would think (e.g., “what if he thinks that... I just want more drugs?... I always have that in the back of my head”). Participants connected difficulties in getting a prescription to the turmoil of their lives (e.g., homelessness) and to doubts around success (e.g., “[I want] to go through my GP but having doubts as well that she'll do it”). While highlighting individual characteristics and circumstances, these anxieties, worries and doubts also reflect internalized stigma, aligning with findings related to the outer context of stigma and criminalization.

Discussion

As North America contends with a prolonged crisis of overdoses related to a toxic drug supply, initiatives are being developed and implemented to support access to a supply of substances of known composition [11]. There is an internal logic to such efforts, given that the most proximal cause of overdoses is the unregulated drug supply [34]. In this study, we evaluated access to safer supply prescribing and examined whether and how barriers differed between people with and without prescriptions, and between urban and rural settings. Living in a large urban centre was advantageous in terms of getting a prescription (relative to medium/smaller centres or rural areas), although there were no notable differences across settings in the endorsement of specific types of barriers. Instead, a wide array of structural, interpersonal, and health-related barriers was commonly encountered across settings. Structural barriers, related to stigma and low service accessibility, were particularly common (both reported by over half of participants). Relative to participants who had a prescription, those who did not have a prescription (who were trying to get one or planning to do so) were more likely to report encountering a variety of barriers across implementation domains. Substance use stigma was a key issue affecting peoples' experiences of access to safer supply prescribing, emerging directly

as a factor affecting the outer context of implementation and indirectly through factors related to the context of clinics, providers, and personal circumstances.

While some small-scale programs were available in selected urban centres prior to 2020 [11], it needs to be acknowledged that safer supply prescribing was implemented rapidly in BC on an emergency basis, immediately after the onset of the COVID-19 pandemic. Surveys of people who use substances in Vancouver, collected early on in implementation (up to November 2020), indicated low awareness of the Risk Mitigation Guidance, with fewer than half of participants having heard of it [35]. We build on these early findings, showing continued challenges associated with awareness at a broader provincial level, with participants relaying difficulties in trying to obtain information about the Guidance and how to access prescriptions. Different interpretations of the Guidance across organizations and providers, affecting its promotion as overdose prevention, treatment, and/or a COVID-19 prevention measure, may have contributed to challenges in accessing information and prescriptions [35]. In July 2021, the BC government released a policy direction for prescribed safer supply, decoupling it from COVID-19 and centring its role in overdose prevention as part of the provincial response to the toxic drug public health emergency [36]. While prescribed safer supply has become highly politicized [37], program models continue to evolve as evidence emerges, with recommendations from health system leadership in BC available to guide ongoing implementation [38]. An estimated 4387 people in BC received prescribed safer supply in April 2024, down from a high of 5189 in March 2023 [39].

Relative to participants who had a prescription, those who did not were more likely to report a range of barriers. At the time of the survey, participants who did not have a prescription were either trying to get one or were planning to do so in the next 2 weeks – these participants were actively working through the process of accessing safer supply prescribing. They were particularly more likely to indicate that poor health, lack of information, and being too busy negatively affected their ability to obtain prescribed safer supply (SMD=0.5–0.6, representing medium effect sizes). To a lesser extent, differences by prescription status also revealed that costs, poor service accessibility (in terms of services being too far, inconvenient hours, or long wait times), and lack of trust in health care also disproportionately impacted those who did not have a prescription (SMD=0.3–0.4, representing small-to-medium effect sizes). Together, these findings speak to the structural factors that constrain people's access to services and supports needed for health. They also offer potential targets for future implementation and system enhancement efforts; for example, signalling a need for efforts to improve the

dissemination of information, build trust, and enhance accessibility of existing services, particularly for those experiencing mental and physical health comorbidities. In these respects, peers (people with lived experience of substance use) may be particularly helpful – both in identifying and implementing programmatic elements that facilitate access and continued participation, and in providing system navigation supports [40].

Our study revealed mixed findings on the role of COVID-19 as a barrier to accessing safer supply prescribing. Both survey and interview participants were prompted to consider whether and how COVID-19 influenced their experiences. When presented with a checklist of barriers, 40% of survey participants endorsed COVID-19 as a barrier (due to clinic closures or fear of infection); however, when invited to speak openly about their experiences, COVID-19 did not appear to be a major consideration. This may reflect differences in reporting across data collection modalities (e.g., with endorsing a barrier as present or absent being relatively easier than relaying a story about the experience of seeking care). Alternatively, it may signal the relative prominence of the toxic drug emergency in the lives of people who use drugs in BC (over COVID-19) and/or the greater salience of issues related to stigma, poor availability, and the lack of information around accessing the novel prescriptions.

Access was hampered across both urban and rural settings by a lack of providers willing to prescribe under the Risk Mitigation Guidance. BC is experiencing a provincial shortage of primary care physicians, with an estimated 23% of BC residents reporting they do not have a primary care physician [41]. In 2020–21, this shortage may have been compounded due to clinic restrictions and service disruptions related to COVID-19, further restricting access to prescribers. The lack of available clinical protocols, formal training, or direction by regulatory bodies around prescribing controlled substances for the purposes of overdose prevention can be expected to influence adoption [11]. In a related study, we found that the lack of support, infrastructure, and resources limited provider implementation [42]. Uptake of the Guidance by prescribers further depended on the behaviour of their peer networks, suggesting that future strategies should leverage these networks to enhance implementation [43]. Findings from the current study build on this evidence, and suggest there are outstanding needs for training, information, and resources to support implementation across the province.

While participants across BC reported challenges in accessing safer supply prescribing, it was still the case that those who had a prescription (compared to those who were trying or planning to get one), were more likely to be living in a large urban centre. Greater access in urban areas is not surprising given that services,

including harm reduction, are relatively more available in urban settings. Interview participants articulated several unique challenges associated with accessing prescriptions outside of urban centres (including limited public transportation and long distances) and cited telehealth and virtual services as a facilitator in this context. Our findings echo prior work in calling out the need for alternate models of prescribed safer supply tailored to non-urban contexts [44].

Substance use stigma emerged as a key aspect of the outer context in which safer supply prescribing was implemented, with findings congruent across qualitative and quantitative datasets about its role in barring access to prescriptions. Fear of stigma and past negative experiences with health care emerged as a key barrier in the survey data, with participants elaborating in interviews about demoralizing encounters, stereotyping, and a lack of trust in the medical system. Integrative analysis further revealed how stigma connected the outer context to other implementation domains (e.g., to experiences of judgement in clinic contexts, to individual worries and doubts around accessing safer supply prescribing). Notably, these barriers were more commonly endorsed by participants who were trying or planning to get a prescription (relative to those who had one). Particular attention is needed to the interplay between prescribed safer supply and family policing services, as fear of family policing remains a key barrier to help-seeking among parents who use drugs [45, 46]. Related research evaluating the perspectives of women and gender diverse people on safer supply prescribing has echoed the lack of safety due to concerns over family and children apprehension [47]. Elsewhere, research has shown that people who use drugs welcomed safer supply prescribing as an opportunity to exercise greater control over their drug use and reduce their risk of overdose, citing past negative experiences as one reason for not wanting to engage in treatment [48]. These findings illustrate the complicated nature of medicalized approaches to safer supply [49], and build on a large body of research highlighting how substance-related stigma leads to negative experiences and acts as a barrier to health service use among people who use drugs [50–55]. Our study illustrates that, when presented with an intervention to reduce drug-related harms, these past experiences are consequential and may hinder successful implementation.

Limitations of this study include the non-random sampling approach to the survey, with the onus placed on people who use drugs to reach out to the research team for participation. This strategy is prone to sampling biases, as persons who respond are likely to have experiences that they want to share (either positive or negative). The recruitment strategy also relied primarily on connecting with participants by phone, with limited

capacity for recruiting in-person (restricted to selected urban areas). Those who do not have a phone, particularly those residing outside of urban centres, would have been disadvantaged in their ability to participate in this study. The recruitment strategy may have biased the sample toward people living in large urban centres, due to the higher availability of harm reduction and other services (where the study was advertised). Notably, 78.4% of our survey sample lived in large urban centres, compared to 66% of the full BC population in 2021 and 64% of overdose deaths in 2020–21 [56, 57]. At the same time, due to gaps in information-sharing, people living outside of large urban centres may have been less likely to know about and try to access safer supply prescribing (and would therefore not have been eligible for the study). Findings may not be representative of the full population of people who received or were seeking out safer supply prescribing.

Finally, this study excluded people who were not trying to access safer supply prescribing. While this group would not have been able to provide data on the experiences of seeking out a prescription, they may nonetheless possess unique characteristics and unmet needs that are relevant for implementation. Future research is needed to investigate preferences and outcomes within this group, so as to maximize accessibility and appropriateness of interventions across the full population of people who use unregulated drugs.

These limitations notwithstanding, we were able to recruit a large sample of people who use drugs from a variety of backgrounds and from all parts of the province. Gender and average age in our sample (39.2% women, mean=40.1 years) is comparable to sex and average age in a provincial population-based cohort of people with substance use disorders, generated using administrative health records for all BC residents (40% female, mean=39.8 years) [58]. People who identified as Indigenous were overrepresented in our study (40.9%), reflecting the disproportionate impact of toxic drug crisis on Indigenous Peoples and communities in BC due to historical and ongoing colonization. In 2023, First Nations people represented 17.8% of all overdose deaths, despite making up 3.4% of the population [59]. This speaks to the ongoing need for Indigenous-led harm reduction, treatment and healing supports grounded in culture and leveraging the strengths of Indigenous communities.

Conclusions

This study contributes to an emerging base of research on the implementation of prescribed safer supply, showing that access was uneven across a provincial system of care and was particularly restricted outside of urban centres. Challenges related to obtaining information about options, finding a prescriber, and experiences

of stigma and criminalization were salient barriers to obtaining prescriptions and provide future targets for enhancing implementation. Attention is needed to promote geographic equity and counter systemic barriers in implementation of emergency responses to address the ongoing toxic drug supply crisis.

Abbreviations

CFIR Consolidated Framework for Implementation Science

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Author contributions

KU, MS, CB, KL, BB, AS, BN and BP designed the study and acquired funding; MS, KCH, JF, PBM, and BP collected the data; KU, TvR, MS, KCH, PBM, and BP analysed the data; KU drafted the first version of the manuscript; all authors participated in interpreting findings and writing the manuscript.

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Data availability

The datasets generated and analyzed during the current study are not publicly available to protect individual privacy but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The study was approved by the Research Ethics Board at the University of Victoria (20–0293). All participants provided informed consent prior to participation.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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