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Research Paper

The emergence of innovative cannabis distribution projects in the downtown eastside of Vancouver, Canada

Jenna Valleriani[a,b], Rebecca Haines-Saah[c], Rielle Capler[a,b], Ricky Bluthenthal[d], M. Eugenia Socias[a,b], MJ Milloy[a,b], Thomas Kerr[a,b], Ryan McNeil[a,e,f,*]

[a] British Columbia Centre on Substance Use, 400-1045 Howe Street, Vancouver, BC V6Z 2A9, Canada
[b] Department of Medicine, University of British Columbia, St. Paul's Hospital, 608-1081 Burrard Street, Vancouver, BC V6Z 1Y6, Canada
[c] Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, 2500 University Drive NW, Calgary, AB T2N1N4, Canada
[d] Keck School of Medicine, University of Southern California, 1975 Zonal Ave, Los Angeles, CA 90033, United States
[e] Department of Internal Medicine, Yale School of Medicine, 367 Cedar Street, New Haven, CT 06510, United States
[f] Program in Addiction Medicine, Yale School of Medicine, 367 Cedar Street, New Haven, CT 06510, United States

A B S T R A C T

The ongoing overdose crisis in the United States and Canada has highlighted the urgent need for innovative interventions to reduce drug-related harms. This, in turn, has led to increased interest in the potential of cannabis as a harm reduction strategy. While Canada has recently legalized cannabis, meaningful barriers to accessing legal cannabis remain for people who use drugs (PWUD) from marginalized communities. In the Downtown Eastside of Vancouver, Canada, innovative, grassroots cannabis distribution programs that dispense cannabis and cannabis products from unregulated sources to PWUD for free have recently emerged. In this study, we draw upon 23 in-depth qualitative interviews and ethnographic fieldwork with PWUD who access these programs. We found that these distribution programs play an important function in bridging access to cannabis for PWUD in a structurally disadvantaged neighborhood and do so by implementing few restrictions on who can access, providing a variety of cannabis products that would otherwise be inaccessible, and distributing cannabis at no cost. In addition, many people reported the program spaces provided an avenue to socialize and connect. Most of our participants reported that legal cannabis was inaccessible both through the legal medical and non-medical systems. Considering Canadian governments have made important regulatory changes in regards to cannabis, understanding emerging patterns and the structural barriers to accessing legal cannabis will be critical to maximizing the potential uses of cannabis as a harm reduction tool and ensuring equitable access to structurally disadvantaged populations. Examining the impact of cannabis use on PWUD and ensuring these groups have access to cannabis is an important component in determining whether cannabis deregulation reduces drug-related harms.

Introduction

In Canada and the United States, overdose has become the leading cause of accidental death (Health Canada, 2017, (2017)). As deaths associated with illicit opioid and stimulant use have risen (Fischer et al., 2016; UNODC, 2017), evidence-based interventions to address the harms associated with opioid and stimulant use are now being debated and implemented in many settings. Among these interventions, the instrumental use of cannabis among people who use drugs (PWUD) continues to be explored as a prospective harm reduction strategy to reduce or eliminate the use of more harmful drugs. Several studies have pointed to the potential for cannabis to reduce the harms of illicit drug use through lowering the frequency or outright substitution of other toxic substances (Ciccarone, 2011; Corsi, Davis, Kral, Bluthenthal & Booth, 2015; Haile & Kosten, 2013; Lau et al., 2015; Lucas, 2017; Reiman, 2009; (Kral et al., 2015)(Lucas et al., 2016)(Lucas et al., 2013)). Much of the literature has drawn on medical cannabis patients' self-report data (Corroon, Mischley & Sexton, 2017; Lucas, 2017; Reiman, Welty & Solomon, 2017) and has demonstrated that cannabis is associated with self-reported decreases in the use of prescription opioid analgesics (see also Boehnke, Litinas & Clauw, 2016; Lucas & Walsh, 2017). This line of inquiry has also been extended to groups of PWUD, finding the intentional use of cannabis is associated with a decrease in the frequency of other drugs, including stimulants (Socias et al. 2017; Goncalves & Nappo, 2015; Labigalini, Rodrigues & Da Silveira 1999).

As cannabis policies are reformed across North America, at the population level, the impact of these changes on opioid use and overdose continues to be debated in the literature. In the US, numerous studies have looked at the impact of medical and recreational cannabis laws on opioid-related harms, some finding decreases in overdose death compared to prohibitive states (Bachhuber, Saloner & Cunningham, 2014; Liang, Bao, Wallace, Grant & Shi, 2018; Meacham, Ramo, Kral & Riley, 2018). However, these findings have recently been challenged,

* Corresponding author at: Department of Internal Medicine, Yale School of Medicine, 367 Cedar Street, New Haven, CT 06510, United States.
E-mail address: ryan.mcneil@yale.edu (R. McNeil).

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suggesting that these claims should be "met with skepticism" (Shover, Davis, Gordon, & Humphrey, 2019). For example, using similar methods as Bachuber, Saloner & Cunningham (2014)'s seminal study, Shover, Davis, Gordon, & Humphrey, 2019 drew on the same data and extended the analysis by seven years with new data from 2010 to 2017. The authors were also able to take into consideration the additional 32 states that had liberalized their cannabis laws between 2010 and 2017. Shover and colleagues found the exact opposite results of the original study: medical cannabis laws were associated with a 23% increase in annual opioid overdose death rates even after controlling for variability among medical cannabis legislation. While the authors do not discount the potential instrumental uses of cannabis at the individual level, they noted that a variety of contextual factors analyzed were not accounted for in the original 2014 study, including the slower reach of the overdose crisis in Western states, lower incarceration rates, better health care access and more treatment options for those living with addiction and mental health issues (Shover, Davis, Gordon, & Humphrey, 2019). Although it is notable that this study did not account for changes to the illicit drug market (i.e., widespread fentanyl adulteartion) driving overdose deaths in the latter years of the study period. Others have agreed that it is premature to leverage medical cannabis access as an aide in the overdose crisis (Hall et al., 2018), and that the evidence of cannabis' efficacy as a substitute for opioids in the clinical context is lacking (Humphrey & Saitz, 2019).

While the impact of cannabis access in the context of the overdose crises leaves many unanswered questions, individual-level data suggest cannabis might still hold potential as an adjunct or alternative treatment for reducing the frequency of, and harms associated with, drug use, particularly balancing the safety profile of cannabis in comparison to unregulated and increasingly fentanyl-adulterated illicit drugs (Weiss & Wilson-Poe, 2018). Indeed, self-reported data has pointed to cannabis' utility as an adjunct therapy for people using medical cannabis, in both dealing with pain as well as the management of opioid use (Boehnke et al., 2016; Lucas, 2012; Lucas et al., 2016; Reiman et al., 2017) and for PWUD (Socías et al., 2018). Socias et al. (Socías et al., 2018) found that high-intensity (i.e., at least daily) cannabis use was associated with better retention in treatment among PWUD initiating opioid agonist therapy, and others have found equal or improved retention in drug treatment among those who use cannabis when compared to those who do not (Griffith & La France 2018; Raby et al., 2009; Scavone, Sterling, Weinstein & Van Bockstaele, 2013; Swartz, 2010). Animal research has also found that cannabidiol (CBD)—a non-intoxicating cannabinoid—reduces heroin seeking behavior in mice (Ren, Whittard, Higuera-Matas, Morris & Hurd, 2009), and recently, Hurd et al., 2019 found CBD reduced craving and anxiety in those with abstinent heroin users in an experimental study. On the contrary, others have found cannabis use increases, rather than decreases, non-medical prescription opioid use and opioid use disorder (Olfson, 2018), and that cannabis use may signal a higher risk of opioid misuse ((DiBenedette et al., 2018; Smaga, 2017). The potential utility of cannabis remains highly relevant to treatment outcomes, as discontinuation of opioids is consistently associated with higher risk of overdose death (Cornish et al., 2010), and cannabis may hold potential as a specific lower threshold strategy for those who do not wish to, or are unable, to stop the use of substances completely. A key issue concerns the right of PWUD to use substances for pleasure and relief, and whether or not removing the expectation of abstinence from all substances can support opioid treatment or detract from it.

While many questions remain about the potential instrumental uses of cannabis at all levels of investigation, very little work to date has engaged with PWUD in real world contexts, including their reported access and instrumental uses of cannabis in relation to other drug use. Therefore, we investigated the emergence of innovative cannabis distribution programs in the Downtown Eastside of Vancouver, Canada, which includes access to free and low-cost cannabis for PWUD. The Downtown Eastside has long been well known for its innovative and peer-led harm reduction initiatives and drug user advocacy ((Kerr, Mitra, Kennedy, & McNeil, 2017); Hayashi, Wood, Wiebe, Qi & Kerr, 2010; Kerr, Oleson, Tyndall, Montaner & Wood, 2005; McNeil, Small, Lampkin, Shannon & Kerr, 2014; 2015; Wood, Kerr & Spittal, 2003), and research has shown that peer-run services can successfully draw on peer knowledge to deliver better forms of care among this population (Kennedy et al., 2019; Watson, Kolla, van der Meulen & Dodd, 2019). Further, research has demonstrated that peer-run organizations and peer-led harm reduction in this neighbourhood have addressed substantial gaps in service delivery and advanced innovative programming to address drug-related harms (Kerr, Mitra, Kennedy, & McNeil, 2017), and the current cannabis distribution programs are consistent with these past efforts.

Since Canada has undergone fundamental regulatory changes in relation to cannabis alongside an ongoing overdose crisis, understanding current and emerging patterns and perspectives around access to cannabis, including the role of these innovative distribution programs for vulnerable drug-using populations, can help situate the potential instrumental uses of cannabis. Further, while Canada has legalized cannabis, there has been almost no focus on barriers to accessing cannabis for people in marginalized and criminalized populations, and so the emergence of these distribution programs (which also exist in Victoria and Nanaimo, British Columbia) may have important policy implications for the feasibility of cannabis as a tool to manage or reduce the severity of drug use and related harms. We also attend to issues around poverty and other structural barriers in our examination of cannabis access among PWUD.

The programs

The study focused on two unsanctioned programs launched by community members in the Downtown Eastside beginning in 2017. While similar programs exist in other cities in British Columbia, these are the only two distribution programs operating in Vancouver to the best of our knowledge. The first program, "The Cannabis Substitution Project", operates out of the Vancouver Area Network of Drug Users' (VANDU) office, and is led by a cannabis activist who formerly operated a cannabis business in the neighbourhood. VANDU is a drug user-led organization that has been pivotal in advancing harm reduction and drug policy reforms, and has been recognized for implementing programs that address the immediate needs of their community ((Kerr, Mitra, Kennedy, & McNeil, 2017)), including unsanctioned interventions (e.g., supervised consumption facilities, see McNeil et al., 2014). This program serves over 250 people twice per week. The second program, the High Hopes Foundation, operates in conjunction with the Overdose Prevention Society, a non-profit that runs a supervised consumption site in the neighbourhood. High Hopes initially operated two parallel programs that sought to alleviate barriers to cannabis for community members—the first included access to low-cost cannabis at a small open-air kiosk in a local market in the Downtown Eastside, and the second offered free cannabis to those enrolled on a needs basis, and have approximately 100 people they serve regularly. However, in September 2018, the High Hopes kiosk was raided and their product was confiscated by the Vancouver Police Department (VPD), and that program ceased operation. Neither of these programs are supported formally by any licensed cannabis company, government body, health or public health agency, and the products they offer are dependent on the products donated on a weekly basis, primarily from illicit cannabis entrepreneurs and independent cannabis growers. Given the informal and unpredictable nature of this supply, there are challenges to the sustainability of these programs.

The Cannabis Substitution Project (CSP) was started 2017 when a local Vancouver cannabis advocate approached VANDU about starting a volunteer-run cannabis distribution program once a week on a first come, first serve basis. With the number of overdose deaths doubling in the province from 2016 to 2017, there seemed to be little objection to

free cannabis distribution, particularly as it ran, and continues to run, entirely on volunteers and donations of unregulated cannabis and cannabis products. CSP has grown to two days per week, serving over 200 people each day. At this program, there is no registration or intake and participants simply arrive in the morning and wait in line outside the front doors (typically one to two hours) and receive a package with approximately $50 of cannabis products, which is assembled at random by a group of volunteers beforehand. These packages typically include a combination of infused food products (such as brownies or gummies), capsules, creams, oils and one to two joints rolled onsite by a group of volunteers called "the Holy Rollers". While these packages are put together before individuals arrive in the line-up, if product is available volunteers allow some minor substitution (e.g. CBD candies instead of THC candies). The CSP packages also include pamphlets and onsite information for new users, including information about the program and its goals, as well as harm reduction information about cannabis use. There is no formal mechanism of education or information delivery, although the volunteers distributing the packages will often try to identify inexperienced cannabis users (e.g. "have you tried edibles before?") to offer a few suggestions on dosing and administration.

The High Hopes Foundation also started in 2017 and provided both free and subsidized access to people in the Downtown Eastside. Currently, they provide free unregulated cannabis products to individuals on a per needs basis. Many individuals new to the program have an informal intake discussion with program managers to identify prior experience with cannabis, needs, and goals. Individuals attend on a drop-in basis, only when they need cannabis, rather than a set time, date or line up. They are able to connect with one of the employees or volunteers who run the program to access free cannabis. The products that participants can access depend entirely on donations received by High Hopes and what is available at any given time, but generally participants were able to access some similar products as CSP, which included flower, cannabis-infused food products, capsules, creams, oils and occasionally concentrates such, as shatter. Education and harm reduction information was generally informal and peer-based. Both these programs distribute cannabis with the stated goal of alleviating barriers to accessing cannabis and related products for this population, but their mandate was largely framed as access for the instrumental use of cannabis to reduce, manage or eliminate other, potentially more harmful, drug use.

These programs emerged alongside a developed medical cannabis program, the Access to Cannabis for Medical Purposes (ACMPR), which was later repealed and moved under the purview of the Cannabis Act regulations with the introduction of non-medical cannabis legalization in 2018. Through the medical access system in Canada, individuals must have an authorization from their physician, which is similar to a prescription, and can purchase cannabis online directly from a Licensed Party, or through one national pharmacy retail chain where orders can be placed online or in person and delivered to the individual or their doctor's office. Aside from cost, other barriers prevent equitable access to legal cannabis, including the need for identification, credit cards, a physician willing to authorize cannabis for PWUD, and more. Through the non-medical channels, depending on province, individuals can purchase online or in an authorized retail store. While there are fewer barriers, cost remains a central concern, and for those using medically but accessing through the non-medical channels, there are important concerns around a lack of physician guidance on administration, contra-indications with other medications, products and dosing. Within the constraints of legal access, these free distribution programs in the DTES have emerged and continue to grow.

Methods

In this study, we carried out ethnographic fieldwork and in-depth qualitative interviews conducted from November 2018 to March 2019 at our storefront research office or onsite in the Downtown Eastside neighbourhood. We recruited participants using existing relationships with the above two aforementioned community-based organizations. Individuals were eligible for the study if they used cannabis regularly (at least three times per week), accessed cannabis at least once from a community-based cannabis substitution program, and reported illicit drug use in the previous year. We chose these inclusion criteria because we wanted individuals who had more recent experiences of cannabis and the use of illicit substances, while also including participants who had, within the last 12 months, stopped using other illicit drugs completely. These criteria allowed us to account for a diversity of experiences with these programs by sampling people who currently and formerly used illicit drugs and, therefore, better examine the potential role of these programs in reducing the harms associated with the use of illicit drugs Potential participants were referred to our research team by program volunteers and approached by JV during weekly ethnographic fieldwork at these sites. If they were eligible and interested, JV and TK conducted interviews onsite at OPS or walked participants back to our main research office. We sought to ensure a representative sample that included individuals who identified as women or Indigenous. As outlined in Table 1, our final sample of 23 participants included 13 women and seven Indigenous participants. Thirteen were recruited from CSP, and 10 were recruited from High Hopes. All participants provided written informed consent.

Table 1
Participant characteristics.

	(n = 23)
Age	
Mean	46.7
Range	21–65
Gender	
Men	10 (43%)
Women	13 (57%)
Ethnicity	
White	13 (57%)
Indigenous	7 (30%)
Other	3 (13%)
Housing	
Single Room Occupancy (SRO)	9 (40%)
Apartment	4 (17%)
Shelter	4 (17%)
Unsheltered/outside	5 (22%)
Other	1 (4%)
Years Using Cannabis	
20+ years	15 (65%)
10–19 years	5 (22%)
2–9 years	2 (9%)
1 year or less	1 (4%)
Reported Uses of Cannabis (check as many as apply)	
Reduce the use of other drugs	22 (96%)
Pain	21 (91%)
Pleasure/to have fun	19 (83%)
Sleep/Insomnia	13 (57%)
Appetite	6 (26%)

We developed an interview guide to facilitate discussion regarding potential instrumental uses of cannabis (e.g., harm reduction, withdrawal management, etc.), access to cannabis, preferred cannabis products, and program operation. Questions addressed a range of topics, including drug history, drug use practices and potential risk behaviors, the role of cannabis distribution programs, access to cannabis, illegal cannabis dispensaries and access in the context of legalization of cannabis in Canada. Interviews typically lasted between 40 and 75 min and participants received $30 CAD, as is consistent with community expectations for research participation in the local setting and ensure participants are equitably compensated for their expertise and time in ways that are responsive to their structural vulnerability (Collins et al., 2017). Interviews were transcribed verbatim and then reviewed for accuracy.

Twice per week, ethnographic fieldwork was conducted at each site

(JV). This included observing, volunteering, talking to people visiting these sites, and engaging with peer workers or volunteers, as well as potential participants. Our team's research role in participating in the programs was made transparent to people verbally. We jotted down short notes when possible and upon returning to the office would expand upon these jottings creating more detailed field notes. This ethnographic observation contributed to a more foundational understanding of how these programs operate, and drew attention to details and context which may have been missed using interviewing methods only.

We completed the analysis in NVivo 9, a qualitative analysis software program, using deductive and inductive approaches (Bradley, Curry, & Devers, 2007). Our analysis focused on perceptions of cannabis access, uptake and feasibility of cannabis distribution programs, uses of the program, financial affordability and the role these programs play in people's cannabis access. We developed a coding framework drawing on *a priori* categories extracted from the interview guide to assist with the analysis. Our research team met to discuss emerging themes, as well to discuss and revise the coding framework after each person had reviewed three to five interview transcripts. Once we established a coding framework, interviews were coded independently by team members. Finally, the lead author (JV) reviewed the established coding and then summarized themes across interviews before meeting to share and discuss findings with the research team. Pseudonyms were assigned to participants using an online pseudonym generator. Ethical approval was granted from the Providence Health Care / University of British Columbia Research Ethics Board.

Findings

Our sample included 23 PWUD, including 13 women and 10 men, ranging from 21 to 65 years old. Most participants identified as white (n = 13) or indigenous (n = 7). Participants' reported housing situations varied, where 9 people reported living in a Single Room Occupancy (SRO), 4 reported living in an apartment, 4 reported living in a shelter, 5 reported being unsheltered or homeless, and 1 reported other. Approximately half of the sample reported a stimulant (i.e., crystal methamphetamine, cocaine, crack cocaine) as their illicit drug of choice, while half reported opioids as their illicit drug of choice. Most participants had been using cannabis for more than twenty years and reported using it for a variety of reasons, including to reduce the use of other drugs, pain, pleasure and to help with sleep. All but two participants reported that they had co-morbid conditions, including arthritis and other chronic pain, insomnia, COPD, HIV, hepatitis C, mental illness and cancer.

Affordability

All participants reported that these free distribution programs helped them access cannabis or obtain more cannabis than would otherwise be financially viable. Aside from these programs, participants most often also purchased from an illicit dispensary (e.g. an unregulated cannabis retail store) in the Downtown Eastside, where an average gram of good quality dried cannabis costs approximately five dollars (CAD). Most participants reported living in extreme poverty, with more than a third of the sample reporting being homeless (i.e., emergency shelter, unsheltered), and many reported including being on disability or social assistance. These programs helped to subsidize the total cost of their cannabis expenditure by providing access to some free oil and edible products, and flower.

Many individuals described the programs as greatly improving their access to cannabis because it was provided at no cost. None of the individuals in our sample had ever purchased cannabis legally, either through the federal medical cannabis program which has been available since 2001 (i.e., currently the *Access to Cannabis for Medical Purposes* [ACMPR]) or legal cannabis outlets (i.e., either online or government-licensed retail stores), although the latter had only been available for between one to four months at the time of interviews. For example, Kimberly, a 41-year old white woman, agreed these programs help them access cannabis when they would not be able to purchase from a cannabis dispensary:

> If I'm having a day where I'm having a lot of pain I'll be like 'Look [name], can I, can I please get some gummies, do you have any gummies, do you have any joints?' If I'm low on cash that week cause I've got things to do… I can go to [name] and say look, 'I don't have much money, can you help me out?' and then she will. If she, whatever she has in stock she'll help me out that way if I go to her and say that.

Others agreed that the program helped them by giving them more room to spend limited income on other needs. For example, Michael, a 50 year-old white man, discussed accessing through an unregulated local cannabis dispensary in addition to the cannabis distribution program. The latter helped to subsidize the total cost he spends on cannabis:

> Day by day. I have to buy it [cannabis] day by day. Maybe it's $2. Maybe it's $5. Some days it's $20, right. You know. Because it just depends what I have financially, right, or what I've made at the market to tell you the truth as well, because I have another addiction of crack, right. So you know, there goes a little bit there, a little money there, so I try to budget to make… everything like food, apartment, you know what I mean. So when I'm done, and said and done, with the program I have my weed, thank God, to fall back on, to relax me, get my appetite and be normal and get a sleep on. You know what I mean. And that's it. Be normal.

Access to cannabis was identified as challenging for people in the Downtown Eastside because they are simultaneously managing extreme poverty and complex co-morbid conditions and other issues related to their substance use. Since all our participants reported using cannabis for multiple reasons, including health and recreational reasons, equitable access to cannabis (particularly legally) remained a challenge. While these programs worked to bridge access, they often did not meet the needs of the participants who wanted more cannabis, and more consistent access through increased hours of operation, than the programs could provide.

Increased access to cannabis products and CBD

Not only was access to cannabis improved through these programs but participants also had access to a wider variety of cannabis products, including high-dose edibles (e.g., gummies) and CBD products, and often talked about the benefits of integrating CBD into their routines. High dose edibles were often discussed as a preferred item because of their strength and many stated they couldn't afford these high dose edible products, which retail at unregulated dispensaries for approximately $16–22 (CAD) per package. Resources on cannabis harm reduction for the general population often suggest that high THC products be avoided or minimized (Fischer et al., 2017). However, because these programs supported people in accessing these products to reduce the use of, or harms associated with, *other* illicit drugs within the context of a fentanyl-driven overdose crisis, many participants considered this approach to be an important harm reduction tool.

CBD was also very popular among participants, and perceived as having many health benefits without the intoxicating effects of THC, but was regarded as much more expensive than traditional THC-focused products:

> You know, CBD has just done wonders for so many people here now, you know. People keep coming back for CBD, that have so much pain and they're at peace and happy and then they could fucking pull the plug at any moment. That really upsets me. *(59 year-old*

white man)

Many spoke to the benefits they derived from the CBD products they were accessing from the program and how these would be inaccessible outside the context of these programs. These reported benefits included reduced pain, reduced cravings, better sleep, more energy and general feelings of wellness. Others also agreed that the program helped them access a variety of cannabis products that may otherwise be too cost prohibitive. Nancy, a 32 year-old black woman, explained:

> Like, we get a lot of different things. See, like we get dog treats sometimes too and 'cause we have a lot of people that have dogs … [I: So the variety?] Yeah. Especially like, especially with the edibles cause like I said most dispensaries are not selling edibles right now… I think the gummies are like 10 bucks.

This participant also referenced the municipal by-laws at the time in Vancouver, which had implemented municipal regulations for cannabis businesses before federal legalization to control the proliferation of illicit cannabis dispensaries in the city and included the prohibition of food infused cannabis products. Many agreed that these distribution programs offered them variety that was otherwise out of reach due to cost prohibitions, while also offering an opportunity to learn about and experience different products and potential therapeutic benefits of other modes of administration, as well as other cannabinoids (predominantly CBD).

Less is more: Lowest barrier access

Many participants expressed that the ease of accessing cannabis through these programs was part of the reason why it 'worked' in their community. Although each of the programs operated differently – one on a needs basis and the other on a first come, first serve model – they were similar in that there were very few, if any, restrictions on who could access. The programs are community-based and peer-run by community members, meaning there was no formal registrations, ID checks, health care professionals, or tracking of product distribution beyond counting participants. In this way, accessing these programs had few barriers, particularly when compared to legal avenues such as the ACMPR or non-medical retail.

When asked for their thoughts regarding the way the program operates, and if it should be provided by healthcare professionals such as doctors or nurses and delivered in a more formal capacity, many explained how these programs were the best option:

> Well, right now, it's presenting an alternative to people, first of all, to stop doing the drug that harms them most. And just the availability, the easy access. Like the High Hopes makes it, doesn't put up all these barriers and you got to sign this or do this or do that. It's just, you know, can we help you. Here you go. So the ease of access. (*33 year-old Indigenous man*)

Participants also stated that having community members run the programs was helpful, encouraged access, and provided an avenue for questions, and information about different products. Some participants explained that the volunteers could draw on their own experience with cannabis to help others:

> If you know what you're talking about…if you have some background on it… you know what the best thing would be: have an experienced cannabis user talk to these people from the Downtown Eastside. That is the best thing. Someone that knows the weed, has been doing it for years, has tried edibles, has tried different ways… different forms of THC. (*40 year-old white woman*)

There was a preference for the community-run model among participants. Some stated they "don't like doctors" (*55 year-old white man*), while others echoed those above and felt it could jeopardize access by adding various restrictive rules around the program:

> Why? Because with doctors and all that they're gonna have all these specifications. They'll only give you so much. They'll say you only need this much when actually I know what I need and I know that's what's gonna happen…if it was like really hard to get into the program or if it was really hard to get access to it. Yeah, it might… deter you. (*35 year-old white man*)

Most agreed that the formality of having a cannabis distribution program tied to a more formal healthcare system would result in many barriers and serve as a deterrent for many currently using them.

When discussing the importance of not medicalizing these programs and delivering them within health care settings, participants described these social functions as key to building relationships with people in the community and encouraging people to access other local services. There was also an acknowledgement that dealing with chronic pain, illness, and withdrawal symptoms can be quite isolating, and that these programs offer an outlet to connect with people about these shared experiences. As one participant explained:

> You know, in your life and it was also a place to chitchat and, you know, for some of these people that are seeking whatever… a lot of people are alone out there, you know, and people come in just to chitchat, because I'm maybe the only person they're in contact with that day, that talks to them. You know, you see a lot of that here. It's sad. There's so many really cool people out there that just nobody takes the time to talk to them. They say they're throwaways. You know, and they're the underdogs. They're the ones you want to talk to. The ones that are broken and dirty, whatever, but offer you the shirt off their back. Hello. You can sit at my table any time. *(52 year-old white woman)*

Others agreed that these cannabis programs provide an outlet for people to connect while already accessing services and feeling comfortable in spaces like VANDU and OPS:

> You know what. If I'm comparing it to VANDU, I think it's getting the communities together. Communities helping community. Like I think that's an awesome thing. Everybody's getting together and they're getting what they need and they're really… we're really all working together to try… I even tell people with the programs, try and help them get off too. That's what I personally do. So I think it's awesome… We can help each other that way. And it's not all to make money… I'm about helping people get off their dope. So it's working hand in… like it's working together, the OPS and High Hopes. It's like blended together nicely. *(40 year-old white woman)*

Many participants also discussed that the programs also provided a social function around building community and providing education. They also offered the opportunity to socialize, particularly those who were dealing with complex comorbid conditions, and that relationship building was 'critical' to harm reduction services more generally. For example, Dessy, a 62 year-old white woman who works in and accesses the program explained:

> I work part-time here, you know, like I know [*the person who runs the program*] personally per se. I always, I'm a people person. I prefer interpersonal relationships so I like that aspect, right. You know, hi, how's it going. Here you go. Have a nice day. I like that kind of stuff. I don't like institutionalized because it takes the humanity or the, like I said, interpersonal relationships out of the equation. And I kind of think dealing with what we're talking about here, harm reduction, that… actually I think that's kind of an important component.

Barriers to legal cannabis access in the DTES

Canada legalized cannabis for non-medical use in October 2018. In response to these significant regulatory changes in access to cannabis

for adult use, many participants felt it was “about time” Canada legalized cannabis. However, they were also skeptical how the regulations might impact their access through these programs. These programs represent the lowest barrier access to cannabis—with no restrictions, aside from age (e.g. 18+), around who can access and one even operating on a first come, first serve basis, which requires only time to line up and access. By comparison, access through the legally-regulated system requires two pieces of photo identification, and the cost averaged $9.83 per gram (Canadian Cannabis Survey, 2019). Further, at the time of data collection only cannabis flower, oils and seeds are available from legally regulated sources. Access to cannabis through the medical cannabis regime requires a doctor's authorization, and in most cases a fixed address and credit card—and computer access to order online. While they wanted to see these programs acquire legal status, the idea of the program formalizing in any way was not desirable for a majority the sample:

> They'll want it government run… they'll have government standards. They'll want it run a certain way or by certain people, certain cause. They'll have more licenses. They'll have this. They'll have that. I think if they're more laid back, then they'll do a hell of a lot better. And they'll probably never employ somebody who uses and is a user themselves, right? *(50 year-old Indigenous woman)*

Most of our participants favoured the model represented up by these cannabis distribution programs (e.g., informal, community based, run with peers and volunteers, few restrictions) as the best way to access cannabis, and wanted to see these funded by the city and other stakeholders. Additionally, participants offered ways the programs could be improved. Much of this relied on securing funding to assist with independent operations, including renting storefront locations, money for wages for community members, garnering the open support of local politicians and stakeholders, as well as suggestions around more operational aspects of the program. For example, since one program relies on a first come, first serve model, many expressed frustrations waiting in a line for one to two hours as the program has grown in popularity:

> The frigging lineup is around the block. It's just like it's… that's not ease of access when you have to stand there for… you got to do an investment of a couple of hours to receive a minimal amount of product which only covers a couple days. …Like you know, they… you know, yet again, it comes down to funding, right. Yeah, I don't know how [founder of CSP] and High Hopes does it. *(50 year-old white man)*

Further, while most expressed dislike for legal cannabis or the legal system, they did also want to see consistent access to product. Relying predominantly on donations from the unregulated market presents many challenges for both the program organizers and those accessing these products. While it offered diversity in available products, there was no consistency in delivery, product or availability.

Discussion

The cannabis programs in the Downtown Eastside played an important function bridging access to cannabis for people who use drugs in a structurally disadvantaged neighbourhood. These programs bridge access by implementing few restrictions on who can access, as well as distributing cannabis for free. For many, these programs filled a gap as the new regulatory framework for cannabis is implemented across Canada and legal cannabis remains inaccessible to this population both through medical and non-medical regimes.

Both programs considered cannabis access for PWUD a harm reduction tool. The naming and mandates of both these peer-run programs is both intentional and political, and often used the language of “substitution”. As these programs emerged when evidence was suggesting reductions of opioid-related deaths at the population level in states with more liberalized cannabis access (e.g., Bachhuber et al., 2014; Powell, Pacula & Jacobson, 2015) with little counter findings and substantial media and academic attention in that moment (Shover, Davis, Gordon, & Humphrey, 2019), this framing helped support acceptance of their existence and reduce any stigma or practical risk associated with illegal distribution. It is likely that this discourse allowed organizers to point to a ‘greater good’ in the context of a public health emergency, particularly in the media —a program where PWUD have increased access to cannabis, which was reportedly being used instead of potentially more harmful, even deadly, illicit drugs. These cannabis distribution programs were often presented in the media as a low-barrier option that sought to reduce deaths caused from contaminated drugs in an area which experienced an increased burden of British Columbia's overdose deaths (see for example CBC, 2017). Further, they were also described as sites of resistance to what many participants described as the unjust and prohibitive regulation of cannabis which denied access and industry participation to many marginalized and vulnerable people—particularly those in the Downtown Eastside.

While the research around cannabis’s instrumental uses continues to build, the issue of affordability has been largely left out of these discussions. In patient populations across Canada, affordability remains a key barrier to accessing legal medical cannabis (CFAMM, 2017). Patient affordability has also remained a central issue with the introduction of an additional excise tax to all cannabis sales, including medical, with the regulation of non-medical cannabis legalization. Adding to financial barriers, under the Canadian medical program, patients predominantly purchase directly through a Canadian licensed producer of cannabis. While seemingly straight-forward, this system requires a minimum order placed online or over the phone of between 3.5 to 5 gs of medical cannabis at an average cost of $10.79per gram (Canadian Cannabis Survey, 2019) plus shipping costs using a credit card. The only exception to purchasing directly from an LP is through a popular Canadian pharmacy chain which allows individuals to order in store or online, and have product shipped to their home or doctor's office. Affordability issues are compounded within this community, who face multiple barriers through these regulated access channels. Importantly, the need for physician authorization/support poses difficulties given that many clinics in Canada have a policy which excludes authorizing cannabis for medical purposes if individual are using other non-prescribed drugs. These all present important barriers, layered within a complex bureaucratic system, to accessing cannabis for medical purposes among this population. Considering what equitable access to legal cannabis looks like, particularly in marginalized communities, could pave the way for programs such as these to exist with support from local, provincial and federal stakeholders. It should be further noted that a large body of evidence from this study setting suggests that many individuals living in the Downtown Eastside will resort to high-risk income generating activities, such as sex work and drug dealing, to acquire money for drugs or other daily living expenses (Debeck et al., 2007; Reddon et al., 2019; Richardson, Long & DeBeck, 2015). Therefore, ensuring affordable access to cannabis also has potential to reduce a range of harms, including physical violence or arrest, by eliminating the need to engage in risky income generating activities for the purpose of acquiring funds to purchase cannabis. Considering a key goal of cannabis legalization in Canada is to eliminate the unregulated market, this may have the unintended consequence of placing PWUD at risk through losing current, more affordable, access through illicit dispensaries and programs such as High Hopes, while also increasing penalties for individuals selling illicit cannabis to support their own access.

One of the challenges to ensuring low-cost and accessibility for these community cannabis distribution programs, if they did want to formalize their operations legally, would be the shift of their supply to legal product. Indeed, the ACMPR in Canada has been criticized for its high cost, for charging patients both excise and sales tax, and difficulty in obtaining insurance coverage (Arthritis Society, 2017). In Canada, medical cannabis and harm reduction devices such as vaporizers are not covered under universal public health insurance, and many ill

Canadians rely on private employer-delivered insurance or social assistance to cover these costs. The same high costs are present in the non-medical program, but access through a retail store allows consumers to avoid shipping costs, and also purchase 1 g at a time, rather than 5 g minimums common through medical cannabis channels. This means, as it currently stands, legal cannabis would be completely inaccessible to many of the individuals we spoke with. It is also worth noting that we did not meet any participants who had accessed cannabis legally, even though technically, medical authorizations under the ACMPR should be accessible to most of these participants, who report wide-ranging qualifying medical conditions, such as chronic arthritis or HIV infection. This may suggest there are multiple barriers to access for this population, including physician approval for medical access, particularly for people actively using other drugs, over and above affordability.

These programs capture some of the most marginalized members of society, many of which report cannabis benefits them in a range of ways. For these programs to continue and improve access, participants describe the importance of ensuring cannabis distribution programs remain in the hands of community members in the Downtown Eastside. Drawing on past healthcare experiences, participants expressed that the formalization of this program would mean an increase in restrictions and additional barriers to access. Many participants felt having community members volunteer within these programs provided access to education and information from someone who understood where participants were coming from, and could offer advice and expertise from their perspective. This is in line with the literature on formalization and other harm reduction environments where, in general, PWUD report a preference for peer-run harm reduction services in community-based environments (Bardwell, Kerr, Boyd & McNeil, 2018; Boucher et al., 2017; Kennedy et al., 2019), and other research has found that PWUD may avoid formal service providers based on stigmatizing, unpleasant or harmful past experiences, as well as due to more practical considerations such as restrictive operating hours and inconvenient locations (Strike et al., 2015).

We found similarities between the current distribution programs in the DTES and other cases of cannabis distribution occurring outside of the law, including “Compassion Clubs” in Canada (Lucas, 2008) and “Cannabis Social Clubs” in Belgium (Pardal & Bawin, 2018) that began as grassroots initiatives to assist individuals experiencing various health conditions access cannabis products as an alternative to pain and symptom management. These programs also offer more than just tangible access to cannabis and greater access to a diversity of products, but also play other functions such as providing a space where individuals can regularly meet and socialize. Unregulated medical cannabis clubs in Canada historically operated, “outside the law…[and] play a vital role in the provision of safe access and therapeutic knowledge… operating on the margins of society” ((Hathaway & Rossiter, 2007); (Lucas, 2008)). Similarly, cannabis distribution programs in the Downtown Eastside offer social capital to participants in the form of support, spaces to socialize, and increases the sense of community among these participants, in addition to lower barrier access to cannabis. Social capital refers to “the network of social ties through which people can obtain health resources and support” ((Hathaway & Rossiter, 2007); Bourdieu, 1986). In this case, we refer to the relational resources people can access through these cannabis programs, and that participants reported these programs as providing a sense of belonging, the building of personal and community networks, and the positive impact on their own and others’ quality of life.

In addition to issues around access to cannabis, participants framed cannabis substitution programs as offering access to a variety of products which were otherwise too costly or inaccessible, namely CBD and high-dose edible products. While we are not able to speak to actual reductions in other drug use among our participants, these programs play an important bridging function in providing people with free, and some type of consistent, access to cannabis against the backdrop of legal cannabis access which seems neither accessible nor affordable to many of our participants. In addition to allowing them to access more variety in products, they also reported using these products in ways that helped them manage symptoms like pain and insomnia. Without access, the potential beneficial instrumental use of cannabis to reduce use of other more harmful drugs cannot be realized.

There are also important public health implications to mitigating and reducing the potential health effects of cannabis for these populations. For example, Canada's Lower-Risk Cannabis Use Guidelines (LRCUG), which are government-supported guidelines promoting safer cannabis use, suggest using alternatives to smoking, such as cannabis-infused oils or edibles, vaporizing and choosing cannabis products with higher ratio of CBD (Fischer et al., 2017). While these modes of administration may help to reduce potential respiratory and other health risks, affordability and access impacts the ability to choose safer modes and products. Further, the preference for high THC products among this population requires a widening of our perspective on harm reduction for cannabis use to consider the nuances around product strength and dosing people who use(d) illicit drugs and who are using cannabis instrumentally as a harm reduction tool and often simultaneously managing other health conditions.

There are some important limitations to this study. The current context, the Downtown Eastside of Vancouver, Canada, is a distinct neighborhood with a large street-based drug scene and represents a higher concentration of harm reduction initiatives and services than likely found elsewhere, which may influence the acceptance, uptake, survival and feasibility of these cannabis distribution programs. In addition, PWUD's understandings of the instrumental uses of cannabis in the DTES, particularly in regards to substitution, may be greater and more developed than other populations of PWUD less engaged with drug user-led activism and harm reduction programs, as well as the long history of tolerance for cannabis dispensaries. This may influence how they understand and talk about their use of cannabis in relation to other drugs. Additionally, since we recruited a convenience sample from High Hopes and CDP, our findings may not be generalizable to those using cannabis instrumentally outside of these cannabis distribution programs in the DTES and elsewhere. Finally, while we tried to ensure diverse representation in terms of race, gender and sexual orientation, none of our participants identified as Two Spirit, transgender, or non-binary and all but three people in our sample identified as straight. Thus, we cannot speak to the perspectives of lesbian, gay, bisexual, transgender, Two Spirit, and queer PWUD and their cannabis use and access.

In conclusion, while research continues to investigate the relationship between cannabis and the reduction or management of other substance use, the role of access and affordability, particularly with the reform of cannabis laws in Canada and globally, should not be overlooked, particularly among vulnerable and low-income populations. These novel cannabis distribution programs in the Vancouver, Canada's Downtown Eastside play an important function bridging access to cannabis for these communities, particularly to more cost prohibitive products such as CBD products or food infused products. We also found that they play a secondary role providing varying forms of social capital through their peer-based program model and access to education and information about the use of cannabis. Due to the general inaccessibility of legal cannabis to PWUD in marginalized communities, a consideration of consistent and adequate funding opportunities for programs such as this, as well as a consideration of their sustainability for its participants, is appropriate for more low-threshold distribution programming opportunities with marginalized communities. There remains an imperative to fund research on the emerging uses of cannabis amidst regulatory changes in North America. Considering that Canada and the United States are undergoing regulatory shifts in relation to cannabis alongside an overdose crisis, understanding current and emerging patterns and perspectives around cannabis use, including the social and structural barriers to access, will be critical to understanding and optimizing the potential instrumental uses of cannabis among

PWUD.

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Conflict of Interest

JV has done educational consulting for the Ontario Cannabis Store, the Crown corporation mandated by the Government of Ontario to sell recreational cannabis in the province. JV was also is the CEO of the National Institute for Cannabis Health and Education, a not-for-profit cannabis focused policy organization funded through donations and grants from the public sector, individuals, and for-profit businesses. JV is also Executive Director of Hope for Health Canada, a charity which uses donations to help subsidize the cost of medical cannabis for patients in Canada. JV was appointed as Director, Global Patient Advocacy at Canopy Growth Corp in January 2020, which was after the completion of this study and the initial submission to the journal. Requested revisions were completed under the supervision of the senior author (RM) to minimize the potential for bias. RHS holds a 'Petro Canada (Suncor) Young Innovator in Public Health' internal award from the Cumming School of Medicine, University of Calgary. MJM is the Canopy Growth professor of cannabis science at the University of British Columbia, a position established thanks to arms' length gifts to the university from Canopy Growth, a licensed producer of cannabis, and the Government of British Columbia's Ministry of Mental Health and Addictions.

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