

**Securing Safe Supply During COVID-19 and Beyond:  
Scoping Review and Knowledge Mobilization**

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## **ABSTRACT**

### ***Background***

“Safe supply” refers to the reframing of access to mind/body altering substances - and particularly opioids - from illicit to licit, to secure the provision of known and/or higher quality suppliers of such drugs. As the COVID-19 pandemic has spread, and social/physical distancing measures were adopted by public health authorities across Canada, policy-makers and engaged organizations took steps to facilitate access to safe supply. However, it remains unclear whether those steps meaningfully respond to the barriers that PWUD actually experience in accessing a safe supply, both in the context of an acute or more sustained emergency such as COVID-19, as well as less exceptional circumstances. We therefore undertook a scoping review methodology in order to identify key concepts, strategies and gaps in evidence with respect to the provision of safe supply during pandemics and other large-scale emergency conditions.

### ***Methods***

We searched Scopus, Medline, Embase, CINAHL, and PsycInfo for peer-reviewed articles on barriers/facilitators to safe supply or opioid agonist therapies (OAT) during emergency conditions published between January 1st, 2002 to present day. We also performed a grey literature search of targeted websites, which is still ongoing. All potential sources underwent title/abstract screening and duplicate full-text review before being included. Three reviewers extracted study characteristics and barriers/facilitators to OAT and safe supply. An inductive process generated themes concerning barriers and facilitators to safe supply. We further conducted consultations with PWUD to review and contribute to our evolving search strategy, and provide insight on barriers and facilitators to accessing safe supply from the perspective of PWUD. Future meetings will further explore and refine these identified potential barriers and facilitators to safe supply prescribing during, but not limited to, the context of dual public health emergencies.

### ***Results***

At the time of writing, 33 peer-reviewed articles and 6 grey literature documents have been identified for inclusion and extracted. We have identified 13 themes related to barriers/facilitators to prescribing safe supply or OAT during emergency conditions. Among the most frequently reported barriers are *restrictive laws or policies* (33% of documents) and *practical barriers* (44% of documents). The most frequently cited facilitator theme pertained to *temporary legal or regulatory exemptions* (26%). Themes will continue to emerge and change with ongoing PWUD consultations and as more documents are extracted.

### ***Conclusions***

There is a low level of peer-reviewed evidence on safe supply models. Further, this evidence explores themes that are largely distinct from the priorities of PWUD who would benefit from safe supply and require services that are resilient to interruptions such as the COVID-19 pandemic. Given the clear need to address the epidemic-level risk of overdose mortality stemming from the unregulated (street) drug supply, the focus of public health systems in Canada should be to urgently scale up safe supply and retrospectively assessing the best model for delivery.

## **INTRODUCTION**

“Safe supply” is a new phrase that flows from a long history of struggle against limitations and legal sanctions imposed upon people who use drugs (PWUD). As a concept, safe supply’s aim is transformative: To reframe any mind/body altering substances from illicit to licit and secure the provision of known, regulated, and/or higher quality suppliers of such drugs<sup>1</sup>. This is one strategy among many urgently needed to reduce potentially fatal and non-fatal harm for PWUD. Prior to COVID-19, PWUD, allied healthcare providers, and others advocated for safe supply in response to the opioid overdose crisis; minimal progress was observed. As the pandemic spread, and social/physical distancing measures were adopted by public health authorities across Canada, policy-makers and engaged organizations took steps to facilitate access to drugs. However, it remains unclear whether those steps meaningfully respond to the barriers that PWUD actually experience in accessing a safe supply, both in the context of an acute or more sustained emergency such as COVID-19, as well as less exceptional circumstances.

Two interrelated steps taken to date are important to highlight. First, in March 2020, new exemptions were introduced under the *Controlled Drugs and Substances Act* (CDSA)<sup>2</sup> to allow physicians to verbally prescribe, and allowed pharmacists to renew, refill, transfer and deliver, take-home doses of controlled substances. According to the exemption, a pharmacist can also assign an individual permission to deliver narcotics, as long as said individual is carrying both written permission detailing the prescription as well as a copy of the exemption. In turn, colleges regulating physicians and pharmacists have highlighted these exemptions in several provinces<sup>3,4,5</sup>. Second, an organization that has long been engaged in the study and provision of various harm reduction and safe supply services, the British Columbia Centre for Substance Use (BCCSU), developed a “Risk Mitigation Guideline: In the context of dual public health emergencies”<sup>6</sup> to both inform and encourage physicians to prescribe a safer pharmaceutical supply during the pandemic.

In theory, these guidelines—coupled with the new exemptions to the CDSA- have the potential to improve access to a safer supply of drugs and thus reduce the risks of harm endured by PWUD during the pandemic. In reality, however, it is not clear that such flexibilities in the law and/or guidelines are being utilized and implemented into practice. Contrary to the intentions of policy-makers and the BCCSU guidelines, it appears that PWUD continue to struggle in accessing a safe supply during COVID-19. May 2020 was witness to the highest number of overdose related deaths; 170 fatal overdoses in a single month in British Columbia.<sup>7</sup>

Seeking to elaborate upon the multi-dimensionality of safe supply in the COVID-19 pandemic context—from prescribing, to handling, monitoring, and ensuring a steady supply, as well as enabling access to remote mental health and addiction supports—we therefore undertook a scoping review methodology in order to map key concepts and identify gaps in evidence. Centering on the perspectives of PWUD, our review synthesizes clinical/policy guidelines and literature relevant to safe supply both in the context of a public health outbreak or other societal emergencies (e.g., natural disaster), as well as outside of these exceptional circumstances.

## **METHODS**

***Search Strategy Approach and Expert Advisory Committee(s)***

We adopted an iterative approach to developing our search strategy, integrating insights from both PWUD and safe supply prescribers through our interdisciplinary research team. Our search strategy was also guided by two overarching research questions:

- i) What are the barriers and facilitators to the provision of safe supply?
- ii) How could public health and other emergencies impact access to safe supply and what strategies exist to mitigate barriers to access?

Leveraging the team’s networks, we also convened consultations with outside experts with lived/living experience to ensure meaningful engagement of PWUD. Specifically, we invited several PWUD to participate as an advisory committee (PWUD-Adcomm) throughout the duration of the project. All have long term involvement in Canadian drug policy and offer perspectives from diverse geographic locations including Vancouver, Edmonton, Toronto, Hamilton, Cape Breton, and Halifax. Further, several of these experts lived through and were actively using drugs during two previous public health emergencies; namely, SARS (2003/4) and H1N1 (2009/10). We also sought to enhance the diversity of the PWUD-Adcomm by inviting black and indigenous people of colour (BIPOC), as well as PWUD who are also parents, and those who may experience other sources of marginalization, such as PWUD who are current or former sex workers. The lives of the members of the PWUD-Adcomm have been directly impacted by barriers and/or facilitators of accessing safe supply. Members of the PWUD-Adcomm are experts in drug use culture and their insights enhanced the quality of our scoping review search strategy, findings, analysis, and corresponding recommendations.

The first consultation with the PWUD-Adcomm was led by Natasha Touesnard and Matthew Bonn, members of this research team and the Canadian Association of People Who Use Drugs (CAPUD). To date, one expert consultation meeting (together with follow-up communications over email) has been convened, the purpose of which was to introduce the study, review our search strategy and identify key terms missed in the original search strategy. We began to explore preliminary themes of barriers and facilitators that we should be aware of as we analyzed the literature. Future meetings will further explore and refine the ideas shared so far on barriers and facilitators to safe supply prescribing during, but not limited to, the context of dual public health emergencies.

A second set of consultations are planned for existing safe supply prescribers, which will supplement insight from clinicians with our team (Drs. LG, CB, and TB) to triangulate our findings and further identify barriers and facilitators that may not have been identified in the literature or via consultations with PWUDs.

***Published and Grey Literature Searches***

Two peer-reviewed literature searches were developed in collaboration with an expert librarian (RP) to identify publications relevant to the provision of safe supplies (Appendix). These searches were conducted between June 9, 2020 and June 14, 2020. The first strategy was developed to identify publications related to the continued provision of safe supply of various drugs during emergency pandemic or natural disaster conditions and was implemented in five databases: Scopus, Medline, Embase, CINAHL, and PsycInfo. The search was limited to 2002 to

present to encompass the time-frame of the COVID-19 as well as H1N1 and SARS pandemics. This search was broadened to include opioid agonist therapy (OAT) given the anticipated lack of peer-reviewed research concerning safe supply in this specific context. As well, a second supplemental search was developed to identify safe supply publications in any context and was implemented in Medline and Scopus. This search has been initially limited to 2009 to present given the emergence of safe supply as a concept during this time. It also excludes the heroin-assisted treatment literature due to the fact that this pharmacological intervention is, while *prima facie* similar in some ways, fundamentally distinct from safe supply in its goals and service delivery models; to ensure an inductive approach to evidence gathering, an expanded search that includes heroin-assisted treatment will be performed during the study period). Finally, we performed a grey literature search to identify articles outside of the peer-reviewed literature relevant to safe supply, including emerging guidelines and information reports created by PWUD or community based or nonprofit organizations supporting PWUD. Grey literature sources were identified in collaboration with the project's PWUD-Adcomm. They identified sources created for, and by, PWUD to prioritize within our grey literature search strategy. No language restrictions were placed on any searches, although the implemented searches used only English-language terms.

### ***Eligibility Criteria and Assessment***

We included literature addressing the provision of pharmaceutical grade drugs (opioids, stimulants, and/or benzodiazepines) to people reliant on the unregulated drug supply. We also included literature addressing the challenges of providing OAT (buprenorphine, methadone) during COVID-19, natural disasters, or other public health emergencies. We included primary quantitative and qualitative studies of any design, relevant commentaries, clinical guidance, recommended practice, and best practice documents. We chose to include studies that included no primary data to ensure an inductive approach to this review given that safe supply is an emerging modality of care which has encountered barriers to implementation in most settings; as such, we anticipated that evidence on the topic of safe supply was likely to include frameworks and recommendations as well as real-world data. We excluded all studies that did not focus on people reliant on the unregulated drug supply. We used a two stage screening process to select articles for inclusion. In level 1, three reviewers (BC, EC, MP) independently reviewed titles and abstracts to preliminary assess articles for eligibility before assessing the full-text documents. In level 2, three reviewers (BC, EC, MP) independently assessed the full texts for inclusion. For both screening stages, reviewers needed to be in agreement for articles to be included or excluded. Disagreements were resolved through discussions among the reviewers.

### ***Data Extraction and Theme Development***

The study team developed a data extraction form and piloted it on three studies among three reviewers performing data extraction (BC, EC, MP), resulting in minor clarifying changes being made to some extraction field names. Each eligible study was extracted by a single reviewer into an electronic spreadsheet. Extracted data included study characteristics, participant demographic characteristics and recent drug use history, barriers and facilitators to safe supply or OAT, and argument for or against safe supply (see Appendix for a list data extraction fields).

An inductive approach was used to assess the extracted data for common themes related to the barriers and facilitators to OAT and safe supply with the goal of developing a variety of context-

specific recommendations for addressing barriers to the legal provision of illicit drugs. The work of translating our findings from the scoping review into context-specific recommendations for policy-makers, prescribers, and other audiences is ongoing and will extend iteratively for the remainder of the 6-month project.

Three reviewers (BC, EC, MP) assessed the extracted data for common themes which were circulated to the study team and were collaboratively revised. In addition, members of the team (NT, MB, SW) assessed the themes, as abstracted from the published and grey literature studies included in full-text analysis, against the insights and feedback provided by the members of the PWUD-Adcomm.

Finally, it is important to note that the term “safe supply” has only recently emerged in the literature and discourse (i.e., in the mid-2000s). Tracing the evolution of the discourse, and identifying relevant sources of knowledge that can speak to and inform our analysis of the barriers and facilitators of safe supply, even if not by name, represents another ongoing point of inquiry for the scoping review.

## **RESULTS**

### *Study Selection*

A total of 39 studies were included. For academic literature, a total of 7687 titles and abstracts were screened (See Figure 1 for PRISMA flow chart). After full-text review and removal of duplicates, 33 studies were included. The screening of grey literature is still continuing at present. At the time of writing, 44 potentially relevant records were identified, and 11 have been screened in duplicate. Thus far, 6 grey literature records have been included.

[INSERT FIGURE 1 HERE]

### *General Study Characteristics*

A full list of included sources and their characteristics are provided in Table 1, along with a brief description of their objectives, and key conclusions or summaries. A number of sources were commentaries whose objectives were to outline the challenges of providing OAT treatment during emergency conditions including hurricanes<sup>8-12</sup> and COVID-19<sup>13-16</sup>. The latter of these commentaries also explained how PWUD are at increased risk during COVID-19 due to current service models that require them to leave their homes for treatment or interact with the community to purchase their drugs illegally. In the context of hurricanes, the common conclusion of these sources was that emergency disaster planning procedures are needed to ensure patients are able to continue treatment without interruptions. In the context of COVID-19, the common conclusion was that current treatment models need to adapt to new challenges to ensure patient safety. These sources pointed out this is only possible with regulatory change. Another common objective included advocating for safe supply during the COVID-19 pandemic<sup>17,18</sup> or in general.<sup>1,19-21</sup> These sources concluded that there is a strong need to rapidly implement safe supply strategies in order to save lives during COVID-19 and the opioid overdose epidemic.

The majority of studies included in our review were published in the current year (2020), emanate from jurisdictions in North America, and are commentaries as opposed to studies reporting primary data (Table 2). Importantly, 12 (31%) of the studies included in our full-text review follow qualitative research designs, which may report more thematically rich information about barriers and facilitators to safe supply in particular settings compared with quantitative data. As well, a significant proportion of the grey literature captured by our review (11 of 44 studies; 25%) has yet to be analyzed and likely holds further insights. No clinical studies appear in the studies reviewed to date. An expanded search will be performed during the study period to assess the literature on heroin-assisted treatment, given that this treatment modality may be, while distinct in goal and service delivery from safe supply, a useful source of evidence on the provision of prohibited opioids within legal systems of care.

[INSERT TABLE 1 HERE]

[INSERT TABLE 2 HERE]

### ***Preliminary Thematic Analysis of the Academic and Grey Literature***

Inductive analysis of the academic and grey literature revealed seven themes about the barriers to safe supply, and six themes about the facilitators to safe supply (Table 3). The themes are elaborated upon below, followed by discussion of further themes identified through preliminary discussions with our PWUD-Adcomm. Contrary to our hypothesis, we noted that our analysis of the literature revealed few prescriber-level barriers. We anticipate that further consultation with safe supply prescribers will give us further insight into some prescriber barriers that did not appear in the literature.

[INSERT TABLE 3 HERE]

### **Barrier Related Themes**

#### *1. Restrictive laws or policies*

One of the most prominent themes identified in the academic and grey literature involved laws/policies set by governments or governing bodies that restrict the amount of substances that may be provided, where substances may be used (e.g., not allowing take-home dosing), or that ban substances entirely and thereby prohibit their being prescribed to persons who might benefit from a regulated alternative source relative to an illicit source. This was noted as a barrier in studies describing attempts to maintain OAT during emergencies<sup>8,23</sup>, in initiating safe supply pilot programs<sup>21</sup> and in expanding access to emergency safe supply during COVID-19.<sup>17</sup> In 2016, the Drug Policy Alliance noted:

“Researchers, harm reduction advocates and health officials have expressed interest in studying and implementing HAT [heroin assisted treatment] in the U.S., but zero tolerance policies and federal law have stood in the way of this evidence-based method of treatment.”<sup>21</sup>

## *2. Monopolistic industry practices*

A further theme identified in the literature involves monopolistic industry policies or practices that, together with abuse-deterrent logics, prevent people who use drugs from accessing the desired mind/body altering experiences. This theme focuses on the ways that market-level pressures, such as patent expirations, may prevent generic brands from competing with brand-name drugs in such a way that effectively decreases available sources of affordable, regulated supply of drugs. One article<sup>24</sup> suggested that monopolistic incentives may have joined with misguided deterrent logics to spur the introduction (and subsequent market dominance) of “abuse-resistant formulations” of painkillers. This industry move was subsequently shown to have exacerbated risks of harm and increased reliance on illicit sources of supply. Werle<sup>24</sup> writes:

“Manufacturers faced impending patent expirations, which would have opened their blockbuster painkillers to generic competition. They responded by introducing newly patented ADFs and then lobbying the FDA to take pills without these “safety” features off the market, preventing non-ADF generics from competing with brand-name painkillers [ . . . ] Several years later, economists and public health officials have confirmed that the ADFs backfired and blame them for accelerating users’ transitions from pills to powders. Unable to snort the pills, many users turned to injecting them, increasing risks of overdose and disease transmission. Others turned to black-market drugs, buying fentanyl-laced heroin or counterfeit pills.”<sup>24</sup>

## *3. Limited prescribing power or prescribers*

This theme refers to prescribers who are either unable or unwilling to prescribe pharmaceutical grade drugs as a result of regulatory restrictions, as well as real or perceived punishments for providing safe supply options to patients. Studies identified restrictions on the number of pills or refills, as well as a lack of drug prescribers willing to manage treatment programs as barriers to accessing regulated fentanyl, heroin or cocaine. Haines<sup>5</sup> notes:

“Managed opioid programs limited implementation Canada-wide may be related to a lack of prescribers who are willing to manage a high-stakes managed opioid programs.”<sup>25</sup>

## *4. Distrust towards institutions*

Apart from physicians’ unwillingness to prescribe safe supply, PWUDs’ distrust of healthcare providers and institutions as well as government more generally was also reported as a barrier to access. The study in our review that emphasized this barrier relayed how in the course of accessing particular forms of healthcare services, especially physicians engaged in the provision of opioid agonist therapy, PWUDs experience stigma and discrimination with respect to active substance use.<sup>26</sup> This has engendered distrust among PWUDs and corresponding choices not to seek further care from such providers and institutions. Greer<sup>26</sup> notes:



“There was a deep sense of suspicion towards the government’s role, intentions, and power over the lives of people who use drugs. Two sub-themes related to these views on role of government – corruption and loco parentis [paternalistic control of the government over people's lives].”<sup>26</sup>

#### *5. Concerns about drug harms*

One of the barriers to safe supply involved concerns about the health consequences of legalization, including fear of increased overdose fatalities. One article<sup>26</sup>, which centred the perspectives of PWUDs, added:

“In addition to concerns over the potential harms of drug use from increased access, some expressed concern around increasing availability among youth, although views were mixed as to how it would impact the next generation. Several participants thought that the current illicit nature of drugs makes them alluring to youth; proposing that a legal model (with improved access) may make drugs less attractive. ‘If people could use it any time they want, they will get sick of it.’”<sup>26</sup>

#### *6. Concerns about evidence*

A relatively small proportion (3 of 39) of the academic and grey literature (2 and 1 studies, respectively) discussed concerns about the nature or quality of evidence in support of safe supply. One article about safe supply for stimulants, for instance, noted that the absence of pilot studies examining such substances was, relative to other forms of safe supply (e.g., heroin-assisted treatment or “HAT”) was a barrier to the provision of a safe supply of stimulants.<sup>19</sup> Another article<sup>18</sup> that raised concerns about evidence ultimately concluded that:

“Safe supply may be a viable option for eligible participants who do not tolerate, use, or desire substitution treatments as well as those who use street drugs in addition to substitution treatments.”<sup>18</sup>

As elaborated upon in the discussion below, the insights offered by our PWUD-Adcomm and members of our research team suggests that this call for more evidence may itself constitute a barrier to safe supply; further, the existence of evidence around some forms of safe supply such as HAT has not to date led to an increase in the provision of such safe supply treatments.

#### *7. Practical barriers*

Many practical barriers to safe supply were identified, some specific to pandemic contexts and others not. We will construct a typology of barriers to safe supply in a later draft. Among the barriers identified were financial or physical/mobility barriers preventing access to OAT in pandemics/emergencies, self-isolation/quarantine requirements impeding access to treatment, and/or inaccessibility of or overcrowding at the few clinics remaining open during disasters.<sup>9,14,28</sup> For example, Dunlop<sup>14</sup> explains:

“Given the need to provide treatment in many countries where home isolation is now very critical, planning alternatives to daily supervised dosing is important and imposes a major challenge. This is the case since daily supervised opiate treatment may involve significant waiting periods for patients, including people having to wait in queues for

extended periods of time; and social distancing may not be practical due to the size of waiting areas and the number of patients.”<sup>14</sup>

Stigma was identified as a barrier in some studies, in the sense that PWUD were insufficiently prioritized in emergency response contexts.<sup>27</sup> From the perspective of PWUD undergoing OAT, Davis<sup>31</sup> writes:

“The people in this study viewed the public as adhering to a narrow and problematic characterisation of people who use illicit or medically approved opioids, and continue to enact stigmatisation because of preconceived assumptions about what constitutes ‘acceptable’ citizenship. Not isolated to the general public, stigma also permeates professional boundaries, and participants all described experiencing stigma in health settings.”<sup>31</sup>

### Facilitator Related Themes

#### *1. Understanding the needs and desires of PWUD*

Four sources touched on the importance of treating PWUD and their choice to use drugs with respect.<sup>1,23,29,30</sup> This includes commentary on centring the quality of the experience (e.g., euphoria, psychological and physical pain reduction) that PWUD are seeking. For example, from the Canadian Association of People who Use Drugs (CAPUD) Safe Supply Concept Document<sup>1</sup>:

“Some clients of injectable programs have complained that pharmaceutical grade opioids, such as diacetylmorphine and hydromorphone, are too intense and lack the warmth of opioids found in the illicit market. Future programs may want to consider using more artisanal versions of opioids if possible.”<sup>1</sup>

“Every effort should be taken to ensure an environment that resembles one that people would use drugs in. Providing an environment that is overly medicalized or clinical will turn off many people who would otherwise participate in safe supply programming.”<sup>1</sup>

This theme also captures the idea that treatment should not be withheld because of breakdowns in communication due to emergency conditions or as a form of punishment:

“When [methadone] dosages could not be verified [for guest patients displaced by 9/11), patients were permitted to attest in writing to their dosage, and on this basis, the State permitted clinics to medicate. [Office of Addiction Services and Supports] staff indicated that no cases of double medicating or over-medicating were reported.”<sup>23</sup>

#### *2. Take-home dosing*

Two studies described situations where PWUD undergoing OAT were given extra take-home doses in response to an emergency situation.<sup>12,29</sup> The extra doses were given so patients could continue their treatment despite barriers to accessing clinics during the emergency. One source writes:

“With the impending threat of Hurricane Sandy, approximately 100 patients enrolled in the NYHHS VA OTP were asked to come in on Friday (October 26, 2012) to receive several emergency take-home doses of methadone that were anticipated to last for the duration of the storm and its immediate aftermath.”<sup>12</sup>

Another source describes a clinic supplying their patients with two weeks’ worth of take-home doses during the COVID-19 epidemic in response to lockdowns and other restrictions on movements.<sup>29</sup>

### *3. Less restrictive dispensing models*

One document from the grey literature advocated for making safe supply widely and readily accessible.<sup>1</sup> The CAPUD safe supply concept document outlines a number of ways safe supply substances could be made conveniently available to people who need them in order to increase their uptake of use. This includes allowing PWUD access without a prescription in a supervised setting and allowing take-home dosing on prescribed substances. Other recommendations:

“Drugs could be dispensed at entertainment venues or social settings that are licensed to do so (e.g., MDMA, alcohol, powdered cocaine).”<sup>1</sup>

“Drugs can be made available without prescription in dispensaries and shops (e.g., cannabis, hallucinogenic mushrooms, poppy seed tea, opium bulbs).”<sup>1</sup>

### *4. Temporary legal or regulatory exemptions*

Discussed among ten studies, the most frequently appearing theme concerned the temporary removal of restrictive regulations that may be harming PWUD during crises and/or emergencies.<sup>6,9,13,18,23,28,29,31-33</sup> This included changing clinic policies to accommodate guest-dosing, and virtual prescriber consultations, in light of public health measures implemented during COVID-19. For instance, one article described temporarily waiving a requirement for in-person consultations to initiate buprenorphine treatment, which was instead done through telemedicine:

“...the Drug Enforcement Administration has waived a requirement that patients who wish to begin buprenorphine treatment have an in-person consultation with the prescriber. This change permits individuals seeking buprenorphine treatment to be prescribed the medication after consulting with a waived prescriber via telemedicine, without having to physically visit the provider’s office.”<sup>31</sup>

Another article<sup>33</sup> discussed the opening of “green channels” during COVID-19, which enabled the delivery of methadone to patients requiring methadone maintenance treatment:

“For those MMT [methadone maintenance treatment] patients who are located far from their MMT clinics, the authorities have opened green channels and required public security departments to ensure that methadone is delivered from the clinics to these MMT patients.”<sup>33</sup>

5. *Clear communication*

Four sources from the academic literature outlined situations where clear communication between policy makers, people providing treatment, and PWUD improved access to safe supply or treatment during crises/emergencies.<sup>8,11,12,34</sup> Sources stressed the importance of having up to date contact information, and consistent messaging so that PWUD undergoing OAT could be easily reached by phone to communicate changes in services, For example, Griffin 2017 wrote:

“The interviews highlighted the importance of maintaining up-to-date contact information for patients and delivering a consistent message to patients on where to go, as patients received conflicting information.”<sup>8</sup>

Another study outlining disaster preparedness strategies suggested that a network of state opioid treatment authority officials establish phone contact with all affected treatment clinics to improve communication.<sup>34</sup> From a state official:

“[In the event of an emergency] I send the email blast as I would typically do. I give everyone my personal cellphone number. I do not have an agency cellphone, because I’m not high enough up the food chain to get the state cellphone, so, I’m glad to have it all on my iPhone. But everybody and their mother has my cellphone number. And because I want to make sure, from an OTP standpoint, that regardless of when and where should this [emergency] be happening, you could reach somebody.”<sup>4</sup>

6. *Transportation*

Three sources highlighted transportation as a factor enabling access to a safe supply during crises/emergencies.<sup>25,33,34</sup> Door-to-door delivery ensured an uninterrupted access to safe supply for patients located far from clinics with one source noting that during COVID-19 “Huber province has provided 398 drug users with door-to-door delivery of their MMT [methadone maintenance treatment.]”<sup>33</sup> All sources emphasized the need to consider emergency transportation in drug supply policies, especially for rural or large geographic regions.

***PWUD Advisory Committee -- Additional Themes***

Further themes relating to barriers to safe supply were identified in preliminary discussions with the PWUD-Adcomm. These themes centred on: stigma, discrimination and racism from healthcare providers; over-medicalized safe supply models; lack of access to desired substances; child apprehension (affecting parents, pregnant mothers or who may need to access safe supply); and lack of cultural competency (Table 4). To facilitate comparisons between PWUD-identified perspectives and the literature, Table 4 also presents sample quotations from qualitative studies for each theme. These themes about barriers to safe supply, from the perspective of PWUD, are further explained below:

[INSERT TABLE 4 HERE]

1. *Stigma, discrimination and racism*

This theme encompasses structural, social and self stigma related to past experiences with health care providers, especially OAT doctors, nurses and/or pharmacists. Stigma and discrimination

against those engaged in active substance use discourages people from trusting health care workers and accessing services. Discrimination based in race / Indigeneity compounds stigma, criminalization and other misguided deterrence-based logics, policies and practices. As well, safe supply service providers tend to lack diversity, especially in terms of race, feeding into racialized PWUD’ distrust and generating an ‘us versus them’ dynamic.

*2. Over-medicalization*

This theme speaks to subordination of the knowledge and preferences of PWUD to the knowledge of medical professionals. Knowledge and power relating to substance use is concentrated in medical authority. Medical authority in turn too often privileges abstinence and deterrence logics, expressed, for instance, through strict rules and regulations that are punitive in their application to PWUD. Strict limitations and/or onerous screening processes to access take-home doses and restriction of dosage to unsatisfactory levels are examples of the ways that medical authority may impede safe supply. This theme overlaps with theme #5 (lack of cultural competency and PWUD representation).

*3. Lack of access to desired substances*

Medical and legal authority interact to restrict or prohibit access to substances (and associated qualitative experiences) desired by PWUDs. Risk mitigation prescribing is restricted to a narrow subset of substances. As a result, most PWUD lack access to slow-release oral morphine (SROM) and/or dilaudid, let alone regulated fentanyl, regulated heroin or regulated cocaine.<sup>1</sup> This may incentivize turning to the illicit market.

*4. Child apprehension*

Parents who need to access safe supply face the risk of having their children taken by child welfare authorities. The PWUD-Adcomm observes that this has happened to people as a result of accessing (or withdrawing from) OAT. The risk of child removal is already elevated for PWUDs who are members of Indigenous communities and/or identify as Indigenous. This is a perpetuation of colonization and racism which threatens not only individual and familial security and integrity but also cultural and national sovereignty.

*5. Lack of cultural competency and PWUD Representation*

OAT/safe supply programs may not be culturally sensitive to everyone’s diverse backgrounds. Again, PWUD from Indigenous or racialized communities may be particularly affected. For instance, in Nova Scotia one of the community health centers in an Indigenous community will only provide buprenorphine because community Elders do not agree with methadone. In response, a member of the PWUD-Adcomm stated:

“Lack of PWUD representation in the development of safe supply programming and lack of meaningful employment in its implementation and facilitation further adds to, and fuels stigma, discrimination, and cultural incompetency. PWUD should play a central role in all facets of safe supply initiatives.”

The themes from the PWUD-Adcomm overlapped in some respects with those that were identified during the initial review of the academic and grey literature. The theme of *over-medicalization* is closely related to and interconnected with several of the barriers identified

through initial inductive analysis, e.g., restrictive laws and policies and distrust towards institutions. The theme of *stigma, discrimination and racism* is also arguably closely associated with restrictive laws or policies (including criminalization of drug use and over-policing of racialized communities) as well as, again, distrust toward institutions. *Lack of access to desired substances, exposure to child apprehension and lack of cultural competency and PWUD representation* were additional themes identified by the PWUD-Adcomm which extend and deepen the foregoing themes of distrust and resistance toward medical and legal authority. Many of these themes are likely directly linked to a lack of PWUD representation -- including lack of equitable and meaningful employment in safe supply program planning, delivery and evaluation -- which consequently limits the capacity of providers to develop programs that fit the needs of clients.

As the analysis proceeds, we will further explore whether or how the academic and/or grey literatures reflect and/or marginalize the perspectives and priorities of the PWUD-Adcomm concerning what constitutes “safe” (or “safe enough”) supply, along with barriers to and facilitators of safe supply.

## **DISCUSSION**

Several points emerge from our scoping review and preliminary analysis. These are detailed below, followed by a brief summary of the review’s limitations.

### ***Issues of Broad Agreement in the Literature and Learned Through PWUD Experiences***

First, the literature related to safe supply in the context of an emergency -- both published and grey literature -- has expanded in recent years, as safe supply programs have generated greater interest as a response to the North American opioid overdose epidemic. At a high level, there appears to be significant concordance between the main themes from the scientific evidence (both peer-reviewed and grey literature) and the knowledge and insights shared by our PWUD-Adcomm regarding the barriers to, and facilitators of, safe supply. That laws and policies that criminalize drug use and/or are perceived by prescribers to carry added professional risks (e.g., use of prescription drug monitoring programs by regulatory colleges) was commonly cited as a barrier to safe supply. This is borne out by recent trends in opioid prescribing in Canada, which has declined markedly; whereas prescribing rates in 2006 were 72.4/100 people, in 2018 they were at 51.4/100 people.<sup>35</sup> The literature reviewed further reveals that “top-down” approaches, which attempt to curb or monitor prescribers, is fuelling the opioid overdose epidemic while also paradoxically undermining overall support for safe supply. Literature and PWUDs also spoke to how this lack of support was visible at a micro level, as it filters into the restrictive design and delivery of certain programs. For instance, generic forms of OAT are highly criticized and ridiculed by PWUD, as multiple types of waivers are needed for clinicians to prescribe methadone and buprenorphine. This is a far cry from the kind of structured and sustained programs that PWUDs envision to provide diacetylmorphine (or “more artisanal forms of opioids”<sup>1</sup>) to anyone at risk of overdose and/or to help address other health and social complications.

Another set of barriers consistently identified in the literature was identified in our analysis as, broadly, “practical barriers”. We will itemize this category further in subsequent reports; briefly,

it includes financial, communication and transportation barriers, among others. While the initial PWUD-Adcomm discussion did not focus on this theme, it is possible that further exploration of barriers arising during the pandemic or other public health emergencies may reveal concordance (as well as distinctions) around the question of what constitutes a practical barrier.

Turning to facilitators of safe supply, there was also a certain amount of concordance among themes identified by the PWUD-Adcomm and those brought out through inductive analysis of the academic and grey literature. For instance, one key theme from the literature was the importance of understanding the needs and desires of PWUD. This is an imperative that pervaded the various themes identified by the PWUD-Adcomm, in particular, their emphasis on avoiding stigma, discrimination, and racism, as well as the harms of over-medicalisation. Similarly, the concern about lack of cultural competency may be reframed as an insight about potential facilitators of safe supply (ensure that providers are trained and otherwise equipped with cultural competency). However, the PWUD-Adcomm has yet to engage in a more focused discussion on facilitators of safe supply.

One of the key themes from the academic and grey literature relating to facilitators of safe supply was temporary, if not permanent relaxation, of regulatory restrictions during public health emergencies. During the COVID-19 pandemic, this included allowance, at the federal level through exemptions to the CDSA, for verbal prescribing and take-home dosing, which a number of provincial colleges of physicians and pharmacists subsequently echoed in statements to their respective professions. Yet, a significant increase in the provision of safe supply has not been observed since the regulatory exemptions were adopted in March 2020. This suggests that lifting legal restrictions is necessary but insufficient to address the full range of barriers that PWUD face, including with prescribers --a point we plan to explore further during consultations with prescribers in the weeks ahead.

### ***A Deepening Divide between PWUD and Prescribers?***

While broad concordance between the bodies of knowledge encompassed by our review exists, the insights offered by PWUD expand upon and, in some important respects, diverge from and/or contest the published scientific literature. In terms of expanding upon the observed themes, the stigma and discrimination associated with drug use was identified as a barrier to safe supply in the published and grey literature as well as the members of our PWUD-Adcomm. However, in the literature stigma/discrimination was described in generic terms, essentially affecting all people who use drugs. The consultation with PWUD-Adcomm went further, emphasizing the intersectionality of this generic kind of stigma/discrimination with factors such as gender, racialization and/or Indigeneity -- which may further exacerbate the challenges of securing access to safe supply for particular PWUD. Drug use remains stigmatized in society; overcoming that stigma and accessing the care one needs may be a shared challenge for PWUD but is also mediated, in fundamental ways, by a range of other factors, including race, gender, family status, relational networks, mental health, past and present trauma, and so on.

Additionally, while our review of the literature is ongoing, it appears that the published scientific evidence about the provision of safe supply in the context of an emergency such as COVID-19 is fairly limited. Only one study in our review highlighted the nascent state of the evidence as a barrier to safe supply implementation; however, anecdotal evidence suggests that prescribers and

policy-makers may hold the view that the provision of safe supply should wait until the evidence base to inform safe supply prescribing is more established. PWUD participating in this project strongly oppose this interpretation (as do other members of our research team who do not identify as PWUD). While there may be limited evidence about how best to overcome various barriers to safe supply in the midst of a pandemic, there is overwhelming evidence of the harms associated with illicit sources of drugs, and good reason to believe in the comparative public health benefits of access to a regulated, pharmaceutical-grade supply.

This point -- both on the state of the evidence and the divergence of perspectives -- merits development. There is a large body of literature on using opioids such as methadone, buprenorphine, slow release oral morphine and diacetylmorphine for opioid use disorder; indeed, methadone and buprenorphine are for this reason included on the World Health Organization's List of Essential Medicines.<sup>36</sup> In Canada, physicians can prescribe a safer pharmaceutical alternative to most illicit narcotics off label, with detailed case notes. Indeed, clinicians in a variety of settings have been prescribing various forms of safe supply such as injectable opioid agonist therapy, tablet injectable opioid agonist therapy, fentanyl assisted treatment and heroin assisted treatment for some time.<sup>37</sup> Meanwhile, the evidence indicates an increasingly toxic unregulated ('street') drug supply in Canada, as nearly every "opioid" sold is cut with either fentanyl and/or deadlier fentanyl analogues such as carfentanil, acetyl-fentanyl, alpha-methylfentanyl and benzoyl-fentanyl.

The leaders in the safe supply prescribing field were practicing prior to COVID-19 and they will continue to provide clinical service delivery once COVID-19 is contained. Further, rigorous scientific evaluation on safe supply is actively taking place in Canada, with strong support from Health Canada's Substance Use and Addictions Program (SUAP). Indeed, the 12 safe supply programs currently funded by SUAP require evaluation, and such evaluations generally engender the development of clinical guidelines and updating of clinical practices as necessary.

However, PWUD' access to safe supply remains, at best, variable and non-existent in some contexts. Despite strong evidence in favour of injectable OAT and diacetylmorphine, these programs remain small and few in number. While barriers and facilitators will continue to be explored over the course of the present project, integrating PWUD in the design and delivery of safe supply stands a productive step towards treating PWUD as people first, destigmatizing their existence and creates a chance for authentic patient centred care to take place within the patient's primary care setting.

### ***Centering the Perspectives of PWUD in Defining and Implementing Safe Supply***

Finally, the published literature used a wide range of terms to refer to safe supply, which highlights how safe supply may be perceived by different actors. Based upon our review to date, use of the phrase 'safe supply' is a relatively recent phenomenon; relevant knowledge can potentially be found in literature that does not adopt this terminology. Other studies, which were captured by our review, used alternative terminologies in place of "safe supply" to refer to the legal provision of illicit drugs, including: "accessible, regulated supply"; "opioid prescriptions intended to treat addiction through maintenance therapy"; "regulated manufacturing"; "legalized-regulated drug supply"; "medically regulated drug supply model"; "medical regulation of opioids"; and, "artisanal version of opioids".



While not highlighted in the literature we analyzed as a barrier *per se*, the inconsistent use of the term has the potential to precipitate confusion, mask division between prescribers and PWUD, and/or otherwise limit support for the uptake of safe supply. Illustrating this point, members of the expert PWUD-Adcomm emphasized a distinction between ‘safe’ and ‘*safer*’ supply. The latter phrase, intended to acknowledge that the provision of even pharmaceutical-grade opioids and other drugs is not risk-free, originated from prescribing Ontario physicians. However, from the perspective of PWUD (both part of our team and the advisory committee), emphasizing the risks of the regulated supply shifts attention away from the fact that drugs sourced from elsewhere are, by definition, unsafe and cause thousands of deaths each year.

### ***Limitations of Draft Scoping Review***

Our findings are limited to the 39 studies that have, to date, been included in this scoping review. Additional studies have been identified for inclusion and analysis, in particular, relevant clinical studies of heroin-assisted treatment.

As well, the barriers and facilitators that we have identified in the course of the review require more critical examination in light of the range of policy contexts where safe supply is to be implemented. The precise strategies and policy mechanisms we recommend in order to overcome various barriers to, and enhance the potential facilitators of, safe supply require further research and development.

## **CONCLUSIONS**

In conclusion, we conducted a scoping review of the peer-reviewed and grey literature on the impact of emergency conditions (such as COVID-19 and other epidemics) on the provision of safe supply. We also conducted consultations with PWUDs with relevant experience on safe supply amidst emergency conditions. We found that, despite agreement on a range of themes, there was a lack of agreement between the priorities of our PWUD-Adcomm and areas of existing evidence. In particular, the need for further scientific evidence on the effectiveness and safety of safe supply was reported in the reviewed studies but was perceived as a major hindrance to the provision of safe supply by PWUD who provided consultation; this was, in turn, identified as highly problematic, both morally and medically, given that the safety profile of standard pharmaceutical grade opioids is higher than that of an unregulated and often toxic ‘street’ drug supply.

Furthermore, consultation with PWUD also identified overmedicalization, stigma and discrimination, and restrictions from regulatory bodies--including governments and professional medical colleges--as key additional barriers to safe supply.

This report represents a preliminary analysis of evidence extracted from a scoping review. We will continue to analyze and iteratively engage with both PWUD and clinical prescribers to identify thematic areas of agreement and disagreement with respect to barriers and facilitators of safe supply. This work will focus primarily on the provision of safe supply during emergency conditions such as the current COVID-19 pandemic, and we will generate a series of recommendations and guidelines to further establish priorities for both the broader

implementation of safe supply and areas of future research that are critical to a comprehensive understanding and refinement of these programs given their potential to address the ongoing and unacceptably high burden of mortality stemming from opioid overdose in Canada and across North America.

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**APPENDIX**

***Search #1. Safe supply during pandemics and natural disasters.***

Scopus:

TITLE-ABS-KEY ( supply OR supplie\* OR access\* OR maintain\* OR treatment\* OR therap\* OR safe\* OR ( ( risk OR harm ) W/2 ( reduc\* OR mitigat\* ) ) ) AND TITLE-ABS-KEY ( influenza\* OR coronavirus OR covid\* OR h1n1 OR sars OR quarantine OR mers OR pandemic OR outbreak\* ) AND TITLE-ABS-KEY ( addict\* OR ( drug\* W/2 ( abus\* OR misuse\* OR user\* ) ) OR opioid\* OR opiate\* OR methadone OR buprenorphine OR heroin OR hydromorphone OR oxycodone OR morphine OR benzodiazepine\* OR cocaine OR crack OR methamphetamine OR oxymorphone OR homeless\* OR fentanyl ) AND PUBYEAR AFT 2001 = 1703 results

Disaster supplement:

( TITLE-ABS-KEY ( supply OR supplie\* OR access\* OR maintain\* OR treatment\* OR therap\* OR safe\* OR ( ( risk OR harm ) W/2 ( reduc\* OR mitigat\* ) ) ) AND TITLE-ABS-KEY ( disaster\* OR earthquake\* OR hurricane\* ) AND TITLE-ABS-KEY ( addict\* OR ( drug\* W/2 ( abus\* OR misuse\* OR user\* ) ) OR opioid\* OR opiate\* OR methadone OR buprenorphine OR heroin OR hydromorphone OR oxycodone OR morphine OR benzodiazepine\* OR cocaine OR "crack cocaine" OR methamphetamine OR oxymorphone OR fentanyl ) AND PUBYEAR > 2001 ) added 285 results

Ovid MEDLINE(R) ALL <1946 to June 08, 2020>

Search history sorted by search number ascending

#	Searches	Results
1	coronavirus/ or betacoronavirus/ or coronavirus infections/ or (disease outbreaks/ or epidemics/ or pandemics/)	102605
2	(nCoV* or 2019nCoV or 19nCoV or COVID19* or COVID or SARS-COV-2 or SARSCOV-2 or SARSCOV2 or Severe Acute Respiratory Syndrome Coronavirus 2 or Severe Acute Respiratory Syndrome Corona Virus 2).ti,ab,kf,nm,ox,rx,px.	20721
3	((new or novel or "19" or "2019" or Wuhan or Hubei or China or Chinese) adj3 (coronavirus* or corona virus* or betacoronavirus* or CoV or HCoV)).ti,ab,kf.	7911
4	((coronavirus* or corona virus* or betacoronavirus*) adj3 (pandemic* or epidemic* or outbreak* or crisis)).ti,ab,kf.	1773
5	((Wuhan or Hubei) adj5 pneumonia).ti,ab,kf.	163
6	SARS virus/ or Severe Acute Respiratory Syndrome/ or Middle East Respiratory Syndrome Coronavirus/	6949

- 7 (SARSCOV\* or Severe Acute Respiratory Syndrome\* or sudden acute respiratory syndrome\* or SARS like or MERSCoV\* or Middle East Respiratory or camel flu or EMC 2012).ti,ab,kf. 8508
- 8 ((SARS or MERS) adj5 (virus\* or coronavirus\* or betacoronavirus\* or CoV or CoV2 or HCoV or pandemic or epidemic or outbreak\* or infect\* or respiratory or pathogen\*)).ti,ab,kf. 13295
- 9 \*pandemics/ 5027
- 10 (influenza\* or coronavirus or covid\* or h1n1 or sars or mers or pandemic or outbreak\*).ti,ab,kf. 243260
- 11 ((flu or influenza\*) adj3 (pandemic\* or epidemic\*)).ti,ab,kf. 14525
- 12 quarantine\*.ti,ab,kf. 5022
- 13 or/1-12 287460
- 14 Harm Reduction/ 3032
- 15 risk reduction behavior/ 12492
- 16 exp Health Services Accessibility/ 109967
- 17 exp "Delivery of Health Care"/ 1070332
- 18 (supply or supplie\* or access\* or maintain\* or treatment\* or therap\* or safe\* or ((risk or harm) adj2 (reduc\* or mitigat\*))).ti,ab,kf. 7568788
- 19 or/14-18 8289618
- 20 drug users/ 3112
- 21 exp Substance-Related Disorders/ 276760
- 22 exp Homeless Persons/ 8848
- 23 (addict\* or (drug\* adj2 (abus\* or misuse\* or user\*)) or opioid\* or opiate\* or methadone or buprenorphine or heroin or hydromorphone or oxycodone or morphine or benzodiazepine\* or cocaine or crack or methamphetamine or oxymorphone or homeless\* or fentanyl).ti,ab,kf. 324494
- 24 or/20-23 511276
- 25 13 and 19 and 24 1144
- 26 exp Natural Disasters/ 17100
- 27 (disaster\* or earthquake\* or hurricane\*).ti,ab,kf. 32854
- 28 26 or 27 44413
- 29 19 and 24 and 28 199

30 29 not 25 188  
 31 limit 30 to yr="2002 -Current" 155  
 32 limit 25 to yr="2002 -Current" 863  
 33 13 or 28 330016  
 34 19 and 24 and 33 1332  
 35 limit 34 to yr="2002 -Current" 1018

Embase (Elsevier)

((('drug use'/exp OR 'drug abuse'/exp OR 'addiction'/exp OR 'homelessness'/exp OR 'homeless person'/exp) OR (drug\* NEAR/2 (abus\* OR misuse\* OR user\*)):ti,ab,kw OR (addict\*:ti,ab,kw OR opioid\*:ti,ab,kw OR opiate\*:ti,ab,kw OR methadone:ti,ab,kw OR buprenorphine:ti,ab,kw OR heroin:ti,ab,kw OR hydromorphone:ti,ab,kw OR oxycodone:ti,ab,kw OR morphine:ti,ab,kw OR benzodiazepine\*:ti,ab,kw OR cocaine:ti,ab,kw OR crack:ti,ab,kw OR methamphetamine:ti,ab,kw OR oxymorphone:ti,ab,kw OR homeless\*:ti,ab,kw OR fentanyl:ti,ab,kw)) AND (('health care delivery'/exp OR 'health care access'/exp OR 'harm reduction'/exp OR 'risk reduction'/exp) OR ((risk OR harm) NEAR/2 (reduc\* OR mitigat\*)):ti,ab,kw OR (supply:ti,ab,kw OR supplie\*:ti,ab,kw OR access\*:ti,ab,kw OR maintain\*:ti,ab,kw OR treatment\*:ti,ab,kw OR therap\*:ti,ab,kw OR safe:ti,ab,kw)) AND (((('coronaviridae'/exp OR 'betacoronavirus'/exp OR 'coronavirus infection'/exp OR 'epidemic'/exp OR 'pandemic'/exp OR 'pandemic influenza'/exp OR 'disaster'/exp OR 'severe acute respiratory syndrome'/exp OR 'sars-related coronavirus'/exp OR 'middle east respiratory syndrome coronavirus'/exp OR 'middle east respiratory syndrome'/exp OR 'quarantine'/exp) OR (influenza\*:ti,ab,kw OR coronavirus:ti,ab,kw OR betacoronavirus\*:ti,ab,kw OR 'corona virus\*:ti,ab,kw OR covid\*:ti,ab,kw OR h1n1:ti,ab,kw OR sars:ti,ab,kw OR mers:ti,ab,kw OR pandemic:ti,ab,kw OR outbreak\*:ti,ab,kw OR quarantine\*:ti,ab,kw) OR (sarscov\*:ti,ab,kw OR 'severe acute respiratory syndrome\*:ti,ab,kw OR 'sudden acute respiratory syndrome\*:ti,ab,kw OR merscov\*:ti,ab,kw OR 'middle east respiratory':ti,ab,kw OR 'camel flu':ti,ab,kw OR 'emc 2012':ti,ab,kw) OR ((wuhan OR hubei) NEAR/5 pneumonia):ti,ab,kw OR (ncov\*:ti,ab,kw OR 2019ncov:ti,ab,kw OR 19ncov:ti,ab,kw OR covid19\*:ti,ab,kw OR covid:ti,ab,kw OR 'sars-cov-2':ti,ab,kw OR 'sarscov-2':ti,ab,kw OR sarscov2:ti,ab,kw OR 'severe acute respiratory syndrome coronavirus 2':ti,ab,kw OR 'severe acute respiratory syndrome corona virus 2':ti,ab,kw)) OR (disaster\*:ti,ab,kw OR earthquake\*:ti,ab,kw OR hurricane\*:ti,ab,kw)) AND [2002-2020]/py) AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) 2655 results

**Search #2. Safe supply barriers and facilitators supplemental search.**

Scopus



TITLE-ABS-KEY ( ( legal\* OR safe\* OR barrier\* OR facilitat\* ) W/5 ( suppl\* OR access\* ) ) AND TITLE-ABS-KEY ( addict\* OR ( drug\* W/2 ( abus\* OR misuse\* OR user\* ) ) OR opioid\* OR opiate\* OR methadone OR buprenorphine OR heroin OR hydromorphone OR oxycodone OR morphine OR benzodiazepine\* OR cocaine OR crack OR methamphetamine OR oxymorphone OR homeless\* OR fentanyl ) AND PUBYEAR > 2009 = 1195

Ovid MEDLINE(R) ALL <1946 to June 08, 2020>

Search history sorted by search number ascending

#	Searches	Results
1	coronavirus/ or betacoronavirus/ or coronavirus infections/ or (disease outbreaks/ or epidemics/ or pandemics/)	102605
2	(nCoV* or 2019nCoV or 19nCoV or COVID19* or COVID or SARS-COV-2 or SARSCOV-2 or SARSCOV2 or Severe Acute Respiratory Syndrome Coronavirus 2 or Severe Acute Respiratory Syndrome Corona Virus 2).ti,ab,kf,nm,ox,rx,px.	20721
3	((new or novel or "19" or "2019" or Wuhan or Hubei or China or Chinese) adj3 (coronavirus* or corona virus* or betacoronavirus* or CoV or HCoV)).ti,ab,kf.	7911
4	((coronavirus* or corona virus* or betacoronavirus*) adj3 (pandemic* or epidemic* or outbreak* or crisis)).ti,ab,kf.	1773
5	((Wuhan or Hubei) adj5 pneumonia).ti,ab,kf.	163
6	SARS virus/ or Severe Acute Respiratory Syndrome/ or Middle East Respiratory Syndrome Coronavirus/	6949
7	(SARSCOV* or Severe Acute Respiratory Syndrome* or sudden acute respiratory syndrome* or SARS like or MERSCoV* or Middle East Respiratory or camel flu or EMC 2012).ti,ab,kf.	8508
8	((SARS or MERS) adj5 (virus* or coronavirus* or betacoronavirus* or CoV or CoV2 or HCoV or pandemic or epidemic or outbreak* or infect* or respiratory or pathogen*)).ti,ab,kf.	13295
9	*pandemics/	5027
10	(influenza* or coronavirus or covid* or h1n1 or sars or mers or pandemic or outbreak*).ti,ab,kf.	243260
11	((flu or influenza*) adj3 (pandemic* or epidemic*)).ti,ab,kf.	14525
12	quarantine*.ti,ab,kf.	5022
13	or/1-12	287460

- 14 Harm Reduction/ 3032
- 15 risk reduction behavior/ 12492
- 16 exp Health Services Accessibility/ 109967
- 17 exp "Delivery of Health Care"/ 1070332
- 18 (supply or supplie\* or access\* or maintain\* or treatment\* or therap\* or safe\* or ((risk or harm) adj2 (reduc\* or mitigat\*))).ti,ab,kf. 7568788
- 19 or/14-18 8289618
- 20 drug users/ 3112
- 21 exp Substance-Related Disorders/ 276760
- 22 exp Homeless Persons/ 8848
- 23 (addict\* or (drug\* adj2 (abus\* or misuse\* or user\*)) or opioid\* or opiate\* or methadone or buprenorphine or heroin or hydromorphone or oxycodone or morphine or benzodiazepine\* or cocaine or crack or methamphetamine or oxymorphone or homeless\* or fentanyl).ti,ab,kf.  
324494
- 24 or/20-23 511276
- ((legal\* or safe\* or barrier\* or facilitat\*) adj8 (suppl\* or access\*)).ti,ab,kf. + Drug concept (line 24) / 2009 limit = 1213 results

***Search #3. Grey literature search sources.***

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Organization

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Abbotsford Drug War Survivors

Alliance for Healthier Communities

BC Centre for Disease Control

British Columbia Centre for Substance Use

CADTH

Canadian Alliance to End Homelessness

Canadian Drug Policy Coalition

Canadian Research Initiative in Substance Misuse

Canadian Students for Sensible Drug Policy

CAPUD

CATIE

Centre for Addiction and Mental Health

Drug Policy Alliance

European Centre for Disease Prevention and Control

European Monitoring Centre for Drugs and Drug  
Addiction

INPUD

International Drug Policy Coalition

Manitoba Harm Reduction Network

Moms Stop the Harm

Ontario HIV Treatment Network

Public Health England

Students for Sensible Drug Policy

Support Don't Punish

Transform Drugs

United Nations Office on Drugs and Crime

Vancouver Coastal Health

Vocal New York

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**Data Extraction Fields**

**Administrative Information:**

- Author(s)
- Year of publication
- Country of origin
- Evidence source (name of journal or grey literature source)

**Study information:**

- Study design: trial, observational, qualitative, guideline/recommendation
- Aims/purpose of study

**Participant information** (Put down “NA” if the data field isn’t relevant).

- Brief description of participants
- Safe supply addressed: opioids, stimulants, benzodiazepines, multi/all
- Context: COVID-19, SARS, H1N1, MERS, Hurricane, Earthquake, etc. (specify names of natural disasters where appropriate)
- Number of participants (initially enrolled)
- Age range of participants
- Gender and sexuality
- Ethno-racial identity
- Financial and housing description
- Opioids used
- Non-opioid drugs used (other than alcohol/tobacco/marijuana)

**Geography:**

- Participant location (city, state/province, country or countries).
- Rural vs. Urban

**Key findings or discussion points:**

- Safe supply program outcomes?
  - Were patients retained?
  - Did patients have to turn to street supply?
- Barriers to safe supply
  - Stigma
  - Cultural/language
  - Geographical
  - Danger
  - Financial
- Facilitators to safe supply
  - Operational changes made to ensure safe supply (e.g., guest-dosing)

- Patient-provider relationships.
- Legal changes
- Recommendations for addressing barriers to safe supply
- Group or category of safe supply: Heroin assisted treatment, prescription opioid safe supply, or stimulant safe supply
- Terminology (other words used in place of “safe supply”)

*Full reference list of included studies to date.*

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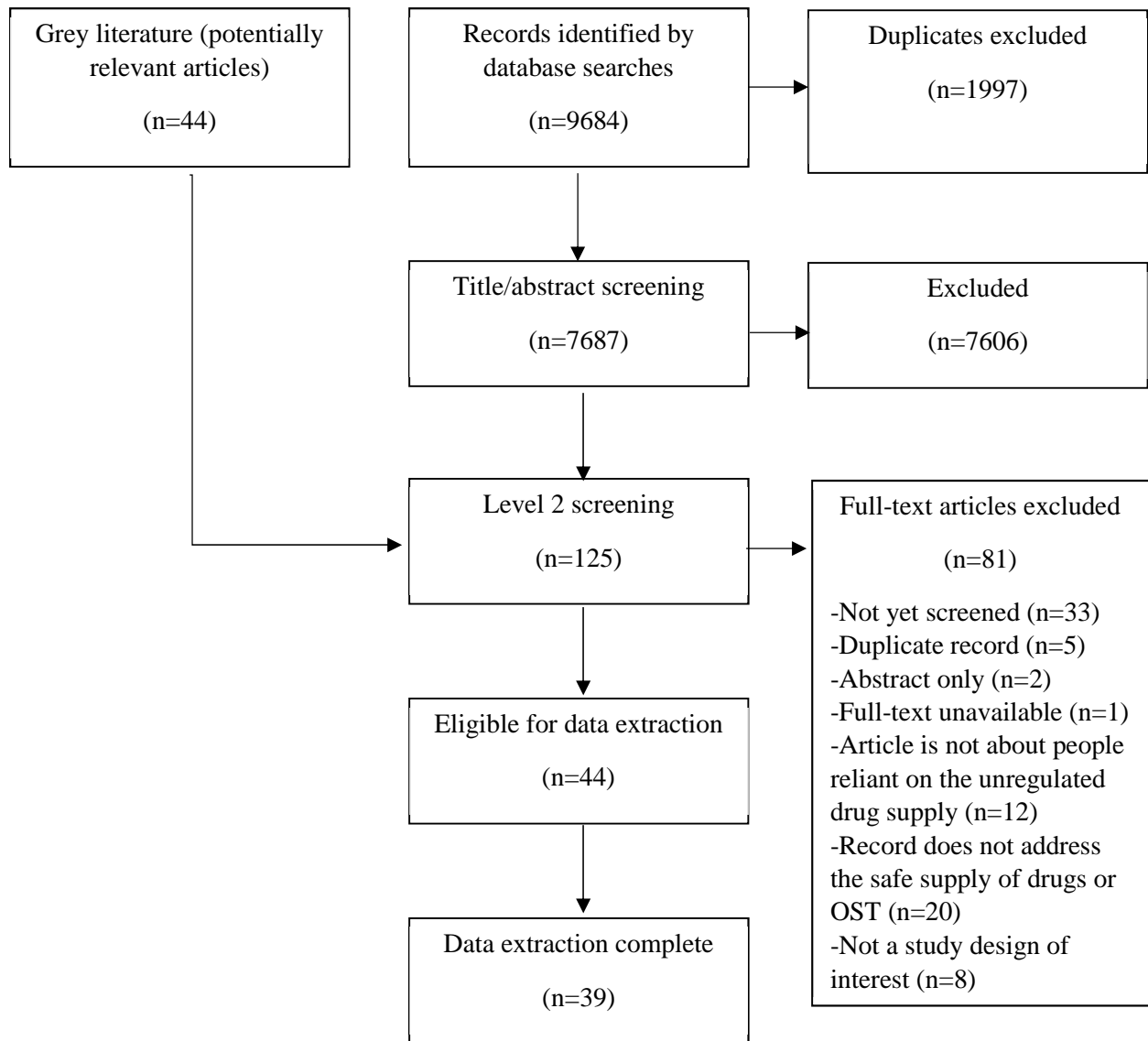
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**Figure 1.** PRISMA flow chart of included sources.

**Table 1.** List of included articles (n=39).

First Author	Year published	Location	Search Source	Design / format	Objective	Population	Type of drug used/addressed	Conclusions/Summary
Alliance for Healthier Communities	2020	Canada	Grey literature	Commentary	To advocate for expanded access to emergency safe supply in Ontario because of COVID	PWUD in Ontario	Opioids	Safe supply is urgently need during COVID-19. The necessary protocols and professional expertise are already in place to implement safe supply
Arya	2020	India	Academic journal	Commentary	Outline the challenges expected in managing patients with SUDs during COVID-19's nationwide lockdown	People with SUD	Buprenorphine, methadone	Treatment services need to adapt to daily changing scenarios with emphasis on practical approaches to help people with SUDs
Basu	2020	India	Academic journal	Qualitative	Discuss interim standard operating procedures (SOPs) for running a hospital-based OST service utilizing take-home BNX	People with OUD	Buprenorphine, naloxone	Other institutions may follow or tailor these SOPs to meet the needs and demands of their opioid-dependent patients on OST
Blake	2016	New Zealand	Academic journal	Qualitative	Identify the views of three professional groups working in Aotearoa/New Zealand about OST provision following a disaster	Service providers or managers	Opioids	OST preparedness planning must be multidisciplinary, flexible, and inclusive
Blake	2020	New Zealand	Academic journal	Qualitative	Explores how stigma is experienced as a barrier to engagement with emergency management among people receiving OST	People receiving OST	Buprenorphine, methadone, naxolone	Medications and other necessary treatments should be made accessible to those who need them to maintain health and wellbeing
Canadian Association of People who Use Drugs	2019	Canada	Grey literature	Report	To outline the concept of safe supply include its role in drug policy	PWUD	Multiple	Safe supply is a necessary step towards ending the prohibitionist policies that have harmed vulnerable people
Darke	2014	USA	Academic journal	Commentary	Examines whether the provision of regulated and quality-controlled heroin to users in specified doses would reduce heroin overdose rates	PWUD	Opioids	On the basis of the experience with prescription opioids, unregulated legal heroin access would not reduce overdose rates
Davis	2020	USA	Academic journal	Commentary	Describe how people with OUD are at increased risk for COVID-19, and existing policy barriers to evidence-based prevention and treatment for individuals with OUD.	People with OUD	Buprenorphine, methadone	Federal and state governments must reduce barriers to care for individuals with OUD, both during the current crisis and beyond.
Drug Policy Alliance	2016	USA	Grey literature	Report	To give an overview of heroin-assisted treatment research	People who use heroin	Opioids	There is evidence supporting heroin-assisted treatment, federal laws should be amended should trials can begin in US cities.
Drug Policy Alliance	2020	USA	Grey literature	Report	To explain the Drug Policy Alliances priorities to reduce the harms	PWUD in New Mexico	Opioids	The Drug Policy Alliance advocates for harm reduction strategies including

					associated with drug use in New Mexico			a heroin-assisted treatment pilot program
Dunlop	2020	Australia	Academic journal	Commentary	Outlines the challenges in maintaining treatment services for people who use drugs during COVID-19	PWUD undergoing treatment	Buprenorphine, methadone	Changes to treatment services for PWUD may be necessary to mitigate their increased risk of infection during COVID-19
Elliott	2017	USA	Academic journal	Qualitative	Generate a set of recommendations from OTP directors, staff, and patients for improving OTP disaster preparedness	People enrolled in an opioid treatment program	Buprenorphine, methadone	The study identified improvements to be made to OTP disaster preparedness.
Fischer	2020	North America	Academic journal	Commentary	Examines the supply side factors contributing to opioid crisis	PWUD	Opioids	Improved empirical understanding of the causal supply dynamics and structures driving the present opioid mortality crisis are needed
Fleming	2020	Canada	Academic journal	Commentary	To make an argument for using a safe stimulant supply to address illicit supply quality issues	People using stimulants in North America	Stimulants	Given the success of HAT, there is a need to explore stimulant safe supply treatment to explore possible similar benefits
Green	2020	USA	Academic journal	Commentary	Highlight the role pharmacists in sustaining access to treatment for OUD during COVID-19	PWUD undergoing treatment for OUD	Buprenorphine, methadone	Changes to regulatory barriers for frontline treatment workers are need to improve care for PWUD
Greer	2020	Australia	Academic journal	Qualitative	To examine the views of PWUD on the effects and role of government in a legalized drug market	PWUD	Multiple	PWUD supported legalization with regulation but with skepticism towards the government's role and intentions
Griffin	2018	USA	Academic journal	Qualitative	Describe the effects of a closure of an OTP from the POV of clinicians and administrators	People enrolled in an opioid treatment program	Methadone	Regulatory controls and structural damage to facilities threatens to disrupt treatment continuity during disasters
Gupta	2017	USA	Academic journal	Qualitative	Describe the emergency merger of opioid treatment programs in response to a hurricane.	People enrolled in an opioid treatment program	Buprenorphine, methadone	The study identified disaster planning measures that clinics could use to facilitate continuity of care
Haines	2020	Canada	Academic journal	Qualitative	Validate the reality of the unique drug-use culture in Ottawa, and the requirement for harm reduction services to be adapted to the local needs of PWUD	PWUD	Multiple	PWUD are not a homogenous group. Effort needs to be made to tailor harm reduction services to local communities
Harris	2020	USA	Academic journal	Qualitative	Describe video-conference facilitated buprenorphine initiation in 2 people with OUD	PWUD with severe OUD	Buprenorphine	Tele-buprenorphine initiation is an innovative method for lowering barriers to OUD treatment and warrants further investigation

Ivsins	2020	Canada	Academic journal	Commentary	To make an argument for providing a safe supply to address the overdose crisis	Persons reliant on the unregulated opioid supply in North America	Opioids	Safe supply is urgently needed to save lives given the epidemic of fatal overdoses
Jiang	2020	China	Academic journal	Commentary	Make policy recommendations for how to continue methadone maintenance treatment during COVID-19	PWUD on methadone maintenance treatment	Methadone	New program management measures need to be implemented to improve care for PWUD undergoing treatment during COVID-19
Khatri	2020	USA	Academic journal	Commentary	Summarize innovations that can prevent the opioid epidemic from worsening during COVID-19	Patients with OUD	Buprenorphine, methadone	While innovations have been made to improve care for PWUD during COVID-19 further changes are required to protect PWUD during the pandemic
Leppa	2020	USA	Academic journal	Commentary	Reviews and provides guidance for clinicians regarding 3 prongs of medication treatment of OUD affected by COVID-19 healthcare mandates: methadone take-homes, buprenorphine treatment, and antagonist therapy	People with OUD	Buprenorphine, methadone	Adjustments must be made to dosing and group therapy during pandemic era of social isolation. Provides practical guidance for clinicians regarding optimal approaches to methadone, buprenorphine and naltrexone during the pandemic.
Marsden	2020	Unclear	Academic journal	Commentary	Summarizes issues to people with addictive disorders as a result of COVID-19 and calls for a coordinated effort to address them.	People with OUD	Multiple	COVID-19 and the measures used to address it exacerbates multiple risk factors for the initiation of addictive behaviors and the maintenance, worsening and relapse of addictive disorders
Matusow	2018	USA	Academic journal	Mixed methods	1) Investigate how OTP staff and administrators anticipated and responded to the disruptions in OTP service (2) Solicit patient and out-of-treatment opioid user perspectives and experiences after Hurricane Sandy, in order to (3) Develop recommendations for OTPs in their ongoing recovery efforts from Hurricane Sandy and for future emergencies	People with OUD	Multiple	Identified issues with and recommendations for providing continuity of care in Hurricane Sandy-affected opioid treatment communities.
McArthur	2008	USA	Academic journal	Qualitative	Examine effectiveness of clinics' emergency planning policies [post 9/11] and identify transferable lessons to help other programs develop responses to natural and manmade disasters	People with OUD	Methadone	OTP's require individualized disaster plans
McClure	2014	USA	Academic journal	Qualitative	Examine advantages and disadvantages of methadone and buprenorphine regulations and	Providers of opioid	Buprenorphine, methadone	There is a need for well-defined emergency procedures with flexibility around regulations, the need for a

					dispensing methods in the face of a major disruption of service. Analyze the effects of regulatory differences between methadone and buprenorphine on the continuity of care after Hurricane Sandy.	maintenance treatment		central registry with patient dose information, as well as stronger professional networks and cross-coverage procedures.
Nazlee	2020	Canada	Academic journal	Commentary	Explores the current state of policy and practice for diacetylmorphine and hydromorphone as opioid substitution options. Recommends policy changes.	PWUD	Opioids	Given the magnitude of opioid related harms among people reliant on the illicit market, there is a need to remove barriers to safe supplies of diacetylmorphine and hydromorphone
O'Dwyer	2020	Australia	Academic journal	Qualitative	Explore the effects of Queensland (QLD) cyclones on opioid treatment programs within Queensland community and hospital pharmacies from three perspectives	Community and public hospital pharmacists, opioid treatment program staff	Buprenorphine, methadone	Continuation of OAT services during and in the aftermath of a cyclone event is complex. To improve continuity of OAT services, stakeholders must coordinate to prepare for and respond to future events.
Ontario HIV Treatment Network	2020	Canada	Grey literature	Report	To describe the possible benefits of offering safe supply to people who use drugs during public health emergencies like COVID-19	PWUD	Multiple	Safe supply is a promising treatment for people resistant to other forms of treatment although more research is needed
Peavy	2020	USA	Academic journal	Commentary	Describe (1) measures adopted at the OTP to mitigate spread of COVID-19 while preserving core services to patients; (2) implementation of clinical decision-making strategies aimed at maintaining patient and community safety; and (3) changes in clinic patient flow	People with or high-risk for HIV and OUD	Methadone	Organization-level decisions were made quickly during COVID-19 to ensure uninterrupted access to methadone while balancing efforts to mitigate COVID-19 risk
Pouget	2015	USA	Academic journal	Cross-sectional	Investigate whether Hurricane Sandy affected living circumstances, injection drug use, and helping behavior among PWID	PWUD	Buprenorphine, methadone	PWID served as assets to their respective communities, helping other drug users and non-drug users in the wake of the storm. Natural disasters, can alter physical and social environments, affect risk behaviors and contexts, and contribute to shaping HIV epidemic dynamics
Sun	2020	China	Academic journal	Commentary	Discuss challenges to OUD during COVID-19	People with OUD	Buprenorphine, methadone	People with OUDs require specific consideration in emergency planning and management. The most important issue is to ensure service continuity and accessibility of OAT during the pandemic

Tofighi	2014	USA	Academic journal	Mixed methods	Determine self-reported illicit opioid use; self-reported tobacco, alcohol, and drug misuse; coping strategies following buprenorphine supply disruption, and resource loss among opioid-dependent patients after Hurricane Sandy	PWUD	Buprenorphine	Adaptive strategies to ensure medication maintenance continuity pre/post natural disasters will help minimize poor treatment outcomes
Tofighi	2014	USA	Academic journal	Mixed methods	Determine self-reported illicit opioid use (other than illicitly-obtained buprenorphine); self-reported tobacco, alcohol, and drug misuse; coping strategies following buprenorphine supply disruption, and resource loss among opioid-dependent patients enrolled in BHC's office-based buprenorphine clinic immediately following Hurricane Sandy	Adult, opioid-dependent patients	Buprenorphine	Case study demonstrates relative adaptability of public sector office-based buprenorphine treatment during and after a significant natural disaster
Vancouver Coastal Health	2020	Canada	Grey literature	Guideline	To describe guidelines put in place to help people who use drugs going through withdrawal symptoms during COVID-19	PWUD who need assistance managing withdrawal symptoms	Multiple	Pharmacists are instructed to follow updated guidelines to support people going through withdrawal during COVID-19 pandemic
Vecchio	2020	Italy	Academic journal	Commentary	Describes novel approaches to enable continuation of care to patients with OUD	People with OUD	Buprenorphine	There is a need for continuing innovation. Access to approved medicines such as the prolonged release buprenorphine products must now be prioritized to further reduce the risk for individuals in care
Werle	2018	USA	Academic journal	Commentary	Analyzes legal and ideological underpinnings of policies for medication-assisted treatment for opioid addiction	PWUD	Opioids	Decriminalization is a necessary but insufficient response to the opioid crisis. Low-threshold methadone maintenance treatment should be considered as part of comprehensive drug treatment

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**Table 2.** Descriptive summary of included articles (N=39)

<b>Published year</b>	<b>Frequency (n, %)</b>
2020	25 (64)
2019	1 (3)
2018	3 (8)
2017	2 (5)
2016	2 (5)
2015	1 (3)
2014	4 (10)
2008	1 (3)
<b>Geographic location</b>	
Australia	3 (8)
Canada	8 (21)
China	2 (5)
India	2 (5)
New Zealand	2 (5)
USA	19 (49)
Other*	3 (8)
<b>Literature source</b>	
Academic	33 (85)
Grey	6 (15)
<b>Study design</b>	
Commentary	18 (46)
Cross-sectional	1 (3)
Guideline	1 (3)
Mixed methods	3 (8)
Qualitative	12 (31)
Reports**	4 (10)
<b>Drugs addressed</b>	
Buprenorphine and/or methadone	22 (56)
Opioids in general***	9 (23)
Stimulants	1 (3)
Multiple****	7 (18)

\*Includes studies focused on Italy, North America in general, and one unspecified location.

\*\*Non peer-reviewed reports from the grey literature created by groups advocating for PWUD like the Drug Policy Alliance and CAPUD.

\*\*\*Opioids were addressed in general without reference to any particular drug.

**Table 3.** Themes related to barriers and facilitators to safe supply or OAT during pandemic or emergency conditions.

Theme	All studies (n= 39)	Academic literature (n= 33)	Grey literature (n= 6)
	n (%)	n	n
<b>Barrier themes</b>			
Restrictive laws or policies	13 (33)	11	2
Monopolistic industry practices	1 (3)	1	0
Limited prescribing power or prescribers	3 (8)	3	0
Distrust towards institutions	1 (3)	1	0
Concerns about drug harms	1 (3)	1	0
Lack of evidence	3 (7)	2	1
Practical barriers	17 (44)	17	0
<b>Facilitator themes</b>			
Understanding needs and desires of PWUD	4 (10)	3	1
Take-home dosing	2 (5)	2	0
Less controlled dispensing models	1 (3)	0	1
Temporary legal or regulatory exemptions	10 (26)	9	1
Clear communication	4 (10)	4	0
Transportation	3 (8)	3	0

PWUD= People who use(d) drugs, OAT= opioid agonist treatment

**Table 4.** Preliminary themes related to barriers to safe supply from PWUD consultations

<b>Barrier theme</b>	<b>Sample quotations from qualitative studies (where present)</b>
Stigma, discrimination and racism from healthcare providers	“[...] as soon as [providers] hear I’m on methadone it’s like this brick wall goes up. And it becomes a barrier to maybe getting treatment as quickly, or even being treated as a normal person, like you’re just put in this whole other category.” <sup>27</sup> “When you go to the ED (Emergency Department), they tend to be really sceptical ... of methadone patients. Like ... you’re faking your gallbladder playing up to get some more drugs or something like that when you know there’s clearly legitimate issues going on which can be verified with scans or tests.” <sup>27</sup>
Over-medicalized safe supply models	“For a long time, I thought that changing the focus away from criminal sanctions to having things managed by health professionals was an answer, but I am strongly disagreeing with that these days, too, because having your life managed by a judiciary, or having your life managed by health professionals, can be just as bad. They can be just as fucking evil with people and play these power trips”. <sup>28</sup>  “[...]you’re getting people making decisions about you, and in making these, sort of, in loco parentis attitude that – as medical people do. You know, all health professionals do: ‘[Providers] will look after them. Those poor druggies, they can’t make these decisions themselves.’ So, that’s why I say, yes, we want to get paid and be involved, because it’s us that the decisions are being made about.” <sup>28</sup>
Lack of access to desired substances	“We have a huge part of the drug using population who only smoke crack, meth, or other amphetamines . . . If you want to provide comprehensive services to drug users in Ottawa, you need to provide service to crack smokers.” <sup>28</sup>  “A lot of people— technically—we need to be turning away if they want to come in and snort fentanyl or cocaine. And that is frustrating.” <sup>28</sup>
Child apprehension	Not discussed in peer-reviewed literature.
Lack of cultural competency	Not discussed in peer-reviewed literature.

PWUD= People who use(d) drugs