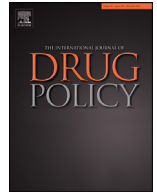




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Research Paper

Risk mitigation guidance and safer supply prescribing among young people who use drugs in the context of COVID-19 and overdose emergencies



Karen Giang^a, Reith Charlesworth^b, Madison Thulien^b, Alanna Mulholland^{b,c},
Brittany Barker^{b,d}, Rupinder Brar^{a,c}, Bernie Pauly^{d,e}, Danya Fast^{b,f,*}

^a Department of Family Practice, University of British Columbia, 317-2914 Health Sciences Mall, Vancouver, BC V6T 1Z3, Canada

^b British Columbia Centre on Substance Use, 400-1045 Howe Street, Vancouver, BC V6Z 2A9, Canada

^c Vancouver Coastal Health Authority, 520 West 6th Avenue, Vancouver, BC V5Z 1A1, Canada

^d Canadian Institute of Substance Use Research, 2300 McKenzie Avenue, Victoria, BC V8N 5M8, Canada

^e School of Nursing, University of Victoria, PO Box 1700 STN CSC, Victoria BC V8W 2Y2, Canada

^f Department of Medicine (Division of Social Medicine), 317-2914 Health Sciences Mall, Vancouver, BC V6T 1Z3, Canada

ARTICLE INFO

Keywords:

Young people who use drugs
Opioid use disorder
Overdose
COVID-19
Safe supply
Canada

ABSTRACT

Across North America, overlapping overdose and COVID-19 emergencies have had a substantial impact on young people who use drugs (YPWUD). New risk mitigation guidance (RMG) prescribing practices were introduced in British Columbia, Canada, in 2020 to allow people to decrease risk of overdose and withdrawal and better self-isolate. We examined how the prescribing of hydromorphone tablets specifically impacted YPWUD's substance use and care trajectories. Between April 2020 and July 2021, we conducted virtual interviews with 30 YPWUD who had accessed an RMG prescription of hydromorphone in the previous six months and 10 addiction medicine physicians working in Vancouver. A thematic analysis was conducted. YPWUD participants highlighted a disjuncture between RMG prescriptions and the safe supply of unadulterated substances such as fentanyl, underscoring that having access to the latter is critical to reducing their reliance on street-based drug markets and overdose-related risks. They described re-appropriating these prescriptions to meet their needs, stockpiling hydromorphone so that it could be used as an "emergency backup" when they were unable to procure unregulated, illicit opioids. In the context of entrenched poverty, hydromorphone was also used to generate income for the purchase of drugs and various necessities. For some YPWUD, hydromorphone prescriptions could be used alongside opioid agonist therapy (OAT) to reduce withdrawal and cravings and improve adherence to OAT. However, some physicians were wary of prescribing hydromorphone due to the lack of evidence for this new approach. Our findings underscore the importance of providing YPWUD with a safe supply of the substances they are actively using alongside a continuum of substance use treatment and care, and the need for both medical and community-based safe and safer supply models.

Introduction

North America is experiencing an unprecedented overdose crisis due largely to the presence of illicitly manufactured fentanyl and related analogues in local drug supplies (Ahmad et al., 2022; BC Coroners Service, 2022b; Mattson et al., 2021; Federal, provincial, and territorial Special Advisory Committee on the Epidemic of Opioid Overdoses, 2023). This drug toxicity crisis is having a devastating impact on young people who use drugs (YPWUD; referring here to individuals between the ages of 14 and 29) (Wilson and Bagley, 2022). Since an overdose public health emergency was declared in British Columbia (BC), Canada, in 2016, over 2000 YPWUD under the age of 29 have died

of an overdose (BC Coroners Service, 2022a, 2022b). Not all fatalities in this setting are occurring among those who have received a diagnosis of opioid use disorder (OUD). However, research from North America and Europe has found that those with this diagnosis have higher rates of mortality and morbidity (European Monitoring Centre for Drugs and Drug Addiction, 2021; Hser et al., 2015; Orpana et al., 2018; Wilson and Bagley, 2022).

Globally, opioid agonist therapy (OAT) is indicated as an essential treatment option for YPWUD diagnosed with OUD (British Columbia Centre on Substance Use and British Columbia Ministry of Health, 2017; Krausz et al., 2022; Robinson and Wilson, 2020). In BC, there is significant variability in the extent to which YPWUD are able to access

* Corresponding author.

E-mail address: danya.fast@ubc.ca (D. Fast).

<https://doi.org/10.1016/j.drugpo.2023.104023>

OAT and other forms of substance use treatment and care across the province. For those who have reasonable access to OAT, such as in Vancouver where the present study is situated, it is widely recognized that many YPWUD continue to use unregulated, illicit drugs while on OAT. As we have described elsewhere (Canêdo et al., 2022), drugs are a source of sociality, pleasure, and fun, as well as a means of navigating physical, psychological and emotional pain, trauma, and forms of historical and structural oppression along axes of race, class, gender, sexuality, and ability. In our setting, many YPWUD view OAT as a short-term intervention to help mediate withdrawal symptoms while attending in-patient detoxification and treatment programs or while in hospital, but do not envision staying on it for long periods of time (Giang et al., 2020).

Recognition of the limitations of OAT in addressing the current drug toxicity crisis has led to growing calls for a “safe” or “safer” supply of prescribed, unadulterated pharmaceutical-grade drugs to help decrease risk of overdose and mortality (Bonn et al., 2020; Canadian Association of People who Use Drugs, 2019; Csete and Elliott, 2021; Drug Policy Alliance, 2022; Ferguson et al., 2022; Krawczyk et al., 2021). While debate continues regarding what constitutes safe or safer supply, the Canadian Association of People who Use Drugs defines safe supply as the provision of regulated versions of the drugs that people are using (e.g., fentanyl, heroin) at dosages that have “mind/body altering properties” and in forms that allow people to get high via their preferred route of administration (e.g., injecting, smoking, snorting) (Canadian Association of People who Use Drugs, 2019, p.4). Importantly, this definition of safe supply excludes OAT and even injectable OAT, because the implementation of these programs continues to be primarily focused on the reduction of drug use and associated risks and harms.

Practitioners and policy makers in our setting have defined safer supply as the provision of prescription “pharmaceutical alternatives to the unregulated drug supply” (Glegg et al., 2022, p.2). While the term safer supply is often used by practitioners, government, and public health organizations in order to emphasize that prescribed opioids and stimulants are not completely safe, some drug user activists have argued that an emphasis on the risks of a regulated drug supply can cause confusion and increase stigmatization (Bonn et al., 2020). Following the YPWUD who participated in this study, we have chosen to use the term safe supply throughout this manuscript except when referencing specific policy documents, elucidating what that term signaled to them.

In March 2020, the World Health Organization declared the COVID-19 outbreak a pandemic (World Health Organization, 2020), and BC declared a COVID-19 public health emergency shortly thereafter (Government of British Columbia, 2020). In BC as elsewhere across North America (Wilson and Bagley, 2022), these overlapping public health emergencies have had a substantial impact on the health and social outcomes of YPWUD in the context of street-involvement (i.e., those experiencing homelessness and unstable housing, frequently in the context of other kinds of overlapping exclusion and oppression), and in particular, those who have received a diagnosis of OUD.

The COVID-19 pandemic has further complicated the North American toxic drug supply crisis by disrupting the illicit drug supply chain, resulting in an even more toxic street drug supply (Tyndall, 2020). Simultaneously, during the first several waves of the pandemic, people abruptly lost access to a range of essential healthcare services due to physical distancing mandates (Ali et al., 2021; BC Coroners Service, 2022a; Holmes et al., 2020; MacKinnon et al., 2020; Wilkinson et al., 2020). Forms of income generation such as panhandling, recycling, and sex work were significantly curtailed (May et al., 2022). People were forced to navigate conflicting public health messages: they could either follow COVID-19 physical distancing recommendations or avoid using substances alone to prevent accidental overdose (Bao et al., 2020; Tyndall, 2020). For those who chose to isolate, mental health issues often intensified (Ataïants et al., 2020; Henry et al.,

2020). Overdose rates rose steeply during this time period, and people who use drugs were also at greater risk of contracting COVID-19 (Afifi et al., 2020; Centers for Disease Control and Prevention, 2020; Palis et al., 2022; Tsai and Wilson, 2020; Volkow, 2020; Wang et al., 2020).

In an attempt to mediate these heightened risks and harms, new temporary prescribing guidance was released at the start of the COVID-19 pandemic in BC and remains active at the time of writing, although the approach is increasingly referred to as “prescribed safer supply” following the release of a 2021 government policy document (described in further detail below) (British Columbia Centre on Substance Use, 2020, 2022c; British Columbia Ministry of Mental Health and Addictions and Ministry of Health, 2021). The interim risk mitigation guidance (RMG) introduced in 2020 represents a COVID-19 specific harm reduction strategy intended to decrease the risk of overdose and withdrawal during a time period when people are being asked to self-isolate (British Columbia Centre on Substance Use, 2020, 2022c). For those who are actively using substances and at high risk of harms, RMG allows for the prescription of a limited range of controlled, prescription medications such as 12-hour sustained-release oral morphine (brand name M-Eslon®), hydromorphone tablets (brand name Dilaudid®), methylphenidate (brand name Ritalin®), dextroamphetamine sulfate tablets (brand name Dexedrine®), and benzodiazepine tablets (e.g., clonazepam). Across North America and Europe, the pandemic has ushered in new OAT prescribing measures that include the use of telehealth for assessments and greater flexibility with take-home OAT dosing (Andraka-Christou et al., 2021; Durand et al., 2022). Similarly in BC, RMG prescriptions are dispensed as daily non-witnessed take-home doses (British Columbia Centre on Substance Use, 2020, 2022c). While it was immediately recognized that the new kinds of prescribing facilitated by RMG fall short of the definition of safe supply advocated by the Canadian Association of People who Use Drugs and others, in 2020 there was significant optimism that the new prescribing practices would allow people to better protect themselves while the fight for “real safe supply” continued (Moakley, 2021).

Efforts are ongoing to study and evaluate the impacts of RMG or other similar pandemic prescribing practices in settings across Canada (Brothers et al., 2022; McNeil et al., 2022; Nosyk et al., 2021; Russell et al., 2021; Selfridge et al., 2022). However, the majority of participants in these existing studies were over the age of 30, and studies have not focused on the impact of RMG and safer supply prescribing on YPWUD, including those who have received an OUD diagnosis. Improving access to a continuum of care for these populations – ranging from comprehensive harm reduction services to abstinence-orientated treatment and recovery programming – has been identified as an urgent public health priority globally (Bagley et al., 2021; Canêdo et al., 2022; Hadland et al., 2018; Ingoglia, 2020; Winhusen et al., 2020). We undertook this qualitative study to examine how RMG prescriptions of hydromorphone tablets specifically shaped YPWUD’s substance use and care trajectories. By substance use and care trajectories, we are referring to the shifting experiential and experimental dimensions of YPWUD’s substance use and care engagement across time (Raikhel and Garriott, 2013), as they navigate the continuum of substance use services described above, as well as other systems of care and supervision (the criminal justice, government care, and housing systems, for example). A substance use and care trajectories perspective alerts us to moments when YPWUD engage with, disengage from, and re-engage with different forms of care across time (including RMG prescriptions of hydromorphone), and how these moments are shaped by a complex interplay of individual (e.g., experiences of withdrawal), social (e.g., the imperative to care for family and friends), and structural (e.g., entrenched poverty) contexts. We highlight how lessons learned during the introduction of RMG and safer supply prescribing can be applied to the development of more effective care programming and strategies for YPWUD, and in particular those who are experiencing street-involvement and have received a diagnosis of OUD.

Table 1
Demographic characteristics of young people who participated in the study.

Characteristics	N
<i>Gender¹</i>	
Man (inclusive of trans men)	15
Woman (inclusive of trans women)	14
<i>Ethnicity</i>	
White	16
Indigenous	6
Asian	3
Non-disclosed	

¹ Gender and ethnicity were self-identified by participants; some data (n = 1) has been suppressed for the purpose of maintaining confidentiality.

Methods

In accordance with institutional COVID-19 safety protocols, we conducted interviews via telephone with 30 YPWUD between the ages of 19 and 24 (with a mean age of 21), and 10 addiction medicine physicians employed across a variety of acute, community, and residential programs designed to serve people who use drugs, including YPWUD. Physician participants varied in terms of age, gender, and years of experience, but were all employed by the Vancouver Coastal Health Authority and Providence Health Care and therefore working in Vancouver (not the outlying suburbs) and in particular downtown Vancouver. All had at least five years of experience practicing addiction medicine in this setting. See Table 1 for a breakdown of some of the demographic characteristics of participating YPWUD.

YPWUD were recruited from a youth-dedicated primary care center in Vancouver known as Foundry Vancouver Granville (FVG). FVG is a part of a network of integrated youth service centers in BC that provide primary care, substance use and mental health support, and a range of peer and social services (Mathias et al., 2022). Participants were also recruited from an ongoing prospective cohort of over 1000 YPWUD known as the At-Risk Youth Study (ARYS) (Wood et al., 2006). To be eligible to enrol in ARYS, individuals need to be between the ages of 14 and 26 at the time of recruitment, report any illicit drug use in the past 30 days, and report accessing health or social services for those experiencing unstable housing and homelessness in Greater Vancouver. To be eligible for the study described herein, YPWUD needed to have accessed an RMG prescription of hydromorphone in the previous six months. Invitations to YPWUD to participate in the study were extended over the phone by ARYS staff and in person by FVG staff and providers while individuals were visiting the center. Physicians were recruited from within the existing networks of the first and senior authors (KG and DF) and invited to participate by email.

Interviews were conducted between April 2020 and July 2021 by a research coordinator trained in qualitative methods (co-author MT) and facilitated by the use of semi-structured interview guides developed in collaboration with a youth advisory council (Thulien et al., 2022) and physician study team members. Interviews lasted between 60 and 90 minutes and were designed to elicit detailed timelines and discussions of YPWUD's substance use and care trajectories, including experiences and outcomes associated with accessing RMG prescriptions. Following their initial interview, YPWUD were asked if they consented to be contacted for a follow up interview on the study topic. Consenting YPWUD were then invited via their preferred method of contact (phone, Facebook messenger, message left at FVG) to participate in follow up interviews beginning 3 months after their initial interviews. Follow up interviews were conducted with five YPWUD based on their availability via phone and interest in talking further about the topic areas, for a total of 35 interviews. It is likely that COVID-19 safety protocols in place over the course of this study, namely, the closure of the ARYS field office in downtown Vancouver, significantly impacted our ability

to follow up with participants. Prior to the pandemic, many individuals regularly dropped into this office to participate in the ARYS cohort study and pick up harm reduction supplies, allowing us to maintain more regular in-person contact and conduct interviews more sporadically based on individuals' same day availability and interest. Nevertheless, the five follow up interviews provided an opportunity to better understand how YPWUD's substance use and care trajectories were evolving across time in the context of RMG. Physician interviews focused on the challenges and opportunities of a rapidly transforming substance use care landscape in Vancouver, with a particular focus on the introduction of RMG. All YPWUD provided verbal informed consent over the phone and were compensated for their time and expertise with a \$30 honorarium for each interview. Physicians provided written informed consent via email and were not compensated financially.

Interviews were transcribed verbatim, deidentified, and reviewed to ensure that the transcripts corresponded with interview recordings. Transcripts were then uploaded to NVivo 12 software (QSR International, 1999) where all data (YPWUD and provider interviews) were coded by co-authors MT and RC using a preliminary codebook that captured approximately 30 broad descriptive themes (e.g., "safe/safer supply," "OAT," "substance use trajectories," "lessons learned and recommendations [from YPWUD and providers]"). DF met with MT and RC throughout this preliminary coding process to discuss and resolve any conflicting interpretations of the data. KG is a prescriber at FVG where a number of YPWUD participants were recruited. To maintain confidentiality, KG was given only anonymized, broadly coded data that had been stripped of patient identifiers, including prescription dosing. KG then undertook a more refined coding process that involved the identification and inclusion of eight more detailed themes (e.g., "RMG and understandings of safe/safer supply," "RMG and OAT engagement across time," "implementing RMG"). Regular conversations between KG, DF, MT, and RC allowed us to discuss and resolve any conflicting interpretations of the data at this second stage as well. Emerging analyses were triangulated by drawing on KG's clinical experience (e.g., while working at FVG, and in numerous community health centers since 2014), as well as the findings of an ongoing program of anthropological research conducted by DF since 2007 with YPWUD and service providers in Greater Vancouver. Below, we use narrative excerpts from a small number of interviews to illustrate the themes we identified across our coded data set. All participant names are pseudonyms.

Findings

While it was not one of our recruitment criteria, all of the YPWUD who participated in this study reported that they had received a diagnosis of OUD in addition to at least one RMG prescription of hydromorphone tablets during the previous six months at the time of their enrolment. Most also reported that they were currently being prescribed OAT (buprenorphine-naloxone, methadone, or slow-release oral morphine), although, again, this was not one of our recruitment criteria. For the participants who were recruited via FVG, self-reported diagnoses of OUD were corroborated clinically with individuals' permission. All participating YPWUD were currently using synthetic, illicitly manufactured fentanyl two or more times per week at the time of their first interview; the majority were using fentanyl daily. All participants were experiencing homelessness or living in government-subsidized, supportive single room occupancy hotel (SRO) housing in downtown Vancouver at the time of their first interview.

Getting on hydromorphone: disillusionment and confusion

As RMG was introduced in BC in March 2020, most YPWUD initially believed that they were gaining access to a broader range of safe supply options, including prescribed, pharmaceutical-grade fentanyl. A number of YPWUD participants recalled having discussions with their prescribing physicians that reinforced the idea that "safe supply" had arrived in

Vancouver. Participants also recalled seeing advertisements created by drug user activists announcing the approval of, and how to access, “safer drugs” (BC-Yukon Association of Drug War Survivors, 2020), which further reinforced the idea that RMG prescriptions would be a viable means of moving away from the intensive use of illicit fentanyl and associated overdose and COVID-19 risks. As Alicia, a 24-year-old woman of Asian ancestry, told us in May 2021:

“I asked to go on it [a prescription of hydromorphone]. Like, I didn’t want to put my family at risk by going to the Downtown Eastside to do drugs. I saw the posters online – on social media. There was, like, one poster going around, that was, like, talking about the different drugs and what they can possibly prescribe. I was hoping it would do something – I’d just have something on hand for when I’m feeling like using something else.”

While talk of both “safe” and “safer” supply circulated rapidly during this time period, DF’s ongoing (at that time virtual) ethnographic research revealed much discussion about “finally getting safe supply” among local YPWUD. They quickly realized, however, that RMG prescriptions of hydromorphone tablets constituted a much less potent form of opioids than the illicit fentanyl that they were currently using. Confusion surrounding the prescribing practices and goals encompassed by RMG frequently led to tension between YPWUD and their prescribers, with the former expressing frustration at doctors acting as “gatekeepers” and not being forthcoming about the extent to which they could help YPWUD navigate risks and harms. As Alicia elaborated during the same conversation in May 2021:

“I just want safe supply, so people aren’t having to do these other drugs [hydromorphone] that they don’t necessarily want to be on. [Safe supply is] clean versions of drugs. It’s fentanyl that’s actually regulated, so people know how much is in it. They’re trying to claim we have safe supply in BC, but we don’t. Not really. I just don’t like the whole BC model of, like, medicalizing it and then having doctors be the gatekeepers of it. It’s just the whole thing about doctors – like, not all of them are even willing to prescribe it, or not all of them are even allowed to prescribe the amounts that people need. It creates a lot of barriers for people.”

Prescribers working with YPWUD were also critical of how RMG was rolled out, although their understandings of the limitations of RMG were often markedly different. Many emphasized that the new prescribing practices were not based on robust evidence such as randomized control trials. Prescribers were forced to adapt tremendously quickly to the new guidance and provide appropriate education to young patients and their caregivers without a high level of confidence in the guidance and their own knowledge. They described how the application of RMG involved a lot of individual discretion. To an extent, they shared YPWUD’s confusion surrounding the prescribing practices and goals encompassed by RMG, which was often attributed to the rapid roll out of RMG with little support and education. As one addiction medicine physician who works at a large hospital in downtown Vancouver explained in February 2021:

“The document was put together quickly, as was needed, because of a pandemic. And it wasn’t directly based on evidence, and so it was, you know, a pretty rough sketch of, ‘These are the types of medications. These are the types of doses.’ And then we were kind of all left with, like, okay, how does this work in the real world? How does it actually work for people? Is it helpful? And then also: is there anything else we need to be doing?”

Getting off hydromorphone: “It’s not the drug you’re addicted to”

RMG prescriptions were not the safe supply that YPWUD expected, desired, and needed. According to RMG, YPWUD could be prescribed a range of doses of hydromorphone, to a daily maximum of 14 tablets of 8 milligrams each. All of the YPWUD in this study discovered that even this highest dose of hydromorphone was nowhere near enough to have

a meaningful impact in terms of offsetting their oftentimes daily illicit fentanyl use. A majority of participants were not ready to stop using opioids entirely, and instead wanted to continue to get high but with lessened risk. They described having to take large amounts of hydromorphone tablets in order to feel any effect on their opioid withdrawal symptoms and cravings, let alone any of the desirable affective intensities (the high) of street fentanyl. As Joseph, a 24-year-old man who did not disclose his ethnicity, explained in May 2021:

“The dillies [hydromorphone, brand name Dilaudid®] don’t do anything for me. They’re meant to, like, take away sickness [from opioid withdrawal], but they’re not meant to get you high. And it’s like, I’m not trying to not get dopesick, I’m trying to get high. Like, I even showed my doctor. I put, like, twelve of them into a shot [syringe for injection] and I did them, and it did nothing. I don’t feel anything, since I’m still using [illicit fentanyl].”

The negligible effects and affects of hydromorphone led some YPWUD to stop their prescriptions shortly after starting. A majority felt strongly that they were an inappropriate substitution for illicit fentanyl. For example, Mira, a 19-year-old Indigenous woman, was started on eight tablets of hydromorphone but soon asked her prescriber to taper her down so that she could discontinue the prescription. Mira said in April 2021:

“Like, that 8 milligrams did absolutely nothing to me. I was taking it every day and not having it do anything, so I was basically just wasting them, you know? And so, I was like, well, I might as well just come off of it. Why am I still on this?”

All of the YPWUD who participated in this study continued to rely on the street-based drug market to procure opioids. They were well aware of the dangers of using unregulated fentanyl, including the high risk of overdose. Many had experienced at least one unintentional non-fatal overdose during the previous year due to illicit fentanyl use (some had experienced multiple overdoses). However, they stated emphatically that there was no replacement for a drug as potent as street fentanyl except, perhaps, prescribed pharmaceutical-grade fentanyl. Nora, a 21-year-old woman who did not disclose her ethnicity, told us in September 2021:

“The safe drugs [that are currently available], it’s only oral [medications]. I don’t see the point of it because, like, it’s not the drug you’re addicted to. Same with the injectable heroin program. I’m not addicted to heroin and I’m not addicted to morphine. I’m addicted to fentanyl. So, they’re not even giving me my drug of choice, and then they’re making me swallow it. It pisses me off because they’re like, ‘We’re trying to help you,’ and it’s like, ‘Give me my drug of choice then.’ There are safe ways to do fentanyl. The reason the street fentanyl is so bad is because it’s not mixed properly. But when it’s, like, medical fentanyl, it is mixed properly.”

Staying on hydromorphone: stockpiling and survival

Some YPWUD felt that prescribed hydromorphone tablets could potentially mediate their use of illicit fentanyl if the doses were much higher than the daily maximum of 14 tablets. In our setting, RMG prescriptions for YPWUD can be written for 4-week time periods, with tablets dispensed daily as non-witnessed doses. A number described experimenting with “stockpiling” their prescribed hydromorphone tablets to use as an “emergency backup” for times when they were in withdrawal and could not buy illicit fentanyl. This emergency backup could also be provided to friends, family members, and romantic partners who were in withdrawal. Nick, a 24-year-old Asian man, explained in April 2021:

“I do remember this one time, I actually took, like, 20 of them [tablets], because I was really dopesick [in withdrawal from opioids]. And it helped me, like, a little bit. I felt like it helped me go to sleep.”

Some YPWUD described to DF during her virtual fieldwork how having this backup option put them at greater ease in certain moments, because it meant that they could sometimes avoid having to engage in criminalized and oftentimes dangerous forms of income generation such as sex work and drug dealing when they were in withdrawal. One addiction medicine physician similarly recounted about a young patient in August 2021:

“The hydromorphone resulted in the patient not having to spend all her time going out to buy, or to work to make money to buy more fentanyl. She was able to take the hydromorphone tabs with her on the ferry to visit her family for the first time in a long time. It was quite nice to hear that she did not have to worry about making money or buying drugs [on that trip].”

Another way that YPWUD re-appropriated these prescriptions to meet their needs was by selling them. Since the “dillies did nothing” for many YPWUD in terms of producing desired effects and affects, many sold hydromorphone tablets to generate a limited amount of income. They used this income to buy drugs, food, clothing, cell phone minutes, and support friends, family members, and romantic partners. Selling hydromorphone was a way to “sustain” themselves and ease the extreme financial pressures of entrenched poverty. As Nora told us in April 2021:

“I’ve gotten mostly to a point where, like, most of the way I’m able to get dope at the moment is by selling my [hydromorphone] pills. I do obviously sell them, like, a lot of the time. And that’s been part of what sort of sustains me a lot of the time.”

Selling one’s stockpiled hydromorphone could be a means of solving one of the everyday emergencies of entrenched poverty, but could exacerbate other emergencies, such as withdrawal. As Harley, a 22-year-old woman who did not disclose her ethnicity, told us in June 2021:

“Today I was stupid and I sold my [stockpiled] dillies for dope instead of actually taking them, so I’m sick today. But I wouldn’t have been sick today if I had taken them.”

Prescribers suspected or knew (via urine drug testing – UDT – or the fact that individuals simply told them) that many YPWUD were selling their hydromorphone prescriptions. Many prescribers were aware that the “dillies did nothing” for YPWUD and therefore selling prescriptions could at least help them to survive in the context of poverty, homelessness, and unstable housing. Prescribers noted that although diversion could be partially monitored through UDT, there were important safety and ethical dilemmas to consider. At the early stages of RMG implementation, prescribers were not given much guidance on when and how often to do UDT. As a physician who works at a rapid access addiction clinic in downtown Vancouver reflected in February 2021:

“Are we supposed to be trying to monitor for diversion? There’s nothing written about that [in RMG]. Do we not concern ourselves? Do we concern ourselves? If we concern ourselves, are we supposed to be doing urine drug testing on people? Do we call them into the clinic in the middle of a pandemic for urine drug testing? There are so many really important nuanced questions that come up, you know, when you start a whole new prescribing approach.”

Staying on hydromorphone: “I’m more likely to go to the pharmacy for my methadone”

There were some benefits of RMG in relation to individuals’ care trajectories. Whether because they wanted to take them daily as prescribed, stockpile the tablets for an emergency backup, or sell them in order to lessen the everyday emergencies of poverty and addiction, many YPWUD did return again and again to clinics and pharmacies to refill their prescriptions. RMG prescription follow up could mean more regular engagement between YPWUD and prescribers and other providers.

While we were interested in how RMG prescriptions shaped YPWUD’s engagement with a continuum of substance use care, as well as other systems of care and supervision (e.g., government-subsidized housing), what we found was that RMG prescriptions of hydromorphone could be particularly helpful for YPWUD who were interested in engaging with OAT. For some, RMG prescriptions provided an added incentive to go to the pharmacy each day for daily witnessed OAT dosing. As Craig, a 23-year-old white man, told us in June 2021:

“I’m more likely to go to the pharmacy and get my methadone if I’m also getting narcotics [RMG prescriptions] given to me that I can sell.”

For others, hydromorphone prescriptions eased starting and restarting OAT (e.g., after repeated missed OAT doses). Getting YPWUD to a stable therapeutic dose of OAT can be difficult. Many prescriber participants discussed the usefulness of providing hydromorphone tablets alongside methadone or buprenorphine-naloxone to help ease initial cravings and withdrawal symptoms, and titrate to a stable therapeutic dose of OAT. This approach generally provides YPWUD with much greater comfort during the titration phase in particular. It can also facilitate further connections to care as YPWUD engage and re-engage with OAT across time. As Craig elaborated in June 2021:

“I was really – I was in a bad place. I had been using [fentanyl] for, I think, a couple of months at that point? And I went to [a rapid access addiction clinic], and they started me on methadone, but they also gave me Dilaudid® to try and help with the cravings and stuff. And then I was on [and off] methadone, and there were times that I had no money, and I was hurting as hell, and dealing with withdrawal, but I would be taking the Dilaudid®, and it definitely helped.”

KG’s clinical experience similarly demonstrates that many YPWUD are more likely to consider starting, restarting, and continuing with OAT if they can simultaneously access hydromorphone prescriptions. Prior to RMG, many prescribers were hesitant to provide adjuncts such as hydromorphone alongside OAT but have since noticed the growing acceptability of this practice locally. As one addiction medicine physician described in February 2021:

“Titration to a therapeutic dose [of OAT], based on how we usually do it, [our goal] is to optimize safety. It takes a long time. Particularly with methadone. So, we know people continue to use [illicit opioids] while they are stabilizing on medication. So, [prescribed hydromorphone tablets are] are particularly useful while you’re titrating those [OAT] meds, to get people up to a therapeutic dose. People feel relief right away. And then you may or may not continue the hydromorphone.”

Discussion

The purpose of the interim RMG was to support people who use drugs during overlapping public health emergencies. Since RMG was introduced, it has been demonstrated that hydromorphone is not a direct contributor to increases in fatal overdoses observed during the pandemic in our setting (BC Coroners Service, 2021a, 2021b). Of the illicit drug toxicity deaths observed between March 2020 and May 2021, there were no illicit drug toxicity deaths attributed to hydromorphone alone based on toxicology screens (BC Coroners Service, 2021b). Before the introduction of RMG, programs that offered hydromorphone tablets were already available and being evaluated in Vancouver and elsewhere in Canada (Glegg et al., 2022; Gomes et al., 2022; Young et al., 2022). Prior to the pandemic in Vancouver, for example, individuals could go to an overdose prevention site multiple times daily to obtain prescribed hydromorphone and use it via their preferred route of administration, witnessed by nursing staff (Ivsins et al., 2020). Participants enrolled in this program reported less illicit drug use (ibid.). In Ontario (another Canadian province), a program predating the pandemic demonstrated that overdose deaths were rare among those accessing hydromorphone prescriptions (Young et al., 2022). Another study from Ontario showed

that a community health center-based opioid supply program resulted in decreased emergency visits, hospitalizations, and infection risk (Gomes et al., 2022).

Given this evidence, in 2021 the BC government released a policy direction statement advising all health authorities to provide access to a range of “prescribed safer supply” options to those at risk of drug toxicity-related harms (British Columbia Ministry of Mental Health and Addictions and Ministry of Health, 2021). The statement emphasized that safer supply options, such as hydromorphone tablets, should be made available to individuals regardless of treatment engagement and despite a lessening need to support COVID-19 distancing and isolation mandates. Similarly, updated RMG and OUD practice guidelines released in BC in 2022 recommend continuing to prescribe hydromorphone if there are indications that individuals are benefitting from these prescriptions, such as reported or observed (via UDT) decreases in illicit opioid use (British Columbia Centre on Substance Use, 2022b, 2022c).

RMG prescriptions were and are still not intended to constitute a full spectrum of safe supply for people who use drugs, and yet they have had the effect of catalyzing desires and demands for “real safe supply,” including among the YPWUD who participated in this study. Unfortunately, YPWUD – and many prescribers – learned very quickly that RMG prescriptions of hydromorphone were not sufficient to produce desired effects and affects and therefore meaningfully curtail the use of illicit fentanyl. This finding echoes previous work with adults in our setting (BC Coroners Service, 2022a; McNeil et al., 2022) and may be specific to Greater Vancouver. Elsewhere in BC, where RMG and safer supply prescriptions are much less widely available, drug market differences mean that many YPWUD desire, and would likely benefit from receiving, these prescriptions (Barker et al., 2022). However, in Greater Vancouver the limitations of RMG prescriptions led some of the YPWUD in this study to quit accessing them, often amidst a growing sense of distrust in prescribers and the healthcare system. This finding supports previous work from our setting and elsewhere which demonstrates that negative experiences with prescribers can lead to periods of disengagement from care among YPWUD (Hargreaves et al., 2015; Pilarinos et al., 2022). Regardless of whether they continued to access hydromorphone prescriptions, in the absence of a safe supply of the drugs they were actively using – that is, pharmaceutical-grade fentanyl – all of the YPWUD in this study continued to access fentanyl via the illicit, highly toxic drug market (Pauly et al., 2022).

Our findings suggest that access to regulated heroin and fentanyl, whether via a prescription or peer-run compassion clubs (British Columbia Centre on Substance Use, 2019; Moakley, 2021), has the potential to dramatically reduce the risk of overdose, morbidity, and mortality among some YPWUD locally. In contrast to the medical RMG model described herein, peer-run compassion clubs are an example of a democratic, co-operative model through which members (people who use drugs) aim to provide each other with access to a safe drug supply (British Columbia Centre on Substance Use, 2019). Rather than “encouraging substance use” as some might charge, facilitating access to a safe supply of the drugs YPWUD are using may create an essential pause in the everyday emergencies of their daily lives – for example, the constant need to generate income and procure drugs (including via criminalized and dangerous income generation activities), and cycles of use and painful withdrawal – eventually allowing some to more fully consider forms of substance use care and treatment, such as harm reduction programs and OAT.

RMG prescriptions were useful for some of those YPWUD who were interested in engaging and re-engaging with OAT across time, as hydromorphone tablets can be prescribed alongside OAT to reduce withdrawal symptoms and cravings during titration. They may also improve OAT adherence when they bring YPWUD back to the clinic and pharmacy again and again for refills. The provision of heroin and fentanyl via prescriptions would likely similarly draw some YPWUD into care settings, providing opportunities for relationship and trust-building with prescribers across time as opposed to eroding these.

This is supported by research conducted with adult populations in our setting, albeit prior to the arrival of fentanyl and related analogues in the illicit drugs supply and the COVID-19 pandemic. One study conducted in Vancouver with over 200 adult participants (undertaken during a time period when heroin was more prevalent than fentanyl) demonstrated that there was a retention rate of over 80 per cent after one year of treatment with injectable diacetylmorphine (DAM) (Oviedo-Joekes et al., 2009). Randomized controlled trials conducted across Europe and in Canada have shown DAM to be more effective than methadone in treatment retention and the reduction of illicit drug use and illegal income generation activities (March et al., 2006; Haasen et al., 2007; Oviedo-Joekes et al., 2009; Strang et al., 2010; van den Brink et al., 2003). Another study conducted in Vancouver from 2011 to 2015 demonstrated that hydromorphone has similar outcomes to DAM when used in an injectable form (known as iOAT) (Oviedo-Joekes et al., 2016). Both DAM and injectable hydromorphone have been demonstrated to be as effective as OAT for stabilizing individuals who have been engaged in long-term injection opioid use (Oviedo-Joekes et al., 2016).

While our findings demonstrate the potential for a synergistic relationship between RMG prescriptions and OAT among some YPWUD, it is notable that participating individuals did not often describe a relationship between RMG prescriptions and other dimensions of their care trajectories, such as their access to harm reduction programs, or how they were able to navigate government-subsidized housing and social (e.g., job) services, despite our attentiveness to these dimensions during interviews. From policy and prescriber perspectives, the medical RMG model described herein was explicitly designed and continues to be delivered as a harm reduction measure. However, what we heard from YPWUD regarding their hydromorphone prescriptions in the context of this study (e.g., “they’re not meant to get you high”) perhaps speaks to how the medical RMG and safer supply model is, in reality, more closely aligned with current approaches to medication-assisted treatment (i.e., providing sufficient opioids to prevent withdrawal and cravings, but not so much as to produce the affective intensity of a high) than with harm reduction as YPWUD understand and envision it. What those in this study said they wanted and needed in terms of safe supply is versions of the drugs that people are actively using at dosages that have mind and body altering properties and in forms that allow people to get high via their preferred route of administration. Questions remain about whether a community model, such as peer-run compassion clubs, which could provide safe supply in line with this definition, may have better potential to draw YPWUD into harm reduction programs and empower them in relation to their substance use, care, housing and employment trajectories, and general wellbeing (British Columbia Centre on Substance Use, 2019).

Unfortunately, in settings around the globe, YPWUD do not have nearly enough access to harm reduction programs and spaces, including youth-dedicated supervised injection and overdose prevention sites (where compassion clubs might be situated), despite urgent calls to action (British Columbia Representative for Children and Youth, 2018; Canêdo et al., 2022). People who use drugs have to meet specific criteria to access RMG prescriptions, and as noted by some of our participants, not all prescribers are willing to write these prescriptions for YPWUD (and especially for those under 19 years of age). In this context, some YPWUD in our setting have experimented with their own essential harm reduction strategies, re-appropriating RMG prescriptions via stockpiling to meet their needs during periods of withdrawal or intense cravings, or when they want to avoid forms of income generation such as drug dealing and sex work (see also Bardwell et al., 2021). Stockpiled tablets could also be provided to friends, family members, and romantic partners as a form of care (Kolla and Strike, 2020).

It has been noted that many prescribers across North America are not comfortable providing opioids to YPWUD and are unfamiliar with the range of programs that they might be able to access (e.g., iOAT programs) (Bagley et al., 2017; Yang et al., 2011). However, in our setting

and elsewhere, it must also be noted that many prescribers are highly aware of people's lived realities and want to help YPWUD find some relief from the everyday emergencies of poverty and addiction. Yet, regulatory bodies dictate that prescribers can only provide medications such as hydromorphone with the understanding that the patient will take the medication as indicated, and will have their prescription discontinued if diversion (whether via selling prescriptions, or sharing them) is discovered.

There are ongoing concerns about the diversion of RMG prescriptions in BC, which were shared by some of the prescribers who participated in this study. Prescribers' hesitancy to provide opioids to YPWUD is likely also shaped by a College of Physicians and Surgeons of British Columbia (CPSBC) practice standard that was released in 2016 (immediately following the declaration of the public health overdose emergency) and revised in 2022 (College of Physicians and Surgeons of British Columbia, 2022). Entitled "Safe Prescribing of Opioids and Sedatives," it states that the medical profession has an "ethical responsibility to mitigate its contribution to problematic prescription medication use, particularly the over-prescribing of opioids and sedatives" (College of Physicians and Surgeons of British Columbia, 2022, p.2), and provides recommendations on opioid dose thresholds that, it has been demonstrated, limited pain management options and resulted in strained patient-prescriber relationships and unsafe rapid tapering and discontinuation of opioids in some cases (Lim et al., 2021). While the CPSBC has stated that the standard does not apply to treating those with substance use disorders, it has nonetheless ignited worries about legal risks and complaints in relation to opioid and sedative prescribing (Canadian Medical Protective Association, 2018), as well as whether prescribers are "practis[ing] medicine within the scope of their training and recent experience and...not engag[ing] in a medical practice that they are not competent to practise" (College of Physicians and Surgeons of British Columbia, 2009, p.29). Following the 2021 BC government policy direction statement on safer supply, the CPSBC responded by highlighting that prescribers can provide this if they practice within their scope, have appropriate training, are cautious when there is lack of clear clinical evidence, and stay current on evolving changes within policies (College of Physicians and Surgeons of British Columbia, 2021). However, our findings allude to how these kinds of directives can be challenging for some prescribers in the context of a rapidly changing substance use care landscape and unprecedented drug toxicity crisis (i.e., "how does this work in the real world" when that world is constantly changing?).

Many local prescribers are in a tremendously difficult position: one the one hand, they may want to work collaboratively with YPWUD to develop treatment and care plans that work for them; on the other hand, they must adhere to regulations and practice standards that seem to be at odds with what YPWUD are saying they want and need in terms of prescribed opioids. Prescribers may worry about the limited evidence for the efficacy of RMG and other emerging safer supply programs (e.g., fentanyl patches – see below), and whether they have adequate training and experience to support careful opioid prescribing (Young et al., 2022), while also feeling desperate to decrease morbidity and mortality in the context of dual public health emergencies through whatever means necessary. Currently in BC, fentanyl-assisted treatment via fentanyl patches is being increasingly offered to those who have received an OUD diagnosis and continue to be at high risk for drug toxicity-related harms despite having tried OAT, including those under the age of 19 (Bardwell et al., 2019; British Columbia Centre on Substance Use, 2022d). This approach is more consistent with what the YPWUD who participated in this study said that they wanted and needed in order to reduce risks and harms. Fentanyl patches may better help people to reduce or eliminate their use of unregulated opioids and with a lessened risk of diversion, since used patches have to be returned in order for new patches to be dispensed (British Columbia Centre on Substance Use, 2022d). However, once again YPWUD are being asked to navigate a medical safe supply model, and prescribers are being asked to navigate a new prescribing approach with limited information on efficacy and best practices. In BC,

support for prescribers across the province is now available via a 24-7 telehealth addiction specialist consult service, as well as more regular substance use treatment practice updates and prescriber communities of practices (British Columbia Centre on Substance Use, 2022a).

This study has important limitations that warrant acknowledgement. Our findings describe RMG and safer supply prescription and OAT engagement among YPWUD in a unique substance use treatment and drug policy landscape. Moreover, our findings are most representative of YPWUD experiencing entrenched poverty and unstable housing and homelessness alongside other forms of exclusion and oppression, and who report daily, intensive fentanyl use. Therefore, YPWUD's experiences in other places, as well the experiences of other populations of YPWUD in our own setting, are likely to differ in some regards. We did not collect detailed demographic information about our provider participants, which may limit the conclusions that can be drawn from the provider accounts detailed herein.

In this paper, we have discussed some of the fragile benefits and serious limitations of RMG and safer supply prescriptions among YPWUD experiencing OUD locally, pointing to some ways that prescribing practices could be improved and supported. However, we want to conclude by strongly emphasizing the importance of looking beyond medical approaches to the provision of safe or safer supply, such as those encompassed by RMG prescribing or even fentanyl patch programs. All of the YPWUD in this study told us very clearly that there is an urgent need for a "real safe supply" of the substances that they are actively using, in quantities that allow for desired effects and affects, and in forms that allow for preferred route of administration. Fentanyl patches meet some, but not all, of these criteria (for example, fentanyl in this form cannot be injected). Given existing regulations and practice standards, as well as many YPWUD's deep distrust in the medical system (a distrust that this study demonstrates could be deepened by disappointment in RMG prescribing), we argue that a regulated, safe supply of substances should be provided not just via a provider's prescription pad, but also through community-based initiatives such as peer-run compassion clubs. It is critical to recognize that distrust in services, systems, and providers is often deepened for racialized YPWUD, particularly Indigenous YPWUD, because of historical and contemporary harms associated with colonization and white supremacy, including recent evidence of widespread Indigenous-specific racism in BC's healthcare system (Turpel-Lafond, 2020). Some of the YPWUD who participated in this study viewed their prescribers as "gatekeepers" who were denying them access to what they wanted and needed to keep themselves and those they care for alive, eroding trust- and relationship-building rather than strengthening it. What YPWUD want and need goes beyond safe supply, of course. They were clear that they would not have resorted to diverting hydromorphone if a safe supply of their drugs of choice was available to them, but also if they had adequate basic income. These are what are needed not only to save their lives but also to empower them in relation to their health, care, and futures. Policy and decision makers must commit to designing, implementing, and supporting substance use care programs that account for and work to dismantle the forms of overlapping structural oppression that systematically disadvantage YPWUD in our context, including non-medical, community-based safe supply models.

Declarations of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We gratefully acknowledge that this research took place on the unceded territories of the x^wməθk^wəyəm (Musqueam), Skwxwú7mesh (Squamish), and Səlilwətał (Tsleil-waututh) Nations. We wish to thank

the study participants for their contributions to the research, as well as current and past researchers and staff at the At-Risk Youth Study and Foundry Vancouver Granville. We would also like to thank Kelli Wuertch and Skye Barbic at the Foundry Central Office for their contributions to preparing this manuscript.

Ethics approval

This study received ethical approval from the University of British Columbia and Providence Health Care Research Ethics Board (H17-01726; H18-03529).

Funding Sources

This study was supported by grants from the US National Institutes of Health (R01DA044181), Canadian Institutes of Health Research (PJT-153239), SickKids Foundation (SKF-160823), and Vancouver Foundation (20R01810). Karen Giang was supported by the University of British Columbia Clinician Scholar Program. Danya Fast is supported by a Scholar Award from Michael Smith Health Research BC. The funders were not involved in the design, analysis, or drafting of the manuscript for this research.

References

- Affifi, R. A., Novak, N., Gilbert, P. A., Pauly, B., Abdulrahim, S., Rashid, S. F., Ortega, F., & Ferrand, R. A. (2020). Most at risk for COVID-19? The imperative to expand the definition from biological to social factors for equity. *Preventive Medicine*, 139, 106229. [10.1016/j.ypmed.2020.106229](https://doi.org/10.1016/j.ypmed.2020.106229).
- Ahmad, F. B., Cisewski, J. A., Rossen, L. M., & Sutton, P. (2022). Provisional drug overdose death counts. *National Center for Health Statistics*. <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>.
- Ali, F., Russell, C., Nafeh, F., Rehm, J., LeBlanc, S., & Elton-Marshall, T. (2021). Changes in substance supply and use characteristics among people who use drugs (PWUD) during the COVID-19 global pandemic: A national qualitative assessment in Canada. *International Journal of Drug Policy*, 93, 103237. [10.1016/j.drugpo.2021.103237](https://doi.org/10.1016/j.drugpo.2021.103237).
- Andraka-Christou, B., Bouskill, K., Haffajee, R. L., Randall-Kosich, O., Golan, M., Totaram, R., Gordan, A. J., & Stein, B. D. (2021). Common themes in early state policy responses to substance use disorder treatment during COVID-19. *The American Journal of Drug and Alcohol Abuse*, 47(4), 486–496. [10.1080/00952990.2021.1903023](https://doi.org/10.1080/00952990.2021.1903023).
- Ataia, J., Roth, A. M., Mazzella, S., & Lankenau, S. E. (2020). Circumstances of overdose among street-involved, opioid-injecting women: Drug, set, and setting. *International Journal of Drug Policy*, 78, 102691. [10.1016/j.drugpo.2020.102691](https://doi.org/10.1016/j.drugpo.2020.102691).
- Bagley, S. M., Chavez, L., Braciszewski, J. M., Akolsile, M., Boudreau, D. M., Lapham, G., Campbell, C. I., Bart, G., Yarbrough, B. J. H., Samet, J. H., Saxon, A. J., Rossom, R. C., Binswanger, I. A., Murphy, M. T., Glass, J. E., Bradley, K. A., & PROUD Collaborative (2021). Receipt of medications for opioid use disorder among youth engaged in primary care: Data from 6 health systems. *Addiction Science and Clinical Practice*, 16(1), 46. [10.1186/s13722-021-00249-3](https://doi.org/10.1186/s13722-021-00249-3).
- Bagley, S. M., Hadland, S. E., Carney, B. L., & Saitz, R. (2017). Addressing stigma in medication treatment of adolescents with opioid use disorder. *Journal of Addiction Medicine*, 11(6), 415–416. [10.1097/adm.0000000000000348](https://doi.org/10.1097/adm.0000000000000348).
- Bao, Y., Williams, A. R., & Schackman, B. R. (2020). COVID-19 could change the way we respond to the opioid crisis-for the better. *Psychiatric Services*, 71(12), 1214–1215. [10.1176/appi.ps.202000226](https://doi.org/10.1176/appi.ps.202000226).
- Bardwell, G., Small, W., Lavalley, J., McNeil, R., & Kerr, T. (2021). "People need them or else they're going to take fentanyl and die": A qualitative study examining the 'problem' of prescription opioid diversion during an overdose epidemic. *Social Science & Medicine*, 279, 113986. [10.1016/j.socscimed.2021.113986](https://doi.org/10.1016/j.socscimed.2021.113986).
- Bardwell, G., Wood, E., & Brar, R. (2019). Fentanyl assisted treatment: A possible role in the opioid overdose epidemic? Substance Abuse Treatment, Prevention, and Policy, 14(1), 50. [10.1186/s13011-019-0241-2](https://doi.org/10.1186/s13011-019-0241-2).
- Barker, B., Norton, A., Wood, S., Macevicius, C., Perez, D. G., Giesinger, W., Meilleur, L., Urbanoski, K., & Pauly, B. (2022). Implementation of a provincial prescribed safer supply program: Gaps in access, adaptability and effectiveness in the Northern region of BC, Canada. [Conference presentation]. 13th National Harm Reduction Conference.
- BC Coroners Service. (2021a). *Post-mortem detection of hydromorphone among persons identified as having an illicit drug toxicity death since the introduction of Risk Mitigation Guidance prescribing*. http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/Overdose/2021.09.15_Knowledge%20Update_Hydromorphone%20and%20drug%20toxicity%20deaths.pdf.
- BC Coroners Service. (2021b). *Post-mortem detection of hydromorphone among persons identified as having an illicit drug toxicity death since the introduction of Risk Mitigation Guidance prescribing: Toxicology supplement*. http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/Overdose/2021.12.09_BCCDC%20Knowledge%20Update_RM%20Evaluation%20Hydromorphone%20Tox%20Supplement.pdf.
- BC Coroners Service. (2022a). *BC Coroners service death review panel: A review of illicit drug toxicity deaths released March 9 2022*. https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/review_of_illicit_drug_toxicity_deaths_2022.pdf.
- BC Coroners Service. (2022b). *BC Coroners service illicit drug toxicity deaths in BC January 1, 2012 – December 31, 2022*. <https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/illicit-drug.pdf>.
- BC-Yukon Association of Drug War Survivors. (2020). *How to access safer supply*. <https://www.drugpolicy.ca/wp-content/uploads/2020/03/Capture-8.jpg>.
- Bonn, M., Touesnard, N., Cheng, B., Pugliese, M., Comeau, E., Bodkin, C., Brothers, T. D., Genge, L., Herder, M., Lepage, C., Schiem, A., Werb, D., & Wildeman, S. (2020). Securing safe supply during COVID-19 and beyond: Scoping review and knowledge mobilization. Canadian Institutes of Health Research (Ed.), *Coronavirus disease (COVID-19)*. Canada. <https://cihr-irsc.gc.ca/e/52043.html>.
- British Columbia Centre on Substance Use. (2019). *Heroin compassion clubs*. <https://www.bccsu.ca/wp-content/uploads/2019/02/Report-Heroin-Compassion-Clubs.pdf>.
- British Columbia Centre on Substance Use. (2020). *Risk mitigation in the context of dual public health emergencies v1.5*. <https://www.bccsu.ca/wp-content/uploads/2020/05/Risk-Mitigation-in-the-Context-of-Dual-Public-Health-Emergencies-v1.6.pdf>.
- British Columbia Centre on Substance Use. (2022a). *24/7 Addiction medicine clinician support line*. <https://www.bccsu.ca/24-7/>.
- British Columbia Centre on Substance Use. (2022b). *Opioid use disorder practice update*. <https://www.bccsu.ca/wp-content/uploads/2022/02/Opioid-Use-Disorder-Practice-Update-February-2022.pdf>.
- British Columbia Centre on Substance Use. (2022c). *Risk mitigation in the context of dual health emergencies-interim clinical guidance: Update*. <https://www.bccsu.ca/wp-content/uploads/2022/02/Risk-Mitigation-Guidance-Update-February-2022.pdf>.
- British Columbia Centre on Substance Use. (2022d). *Prescribed safer supply protocol: Fentanyl patch*. <https://www.bccsu.ca/wp-content/uploads/2022/10/Prescribed-Safer-Supply-Protocols-Fentanyl-Patch.pdf>.
- British Columbia Centre on Substance Use and British Columbia Ministry of Health. (2017). *A guideline for the clinical management of opioid use disorder*. https://www.bccsu.ca/wp-content/uploads/2017/06/BC-OUD-Guidelines_June2017.pdf.
- British Columbia Ministry of Mental Health and Addictions and Ministry of Health. (2021). *Access to prescribed safer supply in British Columbia: Policy direction*. https://www2.gov.bc.ca/assets/gov/overdose-awareness/prescribed_safer_supply_in_bc.pdf.
- British Columbia Representative for Children and Youth. (2018). *Time to listen: Youth's voices on substance use*. <https://rcyb.ca/reports-and-publications/reports/reviews-and-investigations/time-to-listen-youth-voices-on-substance-use/>.
- Brothers, T. D., Leaman, M., Bonn, M., Lewer, D., Atkinson, J., Fraser, J., Gillis, A., Gniewek, M., Hawker, L., Hayman, H., Jorna, P., Martell, D., O'Donnell, T., Rivers-Bowerman, H., & Genge, L. (2022). Evaluation of an emergency safe supply drugs and managed alcohol program in COVID-19 isolation hotel shelters for people experiencing homelessness. *Drug and Alcohol Dependence*, 235, 109440. [10.1016/j.drugalcdep.2022.109440](https://doi.org/10.1016/j.drugalcdep.2022.109440).
- Canadian Medical Protective Association. (2018). *The medical-legal risks of opioid therapy: Questions from members*. <https://www.sciencedirect.com/science/article/pii/S0955395921002681/bib0010>.
- Canadian Association of People who Use Drugs. (2019). *Safe supply: Concept document*. <https://capud.ca/sites/default/files/2019-03/CAPUD%20safe%20supply%20English%20March%202020202019.pdf>.
- Canêdo, J., Sedgemore, K. O., Ebbert, K., Anderson, H., Dykeman, R., Kincaid, K., Dias, C., Silva, D., Youth Health Advisory Council, Charlesworth, R., Knight, R., & Fast, D. (2022). Harm reduction calls to action from young people who use drugs on the streets of Vancouver and Lisbon. *Harm Reduction Journal*, 19(1), 43. [10.1186/s12954-022-00607-7](https://doi.org/10.1186/s12954-022-00607-7).
- Centers for Disease Control and Prevention. (2020). *Overdose deaths accelerating during COVID-19*. <https://www.cdc.gov/media/releases/2020/p1218-overdose-deaths-covid-19.html>.
- College of Physicians and Surgeons of British Columbia. (2009). *College of physicians and surgeons of British Columbia bylaws*. <https://www.cpsbc.ca/files/pdf/HPA-Bylaws.pdf>.
- College of Physicians and Surgeons of British Columbia. (2021). *Prescribed safer supply in British Columbia: Drug program update*. <https://www.cpsbc.ca/news/publications/college-connector/2021-V09-05/07>.
- College of Physicians and Surgeons of British Columbia. (2022). *Practice standard: Safe prescribing of opioids and sedatives*. <https://www.cpsbc.ca/files/pdf/PSG-Safe-Prescribing.pdf>.
- Csete, J., & Elliott, R. (2021). Consumer protection in drug policy: The human rights case for safe supply as an element of harm reduction. *International Journal of Drug Policy*, 91, 102976. [10.1016/j.drugpo.2020.102976](https://doi.org/10.1016/j.drugpo.2020.102976).
- Drug Policy Alliance. (2022). *Legal regulation and safer supply*. <https://drugpolicy.org/Legal-Regulation-Safer-Supply>.
- Durand, L., Keenan, E., Boland, F., Harnedy, N., Delargy, I., Scully, M., Mayock, P., Ebbitt, W., Vázquez, M. O., Corrigan, N., Killeen, N., Pate, M., Byrne, P., & Cousins, G. (2022). Consensus recommendations for opioid agonist treatment following the introduction of emergency clinical guidelines in Ireland during the COVID-19 pandemic: A national Delphi study. *International Journal of Drug Policy*, 106, 103768. [10.1016/j.drugpo.2022.103768](https://doi.org/10.1016/j.drugpo.2022.103768).
- European Monitoring Centre for Drugs and Drug Addiction. (2021). *Opioids: Health and social responses*. https://www.emcdda.europa.eu/publications/mini-guides/opioids-health-and-social-responses_en.
- Federal, provincial, and territorial Special Advisory Committee on the Epidemic of Opioid Overdoses. (2023). *Opioid- and Stimulant-related Harms in Canada*. Public Health

- Agency of Canada. <https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants>.
- Ferguson, M., Parmar, A., Papamihali, K., Weng, A., Lock, K., & Buxton, J. A. (2022). Investigating opioid preference to inform safe supply services: A cross sectional study. *International Journal of Drug Policy*, 101, 103574. [10.1016/j.drugpo.2021.103574](https://doi.org/10.1016/j.drugpo.2021.103574).
- Giang, V., Thulien, M., McNeil, R., Sedgemore, K., Anderson, H., & Fast, D. (2020). Opioid agonist therapy trajectories among street entrenched youth in the context of a public health crisis. *Social Science & Medicine - Population Health*, 11, 100609. [10.1016/j.ssmph.2020.100609](https://doi.org/10.1016/j.ssmph.2020.100609).
- Glegg, S., McCrae, K., Kolla, G., Touesnard, N., Turnbull, J., Brothers, T. D., Brar, R., Sutherland, C., Le Foll, B., Sereda, A., Goyer, M. È., Rai, N., Bernstein, S., & Fairbairn, N. (2022). COVID just kind of opened a can of whoop-ass": The rapid growth of safer supply prescribing during the pandemic documented through an environmental scan of addiction and harm reduction services in Canada. *International Journal of Drug Policy*, 106, 103742. [10.1016/j.drugpo.2022.103742](https://doi.org/10.1016/j.drugpo.2022.103742).
- Gomes, T., Kolla, G., McCormack, D., Sereda, A., Kitchen, S., & Antoniou, T. (2022). Clinical outcomes and health care costs among people entering a safer opioid supply program in Ontario. *Canadian Medical Association Journal*, 194(36), E1233–E1242. [10.1503/cmaj.220892](https://doi.org/10.1503/cmaj.220892).
- Government of British Columbia. (2020). Province declares state of emergency to support COVID-19 response. <https://news.gov.bc.ca/releases/2020PSSG0017-000511>.
- Haasen, C., Verthein, U., Degkwitz, P., Berger, J., Krausz, M., & Naber, D. (2007). Heroin-assisted treatment for opioid dependence: Randomised controlled trial. *The British Journal of Psychiatry: The Journal of Mental Science*, 191, 55–62. [10.1192/bjp.bp.106.026112](https://doi.org/10.1192/bjp.bp.106.026112).
- Hadland, S. E., Bagley, S. M., Rodean, J., Silverstein, M., Levy, S., Larochelle, M. R., Samet, J. H., & Zima, B. T. (2018). Receipt of timely addiction treatment and association of early medication treatment with retention in care among youths with opioid use disorder. *Journal of the American Medical Association Pediatrics*, 172(11), 1029–1037. [10.1001/jamapediatrics.2018.2143](https://doi.org/10.1001/jamapediatrics.2018.2143).
- Hargreaves, D. S., Greaves, F., Levay, C., Mitchell, I., Koch, U., Esch, T., Denny, S., Frich, J. C., Struijs, J., & Sheikh, A. (2015). Comparison of health care experience and access between young and older adults in 11 high-income countries. *Journal of Adolescent Health*, 57(4), 413–420. [10.1016/j.jadohealth.2015.05.015](https://doi.org/10.1016/j.jadohealth.2015.05.015).
- Henry, B. F., Mandavila, A. D., Paschen-Wolff, M. M., Hunt, T., Humensky, J. L., Wu, E., Pincus, H. A., Nunes, E. V., Levin, F. R., & El-Bassel, N. (2020). COVID-19, mental health, and opioid use disorder: Old and new public health crises intertwine. *Psychological Trauma*, 12(S1), S111–S112. [10.1037/tra0000660](https://doi.org/10.1037/tra0000660).
- Holmes, E., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., Ballard, C., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski, A. K., Shafraan, R., Sweeney, A., Worthman, C. M., Yardley, L., Cowan, K., Cope, C., Hotopf, M., & Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *Lancet Psychiatry*, 7(6), 547–560. [10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1).
- Hser, Y. I., Evans, E., Grella, C., Ling, W., & Anglin, D. (2015). Long-term course of opioid addiction. *Harvard Review of Psychiatry*, 23(2), 76–89. [10.1097/hrp.0000000000000052](https://doi.org/10.1097/hrp.0000000000000052).
- Ingoglia, C. (2020). COVID-19 and youth substance use: We need more than good intentions. *The Journal of Behavioral Health Services & Research*, 48(1), 1–3. [10.1007/s11414-020-09739-9](https://doi.org/10.1007/s11414-020-09739-9).
- Ivins, A., Boyd, J., Mayer, S., Collins, A., Sutherland, C., Kerr, T., & McNeil, R. (2020). Barriers and facilitators to a novel low-barrier hydromorphone distribution program in Vancouver, Canada: A qualitative study. *Drug and Alcohol Dependence*, 216, 108202. [10.1016/j.drugalcdep.2020.108202](https://doi.org/10.1016/j.drugalcdep.2020.108202).
- Kolla, G., & Strike, C. (2020). Practices of care among people who buy, use, and sell drugs in community settings. *Harm Reduction Journal*, 17(1), 27. [10.1186/s12954-020-00372-5](https://doi.org/10.1186/s12954-020-00372-5).
- Krausz, M., Westenberg, J. N., Tsang, V., Suen, J., Ignaszewski, M. J., Mathew, N., Azar, P., Cabanis, M., Elsner, J., Vogel, M., Spijkerman, R., Orsolini, L., Vo, D., Moore, E., Moe, J., Strasser, J., Köck, P., Marian, C., Dürsteler, K. M., Backmund, M., Röhrig, J., Post, M., Haltmayer, H., Wladika, W., Trabi, T., Muller, C., Rechberger, G., Teesson, M., Farrell, M., Christie, G., Merry, S., Mamdough, M., Alinsky, R., Levy, S., Fishman, M., Rosenthal, R., Jang, K., & Choi, F. (2022). Towards an International Consensus on the Prevention, Treatment, and Management of High-Risk Substance Use and Overdose among Youth. *Medicina (Kaunas Lithuania)*, 58(4), 539. [10.3390/medicina58040539](https://doi.org/10.3390/medicina58040539).
- Krawczyk, N., Fawole, A., Yang, J., & Tofighi, B. (2021). Early innovations in opioid use disorder treatment and harm reduction during the COVID-19 pandemic: A scoping review. *Addiction Science & Clinical Practice*, 16(1), 68. [10.1186/s13722-021-00275-1](https://doi.org/10.1186/s13722-021-00275-1).
- Lim, J., McCracken, R. K., & Panagiotoglou, D. (2021). Opioid prescribing practice standard in British Columbia, Canada: Rationale, controversies, and directions. *International Journal of Drug Policy*, 97, 103363. [10.1016/j.drugpo.2021.103363](https://doi.org/10.1016/j.drugpo.2021.103363).
- MacKinnon, L., Socias, M. E., & Bardwell, G. (2020). COVID-19 and overdose prevention: Challenges and opportunities for clinical practice in housing settings. *Journal of Substance Abuse Treatment*, 119, 108153. [10.1016/j.jsat.2020.108153](https://doi.org/10.1016/j.jsat.2020.108153).
- March, J. C., Oviedo-Joekes, E., Perea-Milla, E., Carrasco, F., & PEPSA team. (2006). Controlled trial of prescribed heroin in the treatment of opioid addiction. *Journal of Substance Abuse Treatment*, 31(2), 203–211. [10.1016/j.jsat.2006.04.007](https://doi.org/10.1016/j.jsat.2006.04.007).
- Mathias, S., Tee, K., Helfrich, W., Gerty, K., Chan, G., & Barbic, S. P. (2022). Foundry: Early learnings from the implementation of an integrated youth service network. *Early Intervention in Psychiatry*, 16(4), 410–418. [10.1111/eip.13181](https://doi.org/10.1111/eip.13181).
- Mattson, C. L., Tanz, L. J., Quinn, K., Kariisa, M., Patel, P., & Davis, N. L. (2021). Trends and geographic patterns in drug and synthetic opioid overdose deaths - United States, 2013–2019. *MMWR Morbidity and Mortality Weekly Report*, 70(6), 202–207. [10.15585/mmwr.mm7006a4](https://doi.org/10.15585/mmwr.mm7006a4).
- May, T., Dawes, J., Fancourt, D., & Burton, A. (2022). A qualitative study exploring the impact of the COVID-19 pandemic on people who inject drugs (PWID) and drug service provision in the UK: PWID and service provider perspectives. *International Journal of Drug Policy*, 106, 103752. [10.1016/j.drugpo.2022.103752](https://doi.org/10.1016/j.drugpo.2022.103752).
- McNeil, R., Fleming, T., Mayer, S., Barker, A., Mansoor, M., Betsos, A., Austin, T., Parusel, S., Ivins, A., & Boyd, J. (2022). Implementation of safe supply alternatives during intersecting COVID-19 and overdose health emergencies in British Columbia, Canada, 2021. *American Journal of Public Health*, 112(S2), S151–S158. [10.2105/AJPH.2021.306692](https://doi.org/10.2105/AJPH.2021.306692).
- Moakley, P. (2021). The 'safe supply' movement aims to curb drug deaths linked to the opioid crisis. *Time*. <https://time.com/6108812/drug-deaths-safe-supply-opioids/>.
- Nosyk, B., Slaunwhite, A., Urbanoski, K., Hongdikokk, N., Palis, H., Lock, K., Min, J. E., Zhao, B., Card, K. G., Barker, B., Meilleur, L., Burmeister, C., Thomson, E., Beck-McGreevy, P., & Pauly, B. (2021). Evaluation of risk mitigation measures for people with substance use disorders to address the dual public health crises of COVID-19 and overdose in British Columbia: A mixed-method study protocol. *BMJ Open*, 11(6), e048353. [10.1136/bmjopen-2020-048353](https://doi.org/10.1136/bmjopen-2020-048353).
- Orpana, H. M., Lang, J. J., Baxi, M., Halverson, J., Kozloff, N., Cahill, L., Alam, S., Patten, S., & Morrison, H. (2018). Canadian trends in opioid-related mortality and disability from opioid use disorder from 1990 to 2014 through the lens of the Global Burden of Disease Study. *Health Promotion and Chronic Disease Prevention in Canada. Research, Policy and Practice*, 38(6), 234–243. [10.24095/hpcdp.38.6.03](https://doi.org/10.24095/hpcdp.38.6.03).
- Oviedo-Joekes, E., Brissette, S., Marsh, D. C., Lauzon, P., Guh, D., Anis, A., & Schechter, M. T. (2009). Diacetylmorphine versus methadone for the treatment of opioid addiction. *New England Journal of Medicine*, 361(8), 777–786. [10.1056/NEJMoa0810635](https://doi.org/10.1056/NEJMoa0810635).
- Oviedo-Joekes, E., Guh, D., Brissette, S., Marchand, K., MacDonald, S., Lock, K., Harrison, S., Janmohamed, A., Anis, A. H., Krausz, M., Marsh, D. C., & Schechter, M. T. (2016). Hydromorphone compared with diacetylmorphine for long-term opioid dependence: A randomized clinical trial. *Journal of American Medical Association Psychiatry*, 73(5), 447–455. [10.1001/jamapsychiatry.2016.0109](https://doi.org/10.1001/jamapsychiatry.2016.0109).
- Palis, H., Bélair, M. A., Hu, K., Tu, A., Buxton, J., & Slaunwhite, A. (2022). Overdose deaths and the COVID-19 pandemic in British Columbia, Canada. *Drug & Alcohol Review*, 41(4), 912–917. [10.1111/dar.13424](https://doi.org/10.1111/dar.13424).
- Pauly, B., McCall, J., Cameron, F., Stuart, F., Hobbs, H., Sullivan, G., Ranger, C., & Urbanoski, K. (2022). A concept mapping study of service user design of safer supply as an alternative to the illicit drug market. *International Journal of Drug Policy*, 110, 103849. [10.1016/j.drugpo.2022.103849](https://doi.org/10.1016/j.drugpo.2022.103849).
- Pilarinos, A., Kwa, Y., Joe, R., Thulien, M., Buxton, J. A., DeBeck, K., & Fast, D. (2022). Navigating opioid agonist therapy among young people who use illicit opioids in Vancouver, Canada. *International Journal of Drug Policy*, 107, 103773. [10.1016/j.drugpo.2022.103773](https://doi.org/10.1016/j.drugpo.2022.103773).
- QSR International. (1999). NVivo qualitative data analysis software [NVivo 12]. <https://qsrinternational.com/nvivo/nvivo-products/>.
- Raikhel, E., & Garriott, W. (Eds.). (2013). *Addiction trajectories*. Duke University Press.
- Robinson, C. A., & Wilson, J. D. (2020). Management of opioid misuse and opioid use disorders among youth. *Pediatrics*, 145(Supplement 2), S153–S164. [10.1542/peds.2019-2056C](https://doi.org/10.1542/peds.2019-2056C).
- Russell, C., Ali, F., Nafeh, F., Rehm, J., LeBlanc, S., & Elton-Marshall, T. (2021). Identifying the impacts of the COVID-19 pandemic on service access for people who use drugs (PWUD): A national qualitative study. *Journal of Substance Abuse Treatment*, 129, 108374. [10.1016/j.jsat.2021.108374](https://doi.org/10.1016/j.jsat.2021.108374).
- Selfridge, M., Card, K., Kandler, T., Flanagan, E., Lerhe, E., Heaslip, A., Nguyen, A., Moher, M., Pauly, B., Urbanoski, K., & Fraser, C. (2022). Factors associated with 60-day adherence to "safer supply" opioids prescribed under British Columbia's interim clinical guidance for health care providers to support people who use drugs during COVID-19 and the ongoing overdose emergency. *International Journal of Drug Policy*, 105, 103709. [10.1016/j.drugpo.2022.103709](https://doi.org/10.1016/j.drugpo.2022.103709).
- Strang, J., Metrebian, N., Lintzeris, N., Potts, L., Carnwath, T., Mayet, S., Williams, H., Zador, D., Evers, R., Groshkova, T., Charles, V., Martin, A., & Forzisi, L. (2010). Supervised injectable heroin or injectable methadone versus optimised oral methadone as treatment for chronic heroin addicts in England after persistent failure in orthodox treatment (RIOTT): A randomised trial. *The Lancet*, 375(9729), 1885–1895. [10.1016/S0140-6736\(10\)60349-2](https://doi.org/10.1016/S0140-6736(10)60349-2).
- Thulien, M., Anderson, H., Douglas, S., Dykeman, R., Horne, A., Howard, B., Sedgemore, K., Charlesworth, R., & Fast, D. (2022). The generative potential of mess in community-based participatory research with young people who use(d) drugs in Vancouver. *Harm Reduction Journal*, 19(1), 30. [10.1186/s12954-022-00615-7](https://doi.org/10.1186/s12954-022-00615-7).
- Tsai, J., & Wilson, M. (2020). COVID-19: A potential public health problem for homeless populations. *The Lancet Public Health*, 5(4), e186–e187. [10.1016/S2468-2667\(20\)30053-0](https://doi.org/10.1016/S2468-2667(20)30053-0).
- Turpel-Lafond, M. E. (2020). In plain sight: Addressing indigenous-specific racism and discrimination in B.C. Healthcare. <https://engage.gov.bc.ca/app/uploads/sites/613/2021/02/In-Plain-Sight-Data-Report-Dec2020.pdf>.
- Tyndall, M. (2020). Safer opioid distribution in response to the COVID-19 pandemic. *The International Journal of Drug Policy*, 83, 102880. [10.1016/j.drugpo.2020.102880](https://doi.org/10.1016/j.drugpo.2020.102880).
- van den Brink, W., Hendriks, V. M., Blanken, P., Koeter, M. W., van Zwieten, B. J., & van Ree, J. M. (2003). Medical prescription of heroin to treatment resistant heroin addicts: Two randomised controlled trials. *BMJ (Clinical research ed.)*, 327(7410), 310. [10.1136/bmj.327.7410.310](https://doi.org/10.1136/bmj.327.7410.310).
- Volkow, N. D. (2020). Collision of the COVID-19 and addiction epidemics. *Annals of Internal Medicine*, 173(1), 61–62. [10.7326/m20-1212](https://doi.org/10.7326/m20-1212).
- Wang, Q. Q., Kaelber, D. C., Xu, R., & Volkow, N. D. (2020). COVID-19 risk and outcomes in patients with substance use disorders: Analyses from electronic health records in the United States. *Molecular Psychiatry*, 26(1), 30–39. [10.1038/s41380-020-00880-7](https://doi.org/10.1038/s41380-020-00880-7).

- Wilkinson, R., Hines, L., Holland, A., Mandal, S., & Phipps, E. (2020). Rapid evidence review of harm reduction interventions and messaging for people who inject drugs during pandemic events: Implications for the ongoing COVID-19 response. *Harm Reduction Journal*, 17(1), 95. [10.1186/s12954-020-00445-5](https://doi.org/10.1186/s12954-020-00445-5).
- Wilson, J. D., & Bagley, S. M. (2022). An urgent need to focus on youth with opioid use disorder. *Journal of Adolescent Health*, 71(2), 143–144. [10.1016/j.jadohealth.2022.05.001](https://doi.org/10.1016/j.jadohealth.2022.05.001).
- Winhusen, T., Walley, A., Fanucchi, L. C., Hunt, T., Lyons, M., Lofwall, M., Brown, J. L., Freeman, P. R., Nunes, E., Beers, D., Saitz, R., Stambaugh, L., Oga, E. A., Heron, N., Baker, T., Cook, C. D., Roberts, M. F., Alford, D. P., Starrels, J. L., & Chandler, R. K. (2020). The Opioid-overdose Reduction Continuum of Care Approach (ORCCA): Evidence-based practices in the HEALing Communities Study. *Drug & Alcohol Dependence*, 217, 108325. [10.1016/j.drugalcdep.2020.108325](https://doi.org/10.1016/j.drugalcdep.2020.108325).
- Wood, E., Stoltz, J. A., Montaner, J. S., & Kerr, T. (2006). Evaluating methamphetamine use and risks of injection initiation among street youth: The ARYS study. *Harm Reduction Journal*, 3, 18. [10.1186/1477-7517-3-18](https://doi.org/10.1186/1477-7517-3-18).
- World Health Organization. (2020). WHO director-general's opening remarks at the media briefing on COVID-19 - 11 March 2020. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>.
- Yang, J., Oviedo-Joekes, E., Christian, K. W., Li, K., Louie, M., Schechter, M., & Spittal, P. (2011). The Cedar Project: Methadone maintenance treatment among young Aboriginal people who use opioids in two Canadian cities. *Drug & Alcohol Review*, 30(6), 645–651. [10.1111/j.1465-3362.2010.00258.x](https://doi.org/10.1111/j.1465-3362.2010.00258.x).
- Young, S., Kolla, G., McCormack, D., Campbell, T., Leece, P., Strike, C., Srivastava, A., Antoniou, T., Bayoumi, A. M., & Gomes, T. (2022). Characterizing safer supply prescribing of immediate release hydromorphone for individuals with opioid use disorder across Ontario, Canada. *International Journal of Drug Policy*, 102, 103601. [10.1016/j.drugpo.2022.103601](https://doi.org/10.1016/j.drugpo.2022.103601).